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Noise Assessment

Former Thakeham Mushroom Site, Thakeham

Noise Assessment

Project: FORMER THAKEHAM MUSHROOM SITE, THAKEHAM

Report reference: RP01-23295-R6

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0	18 December 2023	Chris McNeillie, MSc CEng MIOA, Director	Chris McNeillie, MSc CEng MIOA, Director	Initial issue
1	20 December 2023	Annamarie Schooling, BA (Hons), TechIOA, Acoustics Consultant	Chris McNeillie, MSc CEng MIOA, Director	Minor amendments
2	09 January 2024	Annamarie Schooling, BA (Hons), TechIOA, Acoustics Consultant	Chris McNeillie, MSc CEng MIOA, Director	Revised masterplan
3	06 July 2024	Annamarie Schooling, BA (Hons), TechIOA, Acoustics Consultant	Ronny Ospina Orozco, MSc MIOA, Senior Acoustics Consultant	Include 3D noise modelling and Part O noise requirements
4	27 January 2026	Christian Inman, BSc, Acoustics Consultant	Chris McNeillie, MSc CEng MIOA, Director	New scheme
5	04 February 2026	Christian Inman, BSc, Acoustics Consultant	Sarah Green, BEng MSc MIOA, Senior Acoustics Consultant	Minor amendments
6	12 February 2026	Christian Inman, BSc, Acoustics Consultant	Sarah Green, BEng MSc MIOA, Senior Acoustics Consultant	Layout update

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1. EXECUTIVE SUMMARY

- 1.1 Cass Allen was instructed by Bellway Homes Ltd (Strategic Land) to assess noise affecting the proposed development at the Former Thakeham Mushroom Site.
- 1.2 Cass Allen prepared a Noise Impact Assessment report (*RP01-23295-R2*) to accompany an earlier planning application for the site (ref. DC/24/0021, Jan 2024). Permission was refused by HDC in July 2024, for reasons unrelated to noise. An appeal was subsequently submitted and was dismissed (APP/Z3825/W/24/3350094) for reasons unrelated to noise.
- 1.3 The Noise Impact Assessment has been updated based on a new proposed scheme, and this report has been prepared to accompany a new planning application for a proposed residential development at the site.
- 1.4 HDC Environmental Health Team provided a number of comments on the original planning application, relating to noise from commercial uses (proposed and existing) and the 3D noise modelling results in our earlier report. It is our view that the assessment outlined in this report addresses all previous HDC consultee comments relating to noise.
- 1.5 Two noise surveys were carried out at the site to investigate the existing noise environment. Noise levels at the site are dictated by road traffic noise emissions from Storrington Road.
- 1.6 No significant commercial noise that would have the potential to adversely impact the proposed development was observed during both noise surveys.
- 1.7 A 3D noise model was used to calculate road traffic noise levels at all facades and external amenity areas of the proposed development.
- 1.8 Noise affecting the development has been assessed in accordance with ProPG guidance. The design of the development is considered to be acceptable subject to the adoption of standard thermal double glazing and ventilation. This can be investigated further at the detailed design stage and may be secured by the imposition of a noise related planning condition by the Local Planning Authority.
- 1.9 Compliance with noise criteria in Building Regulations Part O has also been assessed. All windows to bedrooms may be assumed to be openable during the night-time for the purposes of the overheating assessment.
- 1.10 It is our view that the site is suitable for the development in terms of noise levels and that planning permission should be granted subject to the imposition of suitable planning conditions.

2. INTRODUCTION

- 2.1 Cass Allen has been instructed by Bellway Homes Ltd (Strategic Land) to assess noise affecting a proposed new development at the Former Thakeham Mushroom Site, Thakeham.
- 2.2 Cass Allen previously prepared a Noise Impact Assessment report (*RP01-23295-R2*) to accompany an earlier planning application for the site (ref. DC/24/0021, Jan 2024). Permission was refused by HDC in July 2024, for reasons unrelated to noise. An appeal was subsequently submitted and was dismissed (APP/Z3825/W/24/3350094) for reasons unrelated to noise.
- 2.3 The Noise Impact Assessment has been updated based on a new proposed scheme, and this report has been prepared to accompany a new planning application for a proposed residential development at the site.
- 2.4 The assessment has been carried out in accordance with relevant local and national planning guidance, and also to provide information previously requested by HDC as part of the earlier planning application.
- 2.5 The aims of the assessment were:
- to establish the suitability of existing noise levels at the site for the proposed development.
 - where required, identify appropriate measures to optimise the acoustic design of the development and achieve acceptable noise levels in habitable areas.
 - to assess potential noise impact of commercial uses located within the Townhouse Farm mixed use area to the north of the site and identify any noise emissions associated with this area.
- 2.6 This report contains technical terminology; a glossary of terms can be found at www.cassallen.co.uk/glossary.

3. PROJECT DESCRIPTION

- 3.1 The site currently contains buildings associated with the former “Monaghan’s Mushrooms” commercial mushroom farm. Storrington Road runs along the east of the site, and Duke’s Hill to the north-east of the site. Bordering the site at the south and southeast are residential properties, on Hardbarrow Woods and Massey Close respectively. To the north of the site is Townhouse Farm, containing “Focused events” (events company), “Gorilla Kitchen” (pop-up pizza restaurant), commercial storage units, and a number of residential properties (including two recently constructed semi-detached houses, ref. DC/22/0582).
- 3.2 The site location is shown in Figure 1 below.

Figure 1 Site Location and Surrounding Area



- 3.3 The proposal includes the demolition of the existing buildings and the redevelopment of the site to provide a residential scheme comprising 150 dwellings. A current drawing of the proposed layout is shown in Appendix 1.

4. PLANNING POLICY

National Policy

- 4.1 Outline guidance for the assessment of noise affecting new developments is given in the National Planning Policy Framework (NPPF) (December 2024). Relevant sections in this case are highlighted below:

187. Planning policies and decisions should contribute to and enhance the natural and local environment by ... preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of ...noise pollution.

198. Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;

b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

200. Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or ‘agent of change’) should be required to provide suitable mitigation before the development has been completed.

Local Policy

- 4.2 HDC’s planning noise advice document, *Sussex Noise Guidance for Developers*, provides outline guidance on the assessment of noise affecting new development in the borough. Design criteria for new noise sensitive developments can be found within Section 6.5 of the document, which is shown in full in Appendix 2.

4.3 A relevant section of the HDC Planning Framework (November 2015), Policy 33, states:

In order to conserve and enhance the natural and built environment developments shall be required to:

2. Ensure that it is designed to avoid unacceptable harm to the amenity of occupiers/users of nearby property and land, for example through overlooking or noise, whilst having regard to the sensitivities of surrounding development

4.4 To address the requirements of the national and local policies, noise affecting the habitable areas of the proposed development has been assessed as well as the potential impact of noise from proposed new community uses on existing noise sensitive receptors in the area.

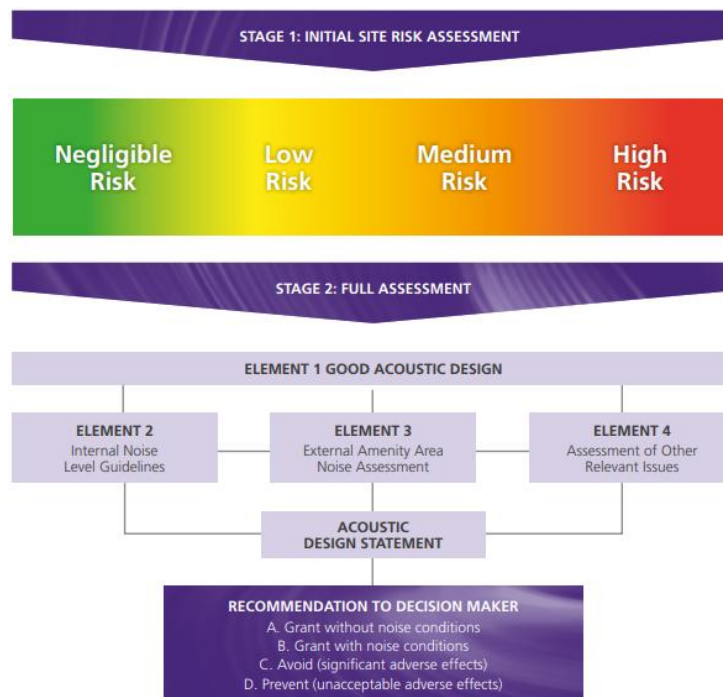
5. NOISE AFFECTING THE DEVELOPMENT

5.1 Specific guidance on the assessment of noise affecting new residential development is given in ProPG: Planning and Noise for New Residential Development, May 2017 (ProPG). The process within the ProPG guidance for the appraisal of noise levels affecting new residential development is considered to be current 'best practice' and has, therefore, been followed for the assessment. The assessment process can be summarised as follows:

- Stage 1 – measure noise levels at the site and carry out an initial noise risk assessment of the proposed development site based on the measured levels.
- Stage 2 – where a higher noise risk is identified, carry out a detailed assessment including the following four considerations:
 - Element 1 – the overall acoustic design and layout of the site
 - Element 2 – internal noise levels in habitable areas
 - Element 3 – noise levels in external amenity areas
 - Element 4 – consideration of other relevant issues
- Based on the results of the Stage 2 assessment, provide a recommendation to the decision maker on whether planning permission can and should be granted.

5.2 The process is shown visually in Figure 2 below.

Figure 2 ProPG Assessment Process



- 5.3 It should be noted that the guidance in ProPG relates primarily to noise from transportation sources, i.e. road traffic, aircraft, rail etc. Any significant noise from other sources (e.g. industrial, commercial or entertainment sources) is outside the scope of the ProPG guidance and, therefore, requires separate consideration. This is discussed further below in relation to potential noise emissions from the commercial uses in Townhouse Farm, to the north of the site boundary.

Stage 1 – Noise survey and initial assessment

- 5.4 A noise survey was carried out at the site between the 7 and 12 January 2026 to investigate existing noise levels in the area, and to validate the previous noise survey carried out by Cass Allen between 10 and 16 August 2023. The full methodology and results of the noise surveys are provided in Appendix 3 and Appendix 4, respectively.
- 5.5 In order to address previous comments from the HDC Environmental Health Team following the 2024 application (see 6.1), the new noise survey included further investigation into the operation of the commercial uses at Townhouse Farm to the north of the site. Unattended monitoring and attended observations of the commercial area were made.
- 5.6 The noise data captured during the most recent 2026 survey were compared against the data gathered throughout the 2023 survey. It was found that there is no notable change to noise levels at the site. This confirms that the 2023 noise survey data remain valid and so has been used as the basis for this report.
- 5.7 Noise levels at the east of the site are dictated by road traffic along Storrington Road. Storrington Road is the dominant noise source in the vicinity of the site and dictates the surrounding environment. Noise levels are therefore higher at the eastern edge of the site closest to Storrington Road and lower towards the western edge of the site due to the reduction in noise levels over distance. At the western edge of the site road traffic becomes insignificant and noise becomes dictated by natural sources in the area.
- 5.8 No significant noise sources associated with the commercial area at the northern edge of the site were identified during either attended site visit. This was corroborated by a detailed analysis of the audio recordings collected during the unattended logging period. A visual inspection of Townhouse Farm during the 2026 survey confirmed that there are no noise sources that are expected to contribute significantly to noise levels across the proposed development site. The only noise sources identified from Townhouse Farm were occasional vehicle movements, predominantly associated with residential properties within the estate. However, due to the substantially greater distance to the northern facades compared with Storrington Road to the east, any noise impact would be negligible. No further assessment of the Townhouse Farm commercial uses are considered necessary.
- 5.9 Noise was also identified from aircraft movements associated with Gatwick Airport. However, this was insignificant due to the infrequency and height of the aircraft and so requires no further investigation.
- 5.10 Based on the results of the 2023 site noise survey, a 3D noise model was developed to predict and assess the noise levels that will exist at development facades. The 3D noise model was developed

using Cadna/A v2026 MR1 environmental noise modelling software. Cadna/A incorporates the calculation methodology outlined in the Department of Transport Welsh Office – Calculation of Road Traffic Noise (CRTN) for the assessment of road traffic noise propagation.

- 5.11 The layout of the development and surrounding area was input into the model. To calculate the spread of noise levels around the site, daytime and night-time average noise levels were input for the surrounding roads and calibrated to the results of the on-site noise measurements. The methodology and results of the noise modelling are provided in Appendix 5.
- 5.12 The noise modelling predictions show that noise levels at the location of worst-case proposed facades on the eastern edge of the site are as follows:
- Average noise levels during the daytime – 57 dB LAeq,0700-2300hrs
 - Average noise levels during the night-time – 47 dB LAeq,2300-0700hrs
 - Typical maximum noise levels during the night-time – 61 dB LAmax
- 5.13 The predicted noise levels can be compared with Figure 3 below to assess the ‘noise risk’ of the site. Where the noise risk is high, significant acoustic design measures may be required to achieve acceptable noise levels in the development. Where the noise risk is low, acceptable noise levels may be achievable with no specific acoustic design measures.

Figure 3 Noise Risk Assessment (Adaption of Figure 1 from ProPG)



- 5.14 It can be seen from a comparison of the measured noise levels in paragraph 5.12 above with Figure 3 that the site is ‘Low risk in relation to daytime and night-time noise levels. Therefore, ProPG requires that a more detailed ‘Stage 2’ assessment is carried out.

Stage 2 – Element 1 – Overall acoustic design of the site

- 5.15 The acoustic design of the development has been reviewed in relation to the measured noise levels at the site. The layout of the development is considered to represent good acoustic design due to most of the gardens along the eastern edge of the site being acoustically screened from Storrington Road, either by their associated buildings or by existing residential properties on Massey Close that are to remain. Gardens that are not screened by buildings are sufficiently set back from Storrington Road such that noise levels in external amenity areas will still comply with relevant criteria, discussed in more detail below.

Stage 2 – Element 2 - Internal noise levels

5.16 Appropriate design criteria for acceptable noise levels in acoustically sensitive areas of new developments are given in BS8233:2014 'Guidance on sound insulation and noise reduction for buildings'.

5.17 Relevant BS8233 design criteria are summarised in Table 1 below.

Table 1 BS8233:2014 Internal Noise Criteria

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living room	35 dB LAeq,16hour	-
Dining	Dining room/area	40 dB LAeq,16hour	-
Sleeping (daytime resting)	Bedroom	35 dB LAeq,16hour	30 dB LAeq,8hour

5.18 Full construction details for the development have not been finalised as the project is at an early design stage. It has therefore been assumed that the external walls of the development will be constructed using a standard masonry construction (e.g. 102mm brick, 100mm insulated cavity, 100mm concrete block) or a light-weight construction designed to achieve a similar level of sound insulation (this is technically achievable subject to detailed design).

5.19 The ventilation strategy for the development has not yet been confirmed and therefore it is assumed that background ventilation will be provided via trickle ventilators in the building facade. This is a 'worst case' assumption from an acoustic perspective as trickle ventilators are often an acoustic weak point in the facade.

5.20 Calculations were carried out using facade modelling software in accordance with the methodology given in BS8233:2014 to calculate the sound insulation performance required of the glazing and ventilation to achieve the nominated internal noise criteria in the 'worst-case' habitable rooms of the development (i.e. the habitable rooms that will be subject to the highest external noise levels). The calculations included a 3 dBA design margin.

5.21 If acceptable internal noise levels can be achieved in 'worst case' habitable rooms, then it follows that acceptable internal noise levels can be achieved in all other habitable rooms of the development using similar glazing and ventilator types.

5.22 The calculations were carried out based on the following typical dimensions/details for facade elements:

- glazing – 1.5m² for bedrooms and 2.5m² for living rooms
- external walls – 8m² for bedrooms and 15m² for living rooms
- 2 in-frame trickle ventilators in bedrooms and 3 in-frame trickle ventilators in living rooms

5.23 The results of the calculations are shown in Appendix 6 and are summarised in Table 2 below.

Table 2 Acoustic Requirements for ‘Worst Case’ Habitable Rooms

‘Worst Case’ Rooms	Glazing Performance Requirements (inc. Frames)	Ventilator Performance Requirements (in Open Position)
Plot 146 Bedrooms and Living Rooms on Storrington Road facade	27 dB Rw+Ctr	31 dB Dne,w + Ctr

Note The requirements given are approximate only and should be confirmed at the detailed design stage when full design details are available.

5.24 The required sound insulation performance values in Table 2 could typically be achieved by the glazing and ventilator types shown in Table 3.

Table 3 Typical Glazing / Ventilator Acoustic Performances

Glazing (in Good Quality Sealed Frames)	Typical Weighted Sound Reduction (Rw + Ctr)
4/16/4mm standard thermal double glazing	27
Ventilators	Typical Acoustic Performance (Dnew + Ctr)
Standard ‘hit & miss’ in-frame trickle ventilator	31

Note The acoustic performance of the glazing systems (including frames) should always be confirmed with the manufacturer before selection for installation on site.

5.25 It can be seen from the above that acceptable internal noise levels will be achievable in the development subject to the specification of suitable glazing and ventilation systems at the detailed design stage. It is our view therefore that the proposed development is, in principle, acceptable with regards to the noise levels that will exist within the habitable rooms.

Part O Noise Requirements

5.26 The above ProPG assessment for planning purposes is based on internal noise levels with windows closed (assumed to be “normal” circumstances). However, it is anticipated that residents will open their windows at times for thermal comfort (e.g. to prevent overheating in warmer months). Noise levels in the rooms will increase under these circumstances.

5.27 The development will be subject to Part O of the Building Regulations (Approved Document O). Section 3.2 of Approved Document O (ADO) states:

In locations where external noise may be an issue (for example, where the local planning authority considered external noise to be an issue at the planning stage), the overheating mitigation strategy should take account of the likelihood that windows will be closed during sleeping hours (11pm to 7am).

Windows are likely to be closed during sleeping hours if noise within bedrooms exceeds the following limits.

a. 40dB LAeq,T, averaged over 8 hours (between 11pm and 7am).

b. 55dB LAFmax, more than 10 times a night (between 11pm and 7am).

5.28 It is important to note that the Part O requirements only apply to bedrooms at night. There are no requirements for other habitable rooms (living rooms, dining rooms, etc).

5.29 The noise levels in bedrooms at night with the windows open will vary based on the external night-time noise levels and the size and extent of window opening required to control overheating. The wider the window needs to be open, the lower the sound insulation performance. The following indicative “outside to inside” reduction values have been adopted for the assessment based on current industry guidance¹:

- ~4 dB when the window is fully open
- ~9 dB when the window is open to around ~0.4m²
- 13 dB when the window is partially open to ~0.2m².

5.30 Therefore, it is possible to rely on a larger window opening to control overheating on quieter facades. The relationship between external noise levels and window openings for compliance with Part O is summarised in Table 4.

Table 4 External Part O Noise Criteria and Allowable Window Opening for Overheating

External Noise Levels outside Bedrooms at Night		Allowable night-time window opening to control overheating
Average Noise Levels (LAeq,8hrs)	Maximum Noise Levels (LMax) – see Note 1	
≤44 dB	≤59 dB	Fully open (to achieve 13% of the floor area which is typically ~1.3m ²). Ventilators fully open.
≤49 dB	≤64 dB	Open (~4% of floor area e.g. ~0.4m ²) – see Note 2. Ventilators fully open.
≤53 dB	≤68 dB	Partially open (~2% of floor area e.g. ~0.2m ²). Ventilators fully open.
≥54 dB	≥69 dB	Windows to be assumed to be fully closed during the night for the purposes of Part O compliance. Ventilators fully open.

Note 1 Not exceeded more than 10 times per night (between 11pm and 7am)

Note 2 An opening of 4% of the floor area would comply with the ‘simplified method’ for Part O compliance, if targeted, as the site is in a ‘medium risk’ area.

¹ These values are taken from guidance published in the document “Guide to Demonstrating Compliance with the Noise Requirements of Approved Document O” Version 1.1 November 2024, by the Association of Noise Consultants. The values are based on a floor area of 10m² and a room height of 2.4m.

- 5.31 The criteria in Table 4 above have been applied to the predicted night-time noise levels from the model to show where open windows can be relied upon for the control of overheating and Part O compliance. The results are shown in Appendix 7.
- 5.32 It can be seen from Appendix 7 that all windows to bedrooms may be assumed to be openable during the night-time for the purposes of the overheating assessment. Some windows to bedrooms facing Storrington Road may be assumed to be partially open due to the higher external noise levels.
- 5.33 The information in Appendix 7 can be provided to the project Energy Assessor to inform the overheating assessment and demonstrate compliance with Part O.

Stage 2 – Element 3 – Noise levels in external amenity areas

- 5.34 BS8233 states that it is desirable that noise levels in external amenity areas of residential developments do not exceed 50 dB LAeq and that 55 dB LAeq,T should be regarded as an upper guideline value.
- 5.35 The noise model results indicate that noise levels in external amenity areas are expected to achieve the BS8233 recommended levels. The proposed development is therefore also considered to be acceptable based on noise levels in external amenity areas.

Stage 2 – Element 4 – Other relevant issues

- 5.36 HDC Environmental Health Team provided a number of comments on the original planning application, relating to noise from nearby commercial uses (proposed and existing) and the 3D noise modelling results across the development site. The Client confirmed that HDC agreed that points 2 & 3 (relating to the previously proposed Class E uses and the noise impact from the existing commercial uses) could be conditioned (i.e. should not be a barrier in granting planning permission), and point 1 (relating to the 3D noise modelling results) was subsequently addressed in the report revision RP01-23295-R3. The comments and Cass Allen responses are provided within Appendix 8 .
- 5.37 The design and acoustic approach outlined above is in line with both local and national noise policy and addresses all previous HDC consultee comments relating to noise. It is common for residential properties to be situated near to roads and commercial areas, and this is an acceptable scenario provided that the properties are acoustically upgraded where necessary to achieve acceptable noise levels in habitable areas, which in this instance is not required due to the low noise levels across the proposed site.

Recommendation to decision maker

- 5.38 It is our view that planning permission may be granted in relation to noise affecting habitable areas of the development subject to the imposition of suitable planning conditions to ensure that acceptable noise levels are achieved in the finished development.

6. CONCLUSIONS

- 6.1 Cass Allen has been instructed by Bellway Homes Ltd (Strategic Land) to assess noise affecting a proposed new development at Former Thakeham Mushroom Site, Thakeham.
- 6.2 Cass Allen prepared a Noise Impact Assessment report (*RP01-23295-R2*) to accompany an earlier planning application for the site (ref. DC/24/0021, Jan 2024). Permission was refused by HDC in July 2024, for reasons unrelated to noise. An appeal was subsequently submitted and was dismissed (APP/Z3825/W/24/3350094) for reasons unrelated to noise.
- 6.3 The Noise Impact Assessment has been updated based on a new proposed scheme, and this report has been prepared to accompany a new planning application for a proposed residential development at the site.
- 6.4 HDC Environmental Health Team provided a number of comments on the original planning application, relating to noise from commercial uses (proposed and existing) and the 3D noise modelling results in our earlier report. It is our view that the assessment outlined in this report addresses all previous HDC consultee comments relating to noise.
- 6.5 Two noise surveys were carried out at the site to investigate the existing noise environment. Noise levels at the site are dictated by road traffic noise emissions from Storrington Road.
- 6.6 No significant commercial noise that would have the potential to adversely impact the proposed development was observed during both noise surveys.
- 6.7 A 3D noise model was used to calculate road traffic noise levels at all facades and external amenity areas of the proposed development.
- 6.8 Noise affecting the development has been assessed in accordance with ProPG guidance. The design of the development is considered to be acceptable subject to the adoption of standard thermal double glazing and ventilation. This can be investigated further at the detailed design stage and may be secured by the imposition of a noise related planning condition by the Local Planning Authority.
- 6.9 Compliance with noise criteria in Building Regulations Part O has also been assessed. All windows to bedrooms may be assumed to be openable during the night-time for the purposes of the overheating assessment.
- 6.10 The site is suitable for the development in terms of noise levels and that planning permission should be granted subject to the imposition of suitable planning conditions.

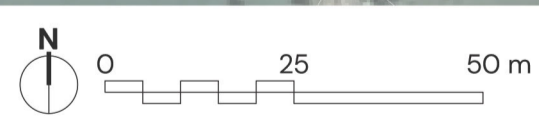
Appendix 1 Proposed Development Layout

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KEY

	SITE BOUNDARY		AFFORDABLE RENT DWELLINGS		INDICATIVE DRAINAGE		RETAINED EXISTING VEGETATION		PUBLIC RIGHT OF WAY
	OPEN MARKET DWELLINGS		SHARED OWNERSHIP DWELLINGS		INDICATIVE PLANTING		LOCAL EQUIPPED AREA FOR PLAY		
	INDICATIVE COMMUNITY LAND TRUST AREA		INDICATIVE LOCATION OF MOBILITY HUB						



FORMER THAKEHAM MUSHROOM SITE - SITE LAYOUT



Appendix 2 Sussex Noise Guidance for Developers

Design Criteria for Noise Sensitive Development

6.5.1. *Where the noise assessment has shown that habitable rooms will be exposed to noise levels likely to give rise to any adverse impact, noise mitigation will be required.*

6.5.2. *Design control measures should aim to meet the recommended standards set out in table 4 of BS 8233:2014 and regular night time noise events such as scheduled aircraft or passing trains which can cause sleep disturbance shall be minimized and assessed as (L_{Afmax}), as recommended in the World Health Organisation's (WHO) Night Noise Guidelines for Europe (2009), unless there are particular reasons why this is not considered appropriate. In such cases, a clear explanation of the reasons should be provided.*

6.5.3. *As the standards for BS 8233:2014 and the WHO relate only to anonymous noise, eg distant road traffic and noise without characteristics such as impulsivity, low frequency content or tones then, if these are present, additional discussion will be required with the LPA for the purpose of establishing suitable assessment techniques and standards to be achieved eg BS 4142:2014 + A1: 2019 for delivery noise.*

6.5.4. *While noise mitigation measures can be used to achieve suitable internal sound levels, preference is to be given to criteria based on windows being partially open.*

6.5.5 *Where the property is at risk of overheating an overheating assessment shall be conducted in accordance with Acoustics Ventilation and Overheating (AVO) Residential Design Guide (January 2020) and CIBSE's Design Methodology for the Assessment of Overheating Risk in Homes (TM59: 2017).*

6.5.6. *The advice set out in the BRE document 'Sound Control for Homes' (1993) should be considered.*

6.5.7. *Specific points for consideration include:*

- *Provide appropriate distances between noise sensitive developments and noise sources;*
- *Land zoning to separate noisy uses from noise sensitive uses, for example, avoiding the siting of children's playing areas next to accommodation for the elderly;*
- *Careful orientation of building layout, such as at right angles to the noise source;*
- *Introduction of single aspect buildings;*
- *Internal layout of dwellings, through the location of non-habitable rooms such as bathrooms, kitchens and circulation areas as buffers between the noise source and habitable rooms;*
- *Screening by non-noise sensitive structures or barrier blocks such as garages and walls;*

- *The introduction of acoustic screening such as bunding/embankments, fencing and walling;*

- *Protection of external residential amenity areas by positioning them towards the centre of the development sites.*

6.5.8. The submission of details of layout and design should be supported by a scheme showing details of mitigation techniques. Computer modelling which shows the impact of the design measures should be produced. See 2.4 for information on prediction methods and modelling. Planning Noise Advisory Document: Sussex 2021

Appendix 3 2026 Noise Survey Results

Survey Summary:

The survey comprised short-term operator attended noise measurements and longer-term unattended noise monitoring at the site. Noise levels at the site were dictated by road traffic on Storrington Road at locations on the east side of the site. Towards the western boundary of the site, road traffic becomes effectively inaudible and noise from natural sources becomes dominant. The commercial area to the north was investigated and no noise was identified that is expected to adversely affect the development. Intermittent noise from farm animals at Southlands Farm to the west was also perceptible, although not to a level considered significant. Aircraft movements associated with Gatwick Airport were observed; however, these occurred infrequently and at sufficient altitude such that they did not significantly contribute to noise levels across the site.

Survey Period:

07/01/2026 to 12/01/2026

Survey Objectives:

- To identify noise sources that contribute to ambient noise levels at the site.
- To measure noise levels around the site over a typical day and night-time period.

Equipment Used:

Type	Manufacturer	Model	Serial Number
Sound level meter ¹	Bruel & Kjaer	2250	3029152
Calibrator	Bruel & Kjaer	4231	2115551
Sound level meter ¹	NTi Audio	XL2	A2A-24252-E1
Calibrator	Larson Davis	Type CAL200	15011
Sound level meter ¹ (noise logger)	Rion	NL-32	00482672
Sound level meter ¹ (noise logger)	Rion	NL-32	00251125
Calibrator	Rion	NC-74	34551703

Note 1: All sound level meters were calibrated before and after measurement periods and no significant drift in calibration was found to have occurred. The results of the measurements are therefore considered to be representative.

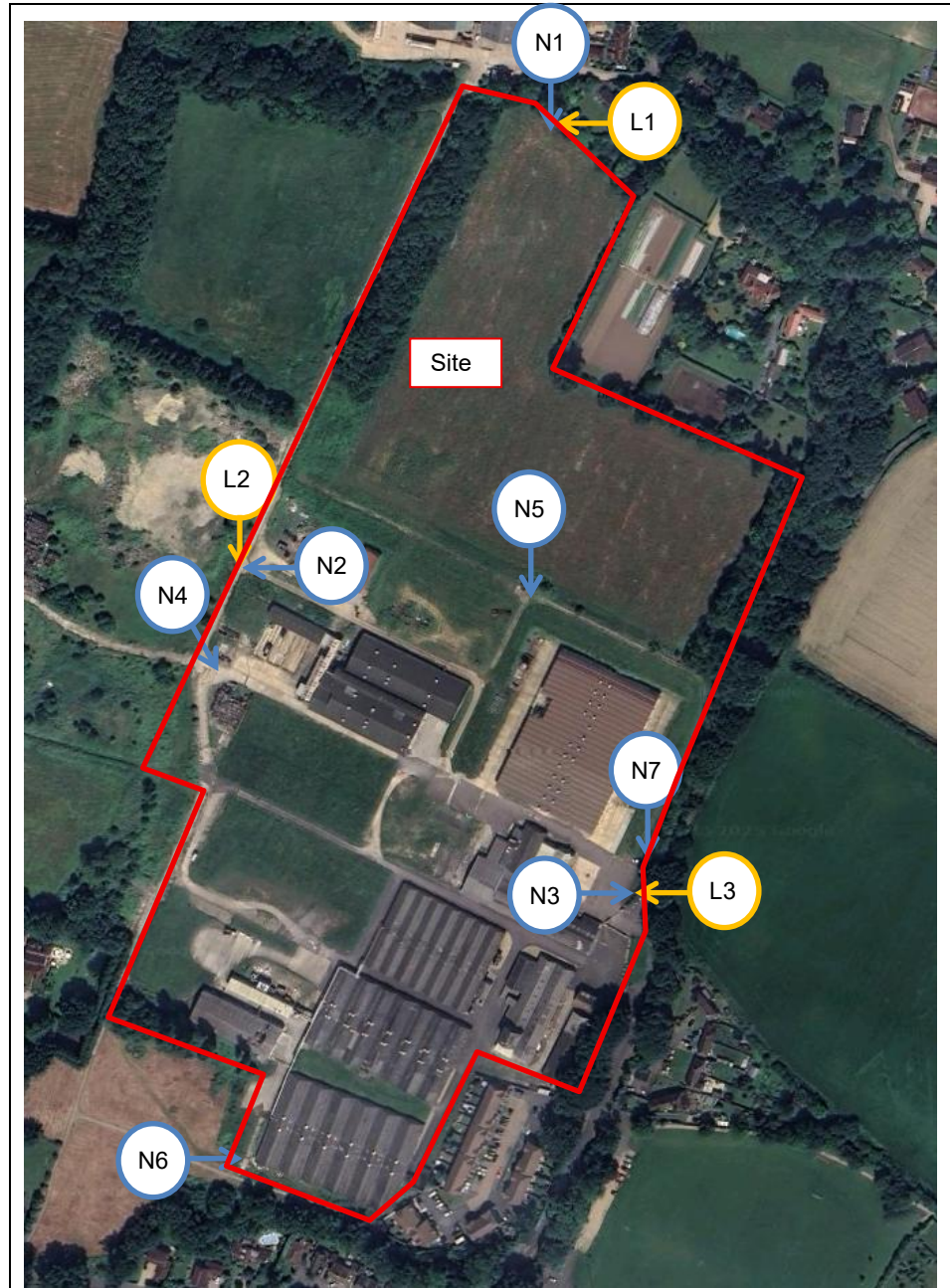
Weather Conditions:

The observed weather conditions were acceptable for acoustic measurement throughout the attended survey periods (low-medium wind speeds and no rain). Weather records for the area confirmed that there were periods where weather conditions were not acceptable for acoustic measurement during the unattended monitoring. The periods of unattended monitoring that have been adversely affected by weather conditions have been excluded from the data analysis.

Measurement Positions:

Position (refer plan below)	Description
N1	Attended noise monitoring position at location of L1. 1.5m above ground. Free-field. Placed to capture noise emissions from the commercial area north of the site.
N2	Attended noise monitoring position at location of L2. 1.5m above ground. Free-field.
N3	Attended noise monitoring position at location of L3. 1.5m above ground. Free-field. Direct line of sight to Storrington Road. 20m from road.
N4	Attended noise monitoring position. 1.5m above ground. Free-field.
N5	Attended noise monitoring position. 1.5m above ground. Free-field.
N6	Attended noise monitoring position. 1.5m above ground. Free-field.
N7	Attended noise monitoring position. 1.5m above ground. Free-field. Direct line of sight to Storrington Road. 10m from road. Chosen to capture individual vehicle passes.
L1	Unattended noise logging position. 2.8m above ground level. Free-field.
L2	Unattended noise logging position. 3m above ground level. Free-field.
L3	Unattended noise logging position. 3m above ground level. Free-field. Direct line of sight to Storrington Road. 20m from road.

Site Plan showing Measurement Positions:



Attended Noise Monitoring Results:

Date	Position	Time	Meas. Length	LAeq, dB	LAmx, dB	LA90, dB	Observations
07/01/2026	N1	13:35	5 mins	41	56	37	Very quiet. Noise dictated by general environment (birds, wind) and intermittent, individual vehicle passes on Storrington Road and Duke's Hill. Maximum noise levels were generated by these vehicle passes, and a single vehicle movement heard in the commercial area

Attended Noise Monitoring Results:

Date	Position	Time	Meas. Length	LAeq, dB	LAmix, dB	LA90, dB	Observations
							north of the site. No other noise from the commercial area was noted.
	N2	13:55	3 mins	39	55	36	Very quiet. Noise dictated by general environment (birds, wind, farm animals in Southlands Farm to the west). Road traffic on Storrington Road was barely audible.
	N3	14:15	5 mins	54	69	40	Noise dictated by road traffic on Storrington Road.
	N4	13:20	5 mins	39	55	36	Very quiet. Noise dictated by general environment (birds, wind, farm animals in Southlands Farm to the west). Distant road traffic on Storrington Road was barely audible.
	N5	14:05	5 mins	43	60	37	Road traffic at this location is just loud enough to begin dictating background and average noise levels.
	N6	14:25	5 mins	45	62	37	Noise dictated by road traffic from Storrington Road. Maximum levels generated by low-flying helicopter.
	N7	14:12	11 secs	60	67	-	Noise dictated by individual car pass on Storrington Road.
		14:13	32 secs	60	67	-	Noise dictated by 2 cars passing simultaneously on Storrington Road.

Unattended Noise Monitoring Results:

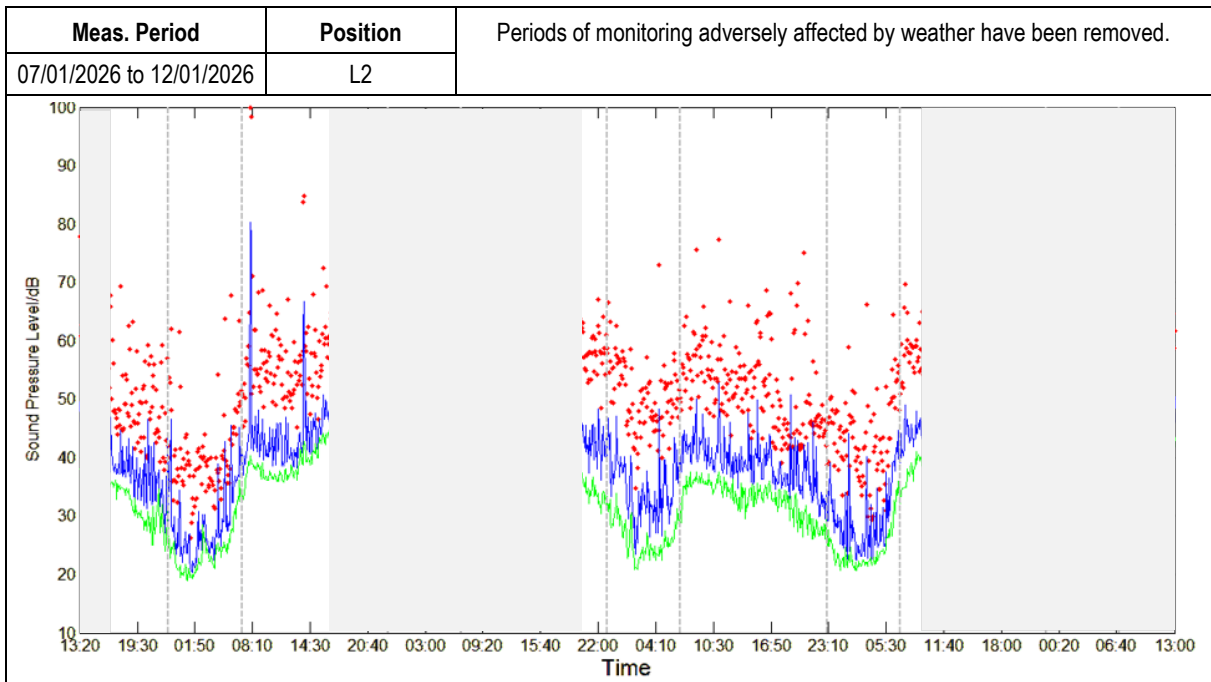
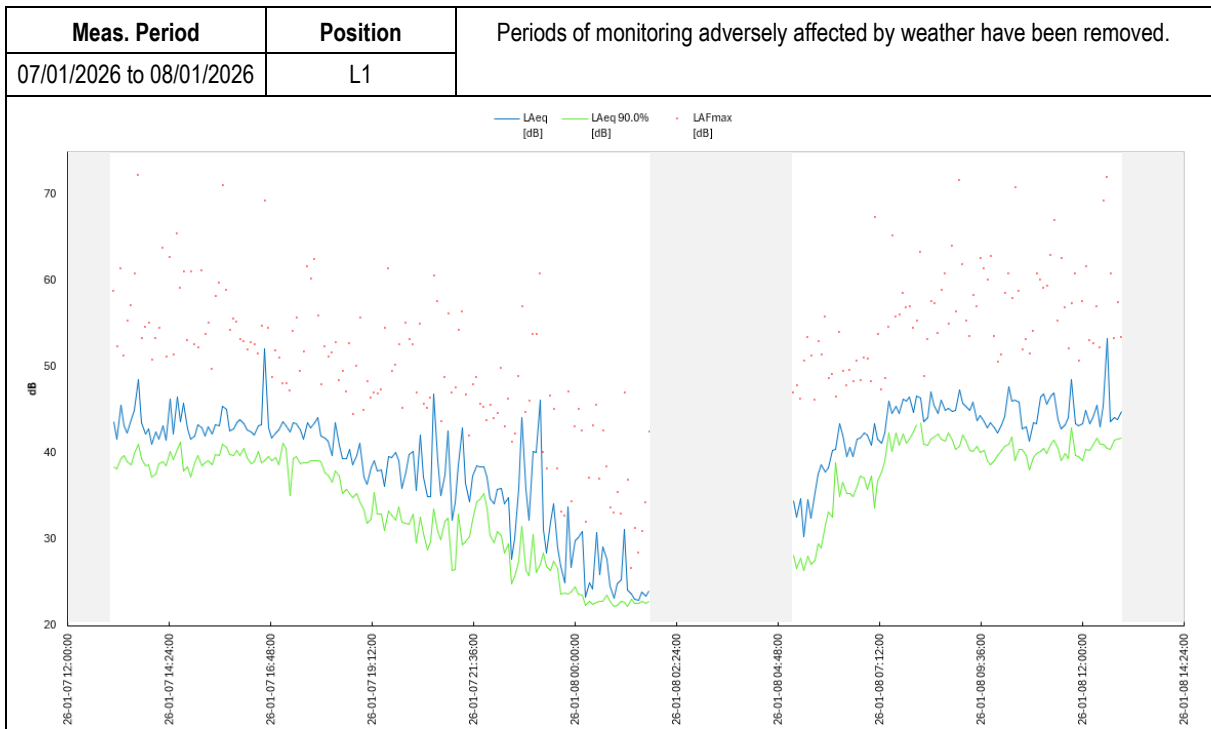
Meas. Period	Position	Daytime (0700-2300hrs)		Night-time (2300-0700hrs)		
		LAeq,16hr, dB	LA90,1hr dB ¹	LAeq,8hr, dB	LA90,5mins, dB ¹	LAmix, dB ²
07/01/2026 to 12/01/2026	L1	44	39	37	31	-
	L2	42	35	36	22	46-48
	L3	60 ⁽³⁾	48	-	-	-

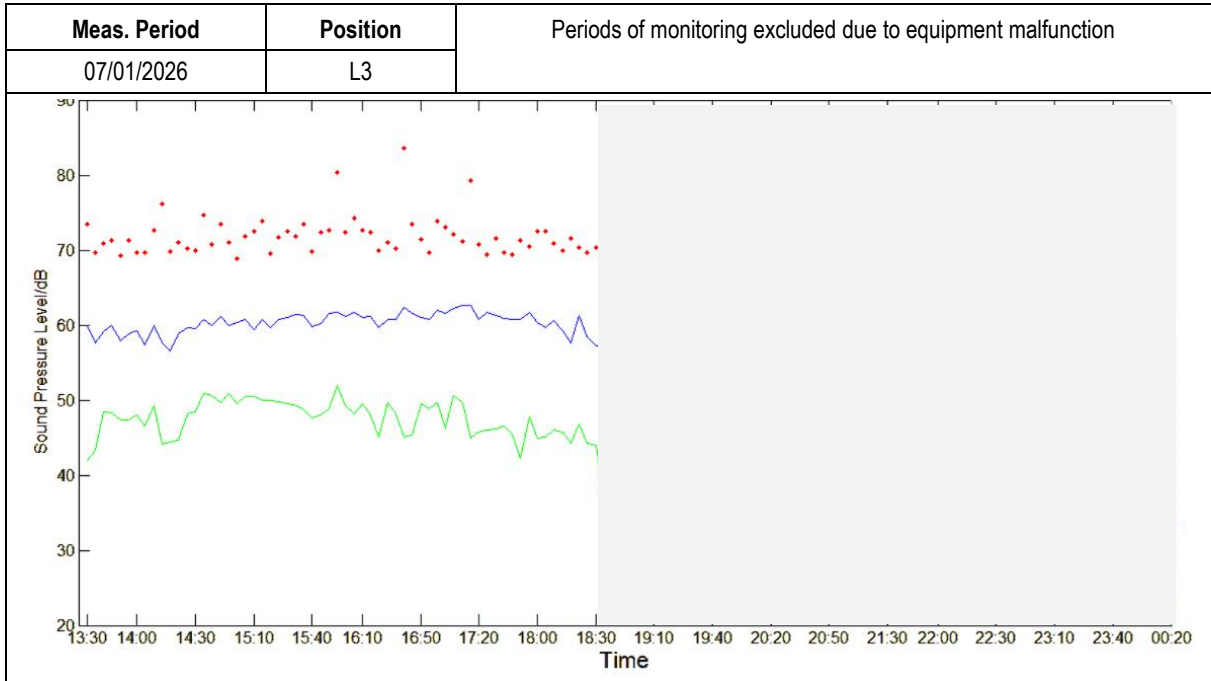
Note 1: Typical lowest measured during the period shown.

Note 2: Highest typical maximum noise level during the night-time (not exceeded more than 10-15 times per night).

Note 3: Due to equipment malfunction this is not a representative 16hr figure – only 5hrs of data was captured.

Unattended Noise Monitoring Results:





Appendix 4 2023 Noise Survey Results

Survey Summary:

The survey comprised short-term operator attended noise measurements and longer-term unattended noise monitoring at the site. Noise levels at the site were generally dictated by road traffic on surrounding roads and natural sources.

Survey Period:

10/08/2023 to 16/08/2023

Survey Objectives:

- To identify noise and vibration sources that contribute to ambient noise levels at the site;
- To measure noise and vibration levels around the site over a typical day and night-time period.

Equipment Used:

Type	Manufacturer	Model	Serial Number
Sound level meter ¹	NTi Audio	XL2	A2A-15506-E0
Calibrator	Larson Davis	Type CAL200	15011
Sound level meter ¹ (noise logger)	Rion	NL-32	00623765
Sound level meter ¹ (noise logger)	Rion	NL-32	00903342
Calibrator	Rion	NC-74	34551703
Sound level meter ¹	Rion	NL-52	00965090

Note 1: All sound level meters were calibrated before and after measurement periods and no significant drift in calibration was found to have occurred. The results of the measurements are therefore considered to be representative.

Weather Conditions:

The observed weather conditions were acceptable for acoustic measurement throughout the attended survey periods (low-medium wind speeds and no rain). Weather records for the area confirmed that weather conditions were also generally acceptable for acoustic measurement during the unattended monitoring.

Measurement Positions:

Position (refer plan below)	Description
N1	Attended noise monitoring position. 1.5m above ground. Free-field. Direct line of sight to Storrington Road (12m).
N2	Attended noise monitoring position. 1.5m above ground. Free-field. Direct line of sight to Storrington Road (23m).
N3	Attended noise monitoring position. 1.5m above ground. Free-field.
N4	Attended noise monitoring position. 1.5m above ground. Free-field.
N5	Attended noise monitoring position. 1.5m above ground. Free-field.
N6	Attended noise monitoring position. 1.5m above ground. Free-field.
N7	Attended noise monitoring position. 1.5m above ground. Free-field.
L1	Unattended noise logging position. 3m above ground level. Free-field.
L2	Unattended noise logging position. 3m above ground level. Free-field. Direct line of sight to Storrington Road.

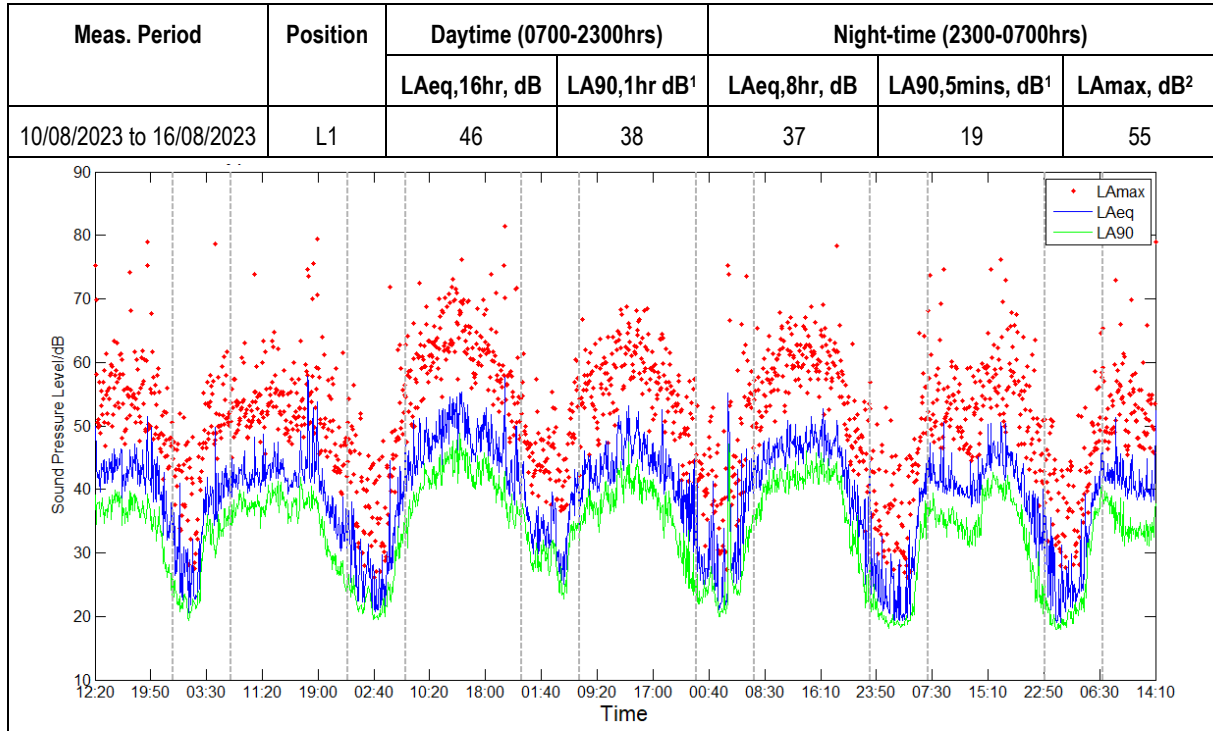
Site Plan showing Measurement Positions:



Attended Noise Monitoring Results:

Date	Position	Time	Meas. Length	LAeq, dB	LAmx, dB	LA90, dB	Observations
10/08/2023	N1	12:40	5 mins	57	69	41	Noise dictated by road traffic from Storrington Road.
	N2	12:50	5 mins	50	61	36	
	N3	13:00	5 mins	39	53	35	Noise dictated by road traffic from Storrington Road and natural sources.
	N4	13:06	5 mins	40	52	36	Noise dictated by natural sources.
	N5	13:15	5 mins	48	59	39	Noise dictated by road traffic from Storrington Road.
16/08/2023	N1	13:25	5 mins	61	82	40	Noise dictated by road traffic from Storrington Road.
		14:12	30 secs	60	67	49	
		14:13	15 secs	55	65	41	Noise dictated by car pass on Storrington Road.
		14:13	15 secs	54	62	43	
		14:14	20 secs	63	74	52	Noise dictated by truck pass on Storrington Road.
	N2	13:35	5 mins	52	70	39	Noise dictated by road traffic from Storrington Road.
		14:15	5 mins	52	66	40	
	N3	13:40	5 mins	37	50	30	Noise dictated by road traffic from Storrington Road and natural sources.
	N4	13:55	5 mins	32	54	29	Noise dictated by natural sources and security patrol vehicle on site.
		14:35	5 mins	37	54	33	Noise dictated by natural sources.
	N6	13:48	5 mins	41	50	35	Noise dictated by road traffic from Duke's Hill and natural sources.
		14:25	5 mins	38	57	35	
	N7	14:03	5 mins	35	57	31	Noise dictated by natural sources.

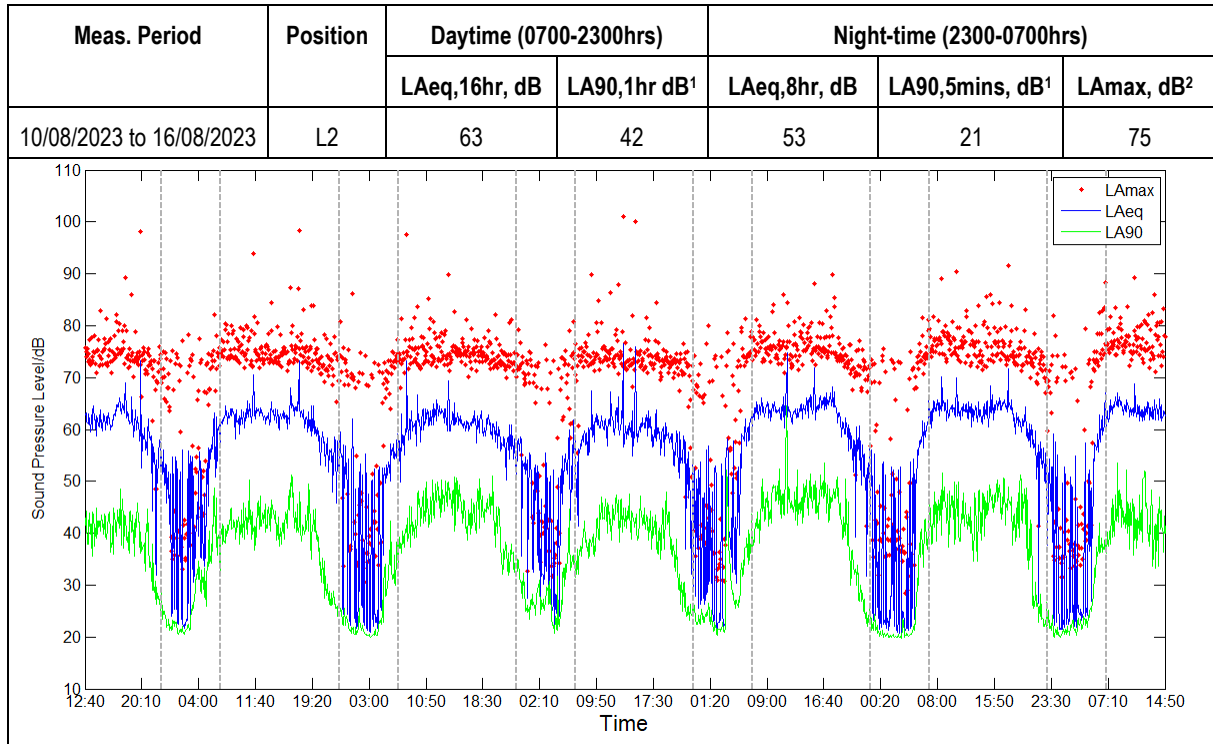
Unattended Noise Monitoring Results:



Note 1: Typical lowest measured during the period shown.

Note 2: Highest typical maximum noise level during the night-time (not exceeded more than 10-15 times per night).

Unattended Noise Monitoring Results:



Note 1: Typical lowest measured during the period shown.

Note 2: Highest typical maximum noise level during the night-time (not exceeded more than 10-15 times per night).

Appendix 5 Noise Modelling Results

Modelling Software:

Cadna/A v2026 MRI

Modelled Scenarios:

Day and night-time average noise levels across the site

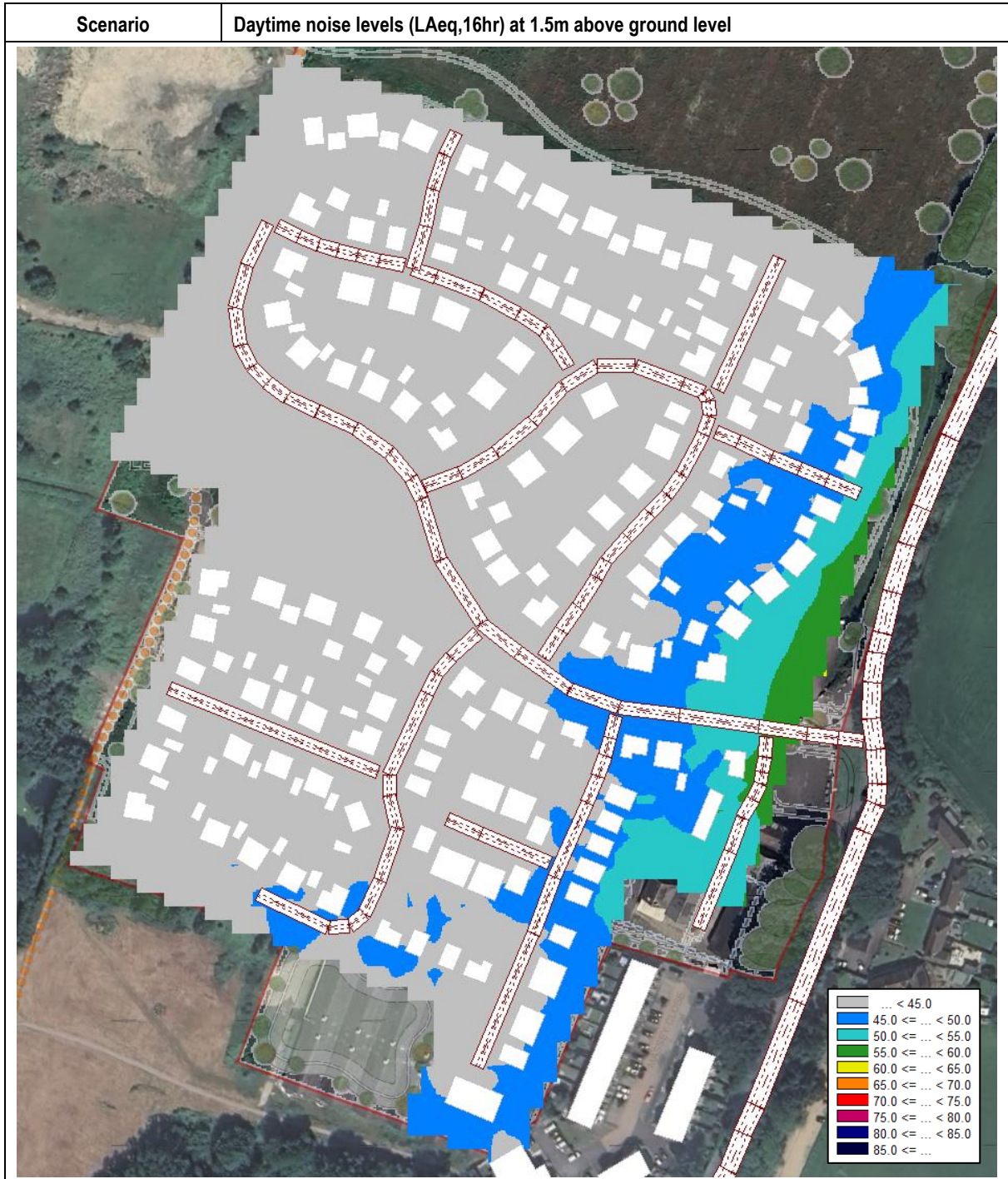
Data inputs:

- Noise survey results
- Development layout

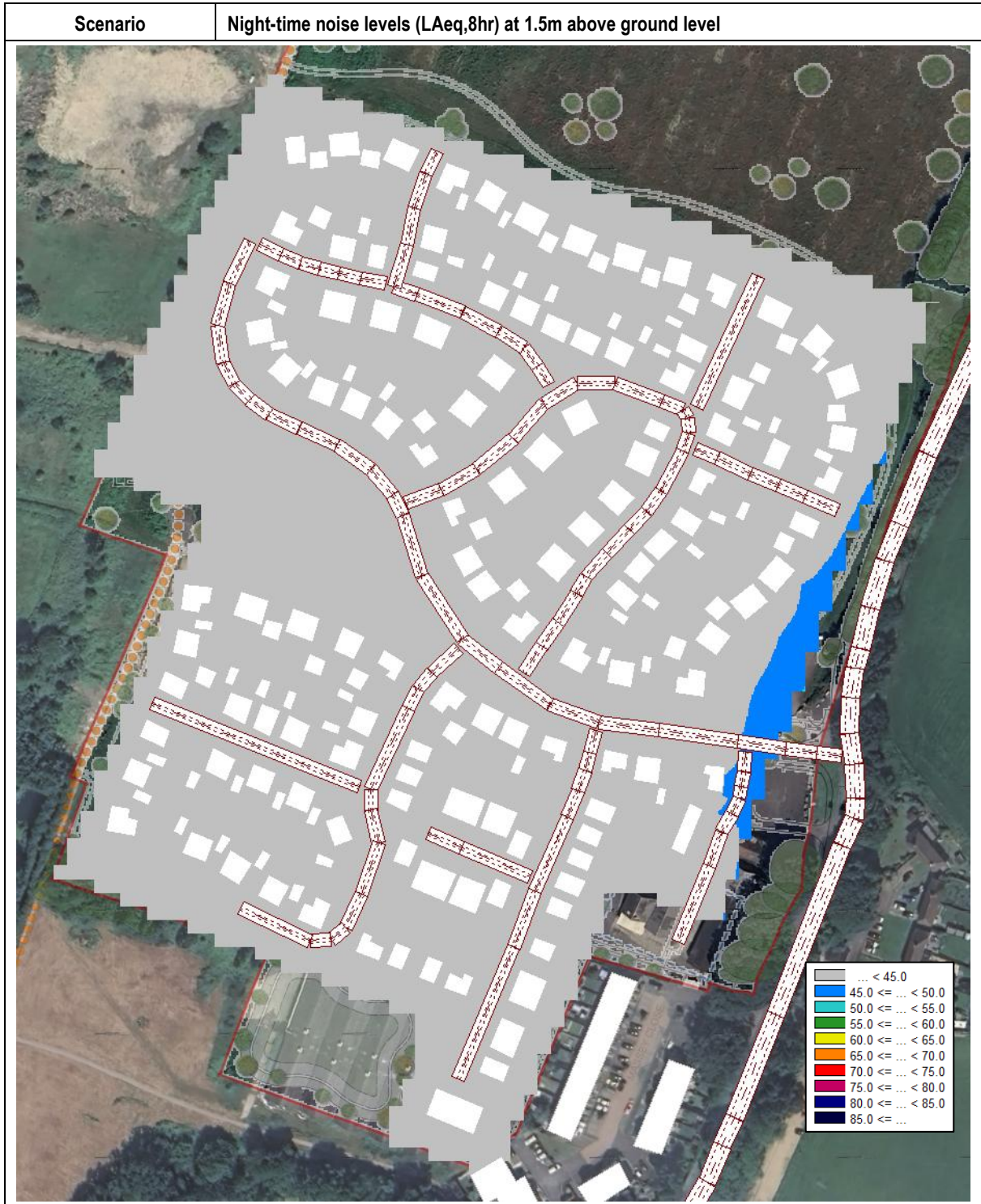
Calculation Algorithms Used:

- Calculation of Road Traffic Noise 1988 – Department of Transport
- ISO 9613-1:1993 Acoustics-Attenuation of sound during propagation outdoors – Part 1: Calculation of the absorption of sound by the atmosphere
- ISO 9613-2:1996 Acoustics-Attenuation of sound during propagation outdoors – Part 2: General method of calculation
- ISO 9613-2:2024 Acoustics-Attenuation of sound during propagation outdoors – Part 2: Engineering method for the prediction of sound pressure levels outdoors

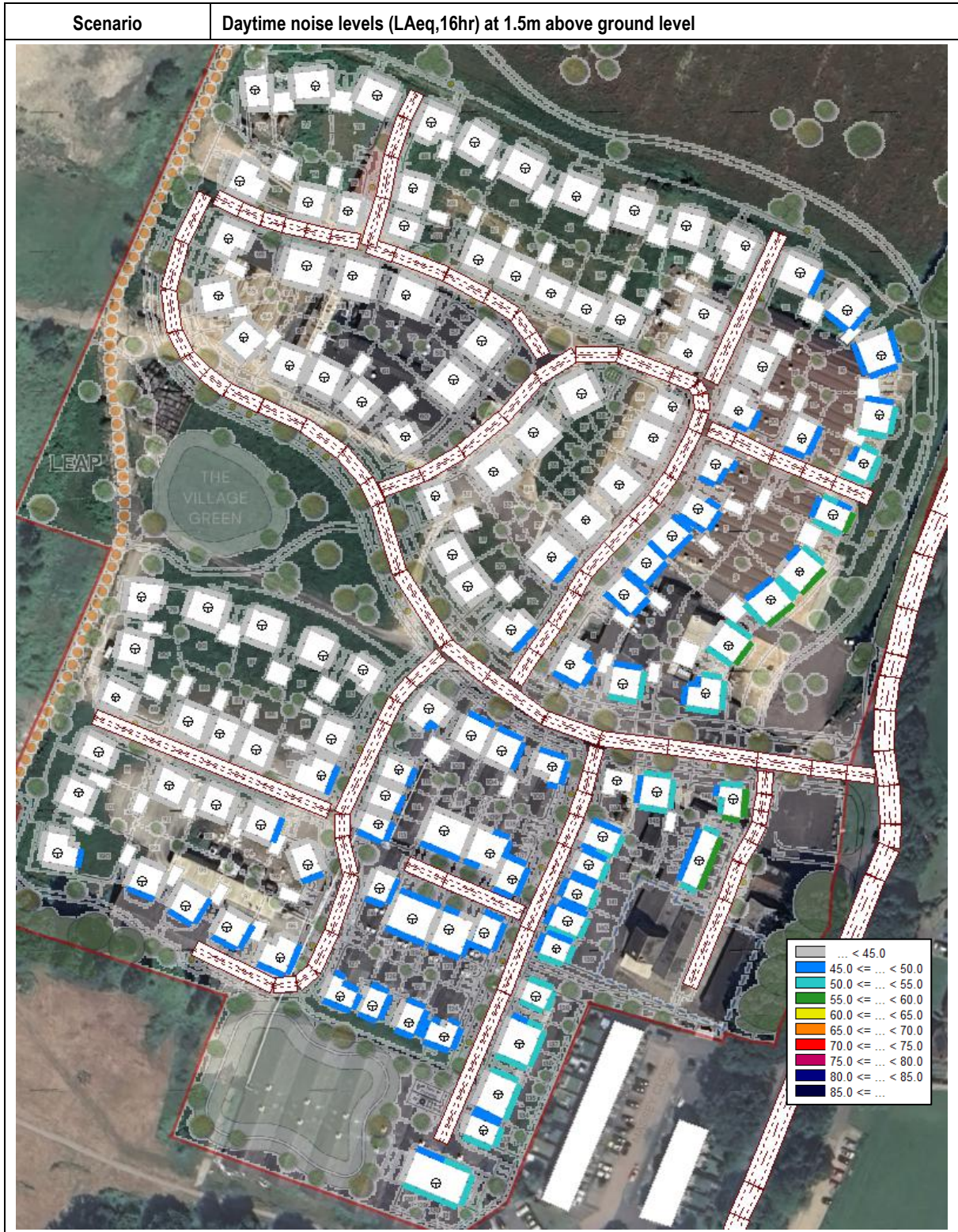
Modelling Printout:



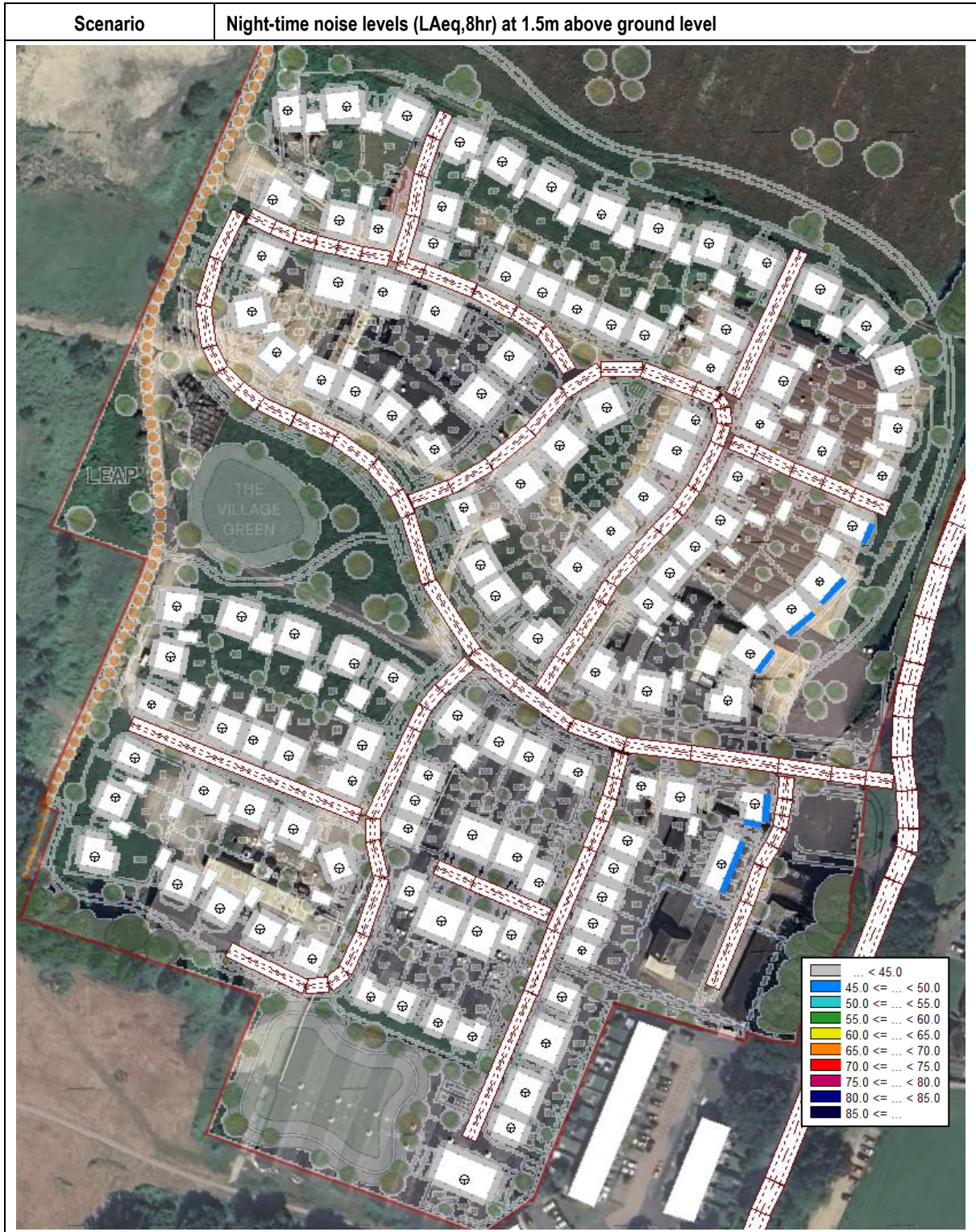
Modelling Printout:



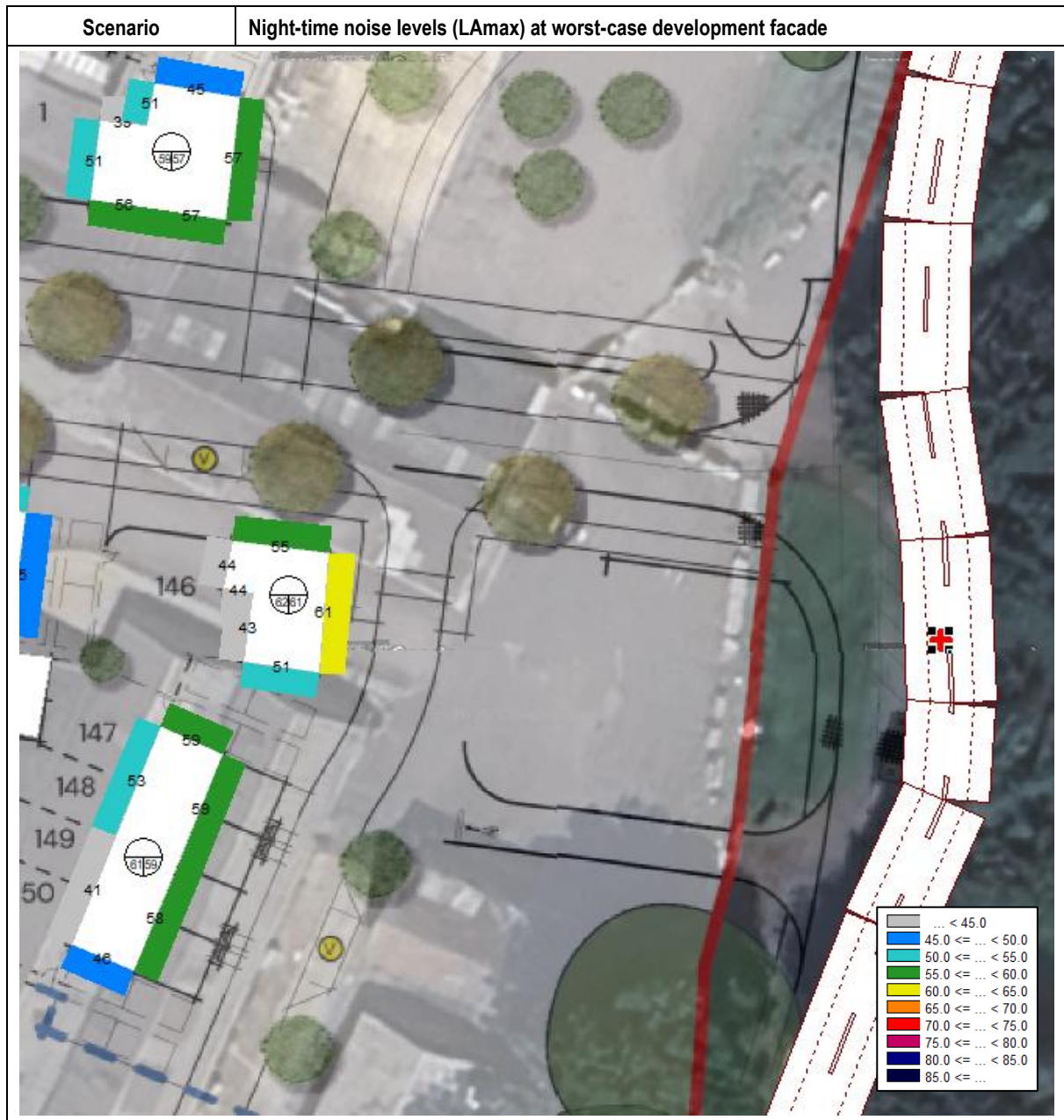
Modelling Printout:



Modelling Printout:



Modelling Printout:



Modelling Printout:



Modelling Printout:



Appendix 6 Preliminary Acoustic Facade Calculations

FACSIM V2.7.10 - MODELLING OF FACADE ACOUSTIC INSULATION TO BS12354-3 and BS8233

PROJECT: Land West of Storrington Road, Thakeham
 ROOM: Bedroom - Plot 146
 VARIANT: Worst-Case Night-Time Average Noise Level (Laeq,8hr)
 NOTES: Typical assumptions used for ext. wall & glazing dimensions, and no. ventilators.

Room Dimensions [m]: W 3.0 X L 4.0 X H 2.4
 Room Volume = 28.8 m³
 Partition Area = 9.5 m²
 Ventilation ref area = 10.0 m²
 Free Field SPL K = 3 dB

SELECT Free Field or Façade SPL for model input >>> []

EXTERNAL SPECTRUM (A weighted)
 Direct input - Free Field SPL (A weighted octave bands) dB -----> No data
 Road traffic spectrum (according to BS 8233:1999 section 6) 47.0
 Reference spectrum: 28.8, 32.0, 36.4, 39.8, 43.0, 40.2, 35.0

REVERBERATION TIME
 DIRECT INPUT -----> No data
 EQUAL RT for all bands -----> 0.5, 0.5, 0.5, 0.5, 0.5, 0.5, 0.5
 Default - RT set to 0.5s

Façade Element	Area [m ²]	SRI dB to BS EN ISO 140-3:1995							Rw	C	Ctr	
Wall 1 Typical - 102mm brick/50mm cavity/100mm block ATTENUATION	8.0	36	45	44	47	57	67	77	1%	54	0	-4
Wall 2 WALLS ATTENUATION	0	0	0	0	0	0	0	0	0%			
Wall 3 WALLS ATTENUATION	0	0	0	0	0	0	0	0	0%			
Glazing 1 27 dB Rw + Ctr - Standard Thermal Double Glazing ATTENUATION	1.5	20	20	19	27	38	37	40	23%	27 (inc Ctr)	-	-
Glazing 2 GLAZING ATTENUATION	0	0	0	0	0	0	0	0	0%			
Glazing 3 GLAZING ATTENUATION	0	0	0	0	0	0	0	0	0%			
Roof ROOF / FLOOR ATTENUATION	0	0	0	0	0	0	0	0	0%			
Resultant composite Façade SRI		27	28	27	34	45	45	48				
Resultant SPL inside room excluding ventilators dB		15.7	5	8	13	9	1	-2	-9	24%		

Ventilator Type	Num	D _{na} dB to BS EN 20140-10:1992							Dnew	C	Ctr	
Ventilation Hit and miss trickle (400mm ²) e.g. Titan Trimvent XS13 ATTENUATION	2	30	35	35	36	34	29	33	73%	32	0	-1
Ventilation VENTS ATTENUATION	0	0	0	0	0	0	0	0	0%			
Resultant SPL inside room through ventilators dB		20.6	5	4	7	10	15	17	8	76%		

Total SPL inside room: 21.8, 8, 10, 14, 12, 16, 17, 8

Element contribution to total internal noise level

Legend:
 Wall 1 (solid line, square markers)
 Wall 2 (dashed line, square markers)
 Wall 3 (dotted line, square markers)
 Glaz 1 (dash-dot line, diamond markers)
 Glaz 2 (dashed line, diamond markers)
 Glaz 3 (dotted line, diamond markers)
 Roof (dash-dot-dot line, triangle markers)
 Vents 1 (dashed line, x markers)
 Vents 2 (dotted line, x markers)
 Total (solid line, circle markers)

FACSIM V2.7.10 - MODELLING OF FAÇADE ACOUSTIC INSULATION TO BS12354-3 and BS8233

PROJECT: Land West of Storrington Road, Thakeham
 ROOM: Bedroom - Plot 146
 VARIANT: Worst-Case Day-Time Average Noise Level (Laeq,16hr)
 NOTES: Typical assumptions used for ext. wall & glazing dimensions, and no. ventilators.

Room Dimensions [m] W 3.0 X L 4.0 X H 2.4
 Room Volume = 29.8 m³
 Partition Area = 9.5 m²
 Ventilation ref area = 10.0 m²
 Free Field SPL K = 3 dB

SELECT Free Field or Façade SPL for model input >>>

NOTES:

EXTERNAL SPECTRUM (A weighted)

Direct input - Free Field SPL (A weighted octave bands) dB ---->

dBA	63	125	250	500	1000	2000	4000
-							
Road traffic spectrum (according to BS 8233:1999 section 6)	57.0						

Reference spectrum

	38.8	42.0	46.4	49.8	53.0	50.2	45.0
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REVERBERATION TIME

DIRECT INPUT ---->

EQUAL RT for all bands ---->

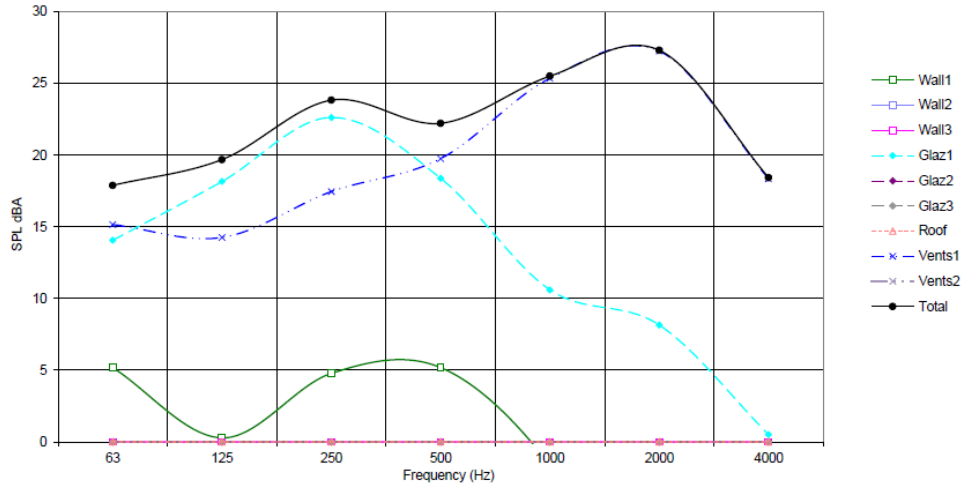
	0.5	0.5	0.5	0.5	0.5	0.5	0.5
--	-----	-----	-----	-----	-----	-----	-----

Default - RT set to 0.5s

Façade Element	Area [m ²]	SRI dB to BS EN ISO 140-3:1995							Rw	C	Ctr	
Wall 1 Typical - 102mm brick/50mm cavity/100mm block	8.0	36	45	44	47	57	67	77	1%	54	0	-4
ATTENUATION												
Wall 2 WALLS		0	0	0	0	0	0	0	0%			
ATTENUATION												
Wall 3 WALLS		0	0	0	0	0	0	0	0%			
ATTENUATION												
Glazing 1 27 dB Rw + Ctr - Standard Thermal Double Glazing	1.5	20	20	19	27	38	37	40	24%	27 (inc Ctr)	-	-
ATTENUATION												
Glazing 2 GLAZING		0	0	0	0	0	0	0	0%			
ATTENUATION												
Glazing 3 GLAZING		0	0	0	0	0	0	0	0%			
ATTENUATION												
Roof ROOF / FLOOR		0	0	0	0	0	0	0	0%			
ATTENUATION												
Resultant composite Façade SRI		27	28	27	34	45	45	48				
Resultant SPL inside room excluding ventilators dB		25.7	15	18	23	19	11	8	1	24%		

Ventilator Type	Num	D _{ne} dB to BS EN 20140-10:1992							Dnew	C	Ctr	
Ventilation Hit and miss trickle (4000mm ²) e.g. Titon Trimvent XS13	2	30	35	35	36	34	29	33	75%	32	0	-1
ATTENUATION												
Ventilation VENTS		0	0	0	0	0	0	0	0%			
ATTENUATION												
Resultant SPL inside room through ventilators dB		30.6	15	14	17	20	25	27	18	70%		
Total SPL inside room		31.8	18	20	24	22	20	27	18			

Element contribution to total internal noise level



FACSIM V2.7.10 - MODELLING OF FACADE ACOUSTIC INSULATION TO BS12354-3 and BS8233

PROJECT: Land West of Storrington Road, Thakeham
 ROOM: Bedroom - Plot 146
 VARIANT: Worst-Case Night-Time Maximum Noise Level (LAmax)
 NOTES: Typical assumptions used for ext. wall & glazing dimensions, and no. ventilators.

Room Dimensions [m] W 3.0 X L 4.0 X H 2.4
 Room Volume = 28.8 m³
 Partition Area = 9.5 m²
 Ventilation ref area = 10.0 m²
 Free Field SPL K = 3 dB

SELECT Free Field or Façade SPL for model input >>>

EXTERNAL SPECTRUM (A weighted)

dBA	63	125	250	500	1000	2000	4000
Direct input - Free Field SPL (A weighted octave bands) dB	66.0	37.4	46.4	53.4	57.4	58.4	62.4
Road traffic spectrum (according to BS 8233:1999 section 6)	66.0						
	37.4	46.4	53.4	57.4	58.4	58.4	62.4

Direct input

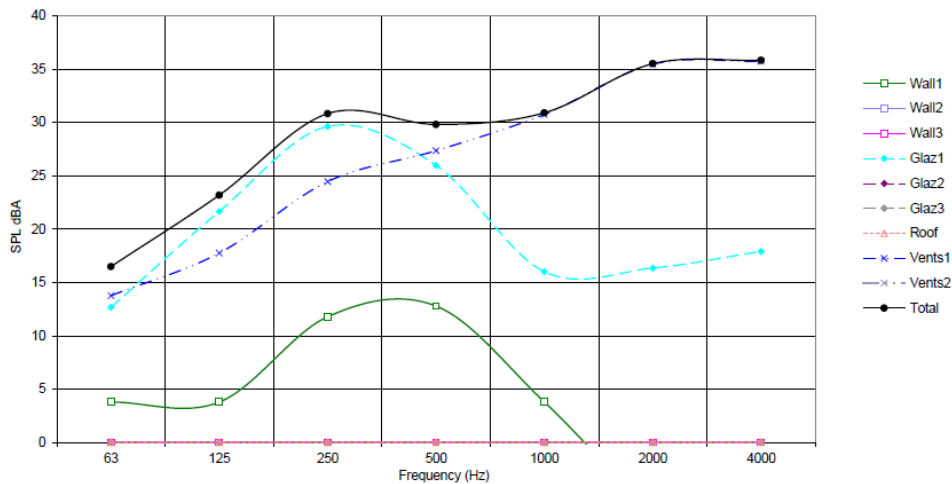
REVERBERATION TIME

DIRECT INPUT -----> No data
 EQUAL RT for all bands -----> 0.5 0.5 0.5 0.5 0.5 0.5 0.5
 Default - RT set to 0.5s

Façade Element	Area [m ²]	SRI dB to BS EN ISO 140-3:1995							Rw	C	Ctr	
Wall 1 Typical - 102mm brick/50mm cavity/100mm block	8.0	36	45	44	47	57	67	77	0%	54	0	-4
ATTENUATION												
Wall 2 WALLS	0	0	0	0	0	0	0	0	0%			
ATTENUATION												
Wall 3 WALLS	0	0	0	0	0	0	0	0	0%			
ATTENUATION												
Glazing 1 27 dB Rw + Ctr - Standard Thermal Double Glazing	1.5	20	20	19	27	38	37	40	15%	27 (no Ctr)	-	-
ATTENUATION												
Glazing 2 GLAZING	0	0	0	0	0	0	0	0	0%			
ATTENUATION												
Glazing 3 GLAZING	0	0	0	0	0	0	0	0	0%			
ATTENUATION												
Roof ROOF / FLOOR	0	0	0	0	0	0	0	0	0%			
ATTENUATION												
Resultant composite Façade SRI	27	28	27	34	45	45	48					
Resultant SPL inside room excluding ventilators dB	32.2	13	22	30	26	16	18	18	15%			

Ventilator Type	Num	D _{ne} dB to BS EN 20140-10:1992							Dnew	C	Ctr	
Ventilation Hit and miss trickle (4000mm ²) e.g. Titon Trimvent XS13	2	30	35	35	36	34	29	33	85%	32	0	-1
ATTENUATION												
Ventilation VENTS	0	0	0	0	0	0	0	0	0%			
ATTENUATION												
Resultant SPL inside room through ventilators dB	39.7	14	18	24	27	31	35	36	85%			
Total SPL inside room	40.4	16	23	31	30	31	36	36				

Element contribution to total internal noise level



NOTES:

FACSIM V2.7.10 - MODELLING OF FACADE ACOUSTIC INSULATION TO BS12354-3 and BS8233

PROJECT: Land West of Storrington Road, Thakeham
 ROOM: Living Room - Plot 146
 VARIANT: Worst-Case Day-Time Average Noise Level (LAeq)
 NOTES: Typical assumptions used for ext. wall & glazing dimensions, and no. ventilators.

Room Dimensions [m] **4.0** X **5.0** X **2.4**
 Room Volume = 48.0 m³
 Partition Area = 17.5 m²
 Ventilation ref area = 10.0 m²
 Free Field SPL K = 3 dB

SELECT Free Field or Façade SPL for model input >>> Free Field

EXTERNAL SPECTRUM (A weighted)

dB(A)	63	125	250	500	1000	2000	4000
Direct input - Free Field SPL (A weighted octave bands) dB	-						
Road traffic spectrum (according to BS 8233:1999 section 8)	57.0						
Reference spectrum	38.8	42.9	46.4	49.8	53.0	50.2	45.0

REVERBERATION TIME

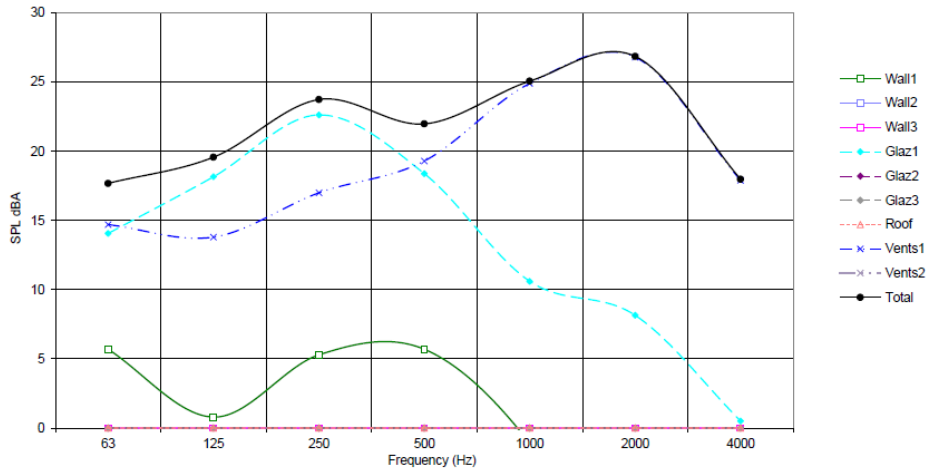
DIRECT INPUT	63	125	250	500	1000	2000	4000
DIRECT INPUT							
EQUAL RT for all bands	0.5	0.5	0.5	0.5	0.5	0.5	0.5

NOTES:

Façade Element	Area [m ²]	SRI dB to BS EN ISO 140-3:1995								Rw	C	Ctr
Wall 1 Typical - 102mm brick/50mm cavity/100mm block	15.0	36	45	44	47	57	67	77	1%	54	0	-4
ATTENUATION												
Wall 2 WALLS		0	0	0	0	0	0	0	0%			
ATTENUATION												
Wall 3 WALLS		0	0	0	0	0	0	0	0%			
ATTENUATION												
Glazing 1 27 dB Rw + Ctr - Standard Thermal Double Glazing	2.5	20	20	19	27	38	37	40	20%	27 (inc Ctr)	-	-
ATTENUATION												
Glazing 2 GLAZING		0	0	0	0	0	0	0	0%			
ATTENUATION												
Glazing 3 GLAZING		0	0	0	0	0	0	0	0%			
ATTENUATION												
Roof ROOF / FLOOR		0	0	0	0	0	0	0	0%			
ATTENUATION												
Resultant composite Façade SRI		28	28	27	35	46	46	48				
Resultant SPL inside room excluding ventilators dB		25.7	15	18	23	19	11	8	1	27%		

Ventilator Type	Num	D _{n,e} dB to BS EN 20140-10:1992								Dnew	C	Ctr
Ventilation Hit and miss trickle (4000mm ²) e.g. Titan Trimvent XS13	3	30	35	35	36	34	29	33	73%	32	0	-1
ATTENUATION												
Ventilation VENTS		0	0	0	0	0	0	0	0%			
ATTENUATION												
Resultant SPL inside room through ventilators dB		30.2	15	14	17	19	25	27	18	73%		
Total SPL inside room		31.5	18	20	24	22	25	27	18			

Element contribution to total internal noise level



Appendix 7 Part O Acoustic Requirements for Bedrooms at Night



Ref.	Colour	Outside-to-inside noise reduction requirement	Part O Requirement for Bedrooms
ADO01	Green	4 dB	Energy assessment (e.g. TM59) to show that bedrooms will not overheat at night with windows fully open (e.g. 13% of floor area, which is typically around 1.3m ²) and ventilators fully open.
ADO02	Yellow	9 dB	Energy assessment (e.g. TM59) to show that bedrooms will not overheat at night with windows open (e.g. 4% of floor area, which is typically around 0.4m ²) and ventilators fully open.
ADO03	Orange	13 dB	Energy assessment (e.g. TM59) to show that bedrooms will not overheat at night with windows partially open (e.g. ~2% of floor area, which is typically around 0.2m ²) and ventilators fully open.
ADO04	Red	>13 dB	Energy assessment (e.g. TM59) to show that bedrooms on these facades will not overheat at night with windows fully closed and ventilators fully open.

Note 1 ADO requirements only apply to bedrooms during night-time hours (23:00-07:00)

Note 2 The window open area is specified above as an actual open area, not 'equivalent open area' and the values may therefore need to be converted as part of the overheating assessment.

Appendix 8 Consultee Comments on 2024 Planning Application (DC/24/0021) and Cass Allen Response

Initial HDC EH Comments (16/02/24) and Cass Allen Response

Cass Allen (the projects Acoustic consultants) have reviewed the noise-related comments made on the Thakeham Mushrooms application. Their responses to the comments is set out below in red. I would be grateful if you could share these with the Environmental Protection Officer.

1. The above provides a report on an environmental noise survey at the Thakeham Mushrooms Site between 10.08.23 and 16.08.23. We note that the following is illustrated in section 5.6 in relation to noise levels in the eastern part of the site:

- *Average noise levels during the daytime - 63 dB LAeq,0700-2300hrs*
- *Average noise levels during the night-time - 53 dB LAeq,2300-0700hrs*
- *Typical maximum noise levels during the night-time - 75 dB LAmax*

2. The above information is welcomed, so that it is clear what noise levels will be across the site we would however be grateful if information on noise levels can be presented as a 3D noise model, with the proposed layout overlaid

The aim of the acoustic assessment is to demonstrate that the site is suitable for the development, and that acceptable internal noise levels can be achieved with mitigation applied where required. If acceptable internal noise levels can be achieved in rooms subject to the highest external noise levels, it follows that acceptable levels will be achievable in all other habitable rooms within the development, with facade mitigation specified as required. If required, 3D noise modelling can be imposed via planning conditions, but in our view, the current lack of modelling should not be a barrier to gaining planning approval.

3. We note that the proposals include a flexible non-residential floorspace (Use Class E) which covers a wide range of activities. Whilst we appreciate that there are some comments in section 5.28 of the report in relation to this proposed use, given the wide range of activities under the Class E use class and the potential impact of this use on proposed and existing residential amenity an assessment of

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the impacts on residential amenity from this element of the proposals should also form part of the noise assessment.

The worst case noise emissions from the community spaces are expected to be during sporadic events with amplified music, i.e. fitness classes. It is not uncommon to have a separating floor between community spaces used for fitness classes/events and residential units. Where required, the separating partition construction can be acoustically upgraded at the detailed design stage to sufficiently control the noise transfer. Any noise break out can also be reduced as far as practicable with a high acoustic performance facade, to be specified at the detailed design stage. At this early stage of the development, the proposed facade construction and separating partitions are not known. If required, the acoustic performance of the separating floor and the external noise breakout from the Class E use can be controlled via planning conditions. In our view the potential noise impact of the Class E use will be sufficiently controlled at the detailed design stage and therefore should not be a barrier in gaining planning approval.

4. We also note that there are land-uses to the immediate north of the application site which have the potential to impact residential amenity – these should also form part of the noise assessment.

During the noise survey no significant commercial noise was observed from the land-uses to the north of the site. Based on the results of our noise survey, the average and maximum noise levels at the north of the site are dictated by road traffic on B2139. This is indicated on the graph of logged data in Appendix 3 of the report (attached). In our view there are no significant noise emissions from the land uses north of the site, therefore they have not been considered further.

Further Comments from EH Team (via HDC Planning Officer, 5/06/24) and Cass Allen Response

From: Jason.Hawkes <Jason.Hawkes@horsham.gov.uk>
Sent: Tuesday, June 4, 2024 4:32 PM
To: Philippa Robinson - Planning <philippa.i.robinson@savills.com>
Cc: Robert Steele <RSteele@savills.com>
Subject: RE: DC/24/0021 Thakeham Mushrooms Site Storrington Road

EXTERNAL EMAIL: Be cautious when opening attachments or clicking links

Dera Philippa

Further to the noise assessment details, the Environmental Health officer has commented that further details are required, as follows:

1. Information on noise levels across the site presented as a 3D noise model, with the proposed layout overlaid.
2. Assessment of the noise impact from the flexible non-residential floorspace (Use Class E).
3. Assessment of the noise impact from the commercial land-uses to the immediate north of the application site.

Kind regards

Jason Hawkes
Principal Planning Officer

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Telephone: 01403 215100 (calls may be recorded) www.horsham.gov.uk Chief Executive: Jane Eaton

Sarah Green

From: Sarah Green
Sent: 24 June 2024 15:55
To: Philippa Robinson - Planning
Cc: Chris McNeillie; Madeleine Anderson-Wood (Madeleine.Anderson-Wood@bellway.co.uk); Robert Steele; John Ainsworth
Subject: RE: DC/24/0021 Thakeham Mushrooms Site Storrington Road
Categories: Action Required, FileChimp

Hi Philippa,

I hope you had a lovely weekend, too.

Many thanks for the instruction - we shall proceed with Items 1 and 2 and aim to issue the results next week. Will this timeframe be suitable?

With regard to the plant assessment, we propose that we push back with the following response:

We understand that a noise impact assessment has been requested for the commercial uses to the north of the site, however in our view this assessment is not necessary, for the following reasons:

- No significant commercial noise was observed during survey at the location of the proposed development facades
- There are existing residential properties at a significantly shorter distance to the commercial uses than the proposed development façades (which are over 100m from commercial uses). This can be seen in the masterplan markup below, where there are **residential properties (circled in purple)** sharing a boundary with the **commercial land uses (outlined in red)**. It follows that if there are suitable commercial noise emissions at the existing residential properties, there will be suitable commercial noise emissions at the proposed development facades.
- If the EH team are not satisfied with the above reasons then we recommend a meeting with the EHO to discuss the assessment requirements.





Architectural & Environmental Consultants
Acoustics | Vibration | Air Quality

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