MEC Consulting Group

ACOUSTIC AIR

Land off Longfield Road, Meopham
Acoustics Assessment
September 2025

Report Ref: 29473-ENV-0403

Land South of Longfield Road, Meopham
Acoustics Assessment
September 2025

REPORT REF: 29473-ENV-0403

CLIENT: Richborough

ENGINEER: MEC Consulting Group Ltd
The Old Chapel
Station Road
Hugglescote
Leicestershire
LE67 2GB

Tel: 01530 264 753
Email group@m-ec.co.uk

REGISTRATION OF AMENDMENTS

Date	Rev	Comment	Prepared By	Checked By	Approved By
September 2025	-	First issue	**Neil S Forsdyke** MIOA Associate Acoustics & Air Quality Consultant	**Harry Johnson** BSc (Hons) AMIOA Senior Acoustics Consultant	**Alexander Bennett** BSc (Hons) MCIHT MTPS Managing Director

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APPENDICES

1.0 INTRODUCTION

1.1 MEC Consulting Group Ltd (MEC) has been commissioned by Richborough, to undertake an Acoustics Assessment in support of a proposed residential development on Land off Longfield Road, Meopham (hereafter referred to as 'the Site'). A site location plan can be found in **Appendix A**.

Existing Site

1.2 The Site, comprised of arable land, is bound by Longfield Road to the north; the Helen Allison School to the east; and arable land to the south and west.

1.3 The principal source of noise affecting the Site is predicted to be from road traffic using Longfield Road, coupled with any contributions from the neighbouring Helen Allison School.

Development Proposals

1.4 The development proposals comprise:

"Outline application for the erection of up to 120 residential dwellings, public open space and associated works. Approval is sought for the principal means of vehicular access from Longfield Road and all other matters are reserved."

1.5 A development framework plan is provided in **Appendix A**.

Assessment Scope

1.6 The following scope of works has been undertaken:

- An Environmental Sound Survey has been undertaken within the Site in order to determine the prevailing acoustic conditions;
- An acoustic model has been created in order to predict sound level across the Site based upon the measured sound level data;
- Embedded façade mitigation measures in the form of glazing and whole-dwelling ventilation specifications have been provided to demonstrate compliance with the guidance contained within ProPG[1], BS 8233[2]; and AVOG[3]; and
- Where required, appropriate mitigation measures have been provided to demonstrate compliance with the relevant standards.

1.7 The conclusions of this report aim to demonstrate to the Gravesham Borough Council (hereafter referred to as the 'Local Authority') that internal acoustic conditions will be compliant with the relevant British Standards and Acoustics Guidance.

[1] Professional Practice Guidance on Planning and Noise, May 2017.
[2] BS 8233:2014 'Guidance on sound insulation and noise reduction for buildings'
[3] Acoustics Ventilation and Overheating, Residential Design Guide, V1.1. January 2020.

Disclaimer

1.8 MEC has completed this report for the benefit of the individuals referred to in Paragraph 1.1 and any relevant statutory authority which may require reference in relation to approvals for the proposed development. Other third parties should not use or rely upon the contents of this report unless explicit written approval has been gained from MEC.

1.9 MEC accepts no responsibility or liability for:

- The consequence of this documentation being used for any purpose or project other than that for which it was commissioned;
- The issue of this document to any third party with whom approval for use has not been agreed.

2.0 STANDARDS AND GUIDANCE

General

2.1 An acoustics glossary is provided in **Appendix B** to assist the reader.

Summary of Guidance and Standards

2.2 The following guidance and standards relevant to the assessment are outlined below:

- National Planning Policy Framework (NPPF) 2024;
- Noise Policy Statement for England (NPSE) 2010;
- Professional Practice Guidance on Planning and Noise (ProPG) 2017;
- BS 8233:2014 *'Guidance on sound insulation and noise reduction for buildings'*; and
- Acoustics Ventilation and Overheating Guide (AVOG) 2020.

2.3 For conciseness, the guidance and standards most appropriate to this assessment are summarised in this section.

Professional Practice Guidance on Planning and Noise (ProPG)

2.4 ProPG seeks to secure good acoustic design for new residential developments. The guidance includes a framework to enable situations where noise is not an issue but to help identify the extent of risk at noisier sites. The guidance does not constitute an official government code of practice and neither replaces nor provides an authoritative interpretation of the law or government policy.

2.5 The guidance is restricted to sites that are exposed predominantly to noise from transportation sources. Where industrial or commercial noise is present on the site but is "not dominant", its contribution may be included in the noise level used to establish the degree of risk. However, if the industrial/commercial source is dominant, an assessment in accordance with BS 4142 should be conducted.

2.6 A two-stage approach is considered whereby:

- Stage 1 – an initial noise risk assessment of the proposed development site is undertaken;
- Stage 2 – a systematic consideration of internal and external noise levels is considered ensuring good acoustic design and consideration of other relevant issues is recognised.

2.7 ProPG also references the World Health Organisation (WHO) guidance on maximum noise levels at night. Guidance from the WHO states that indoor sound pressure levels should not exceed approximately 45 dB L_{AFmax} more than 10 – 15 times per night. ProPG indicates that individual noise events do not exceed 45 dB L_{AFmax} more than 10 times a night and therefore this is considered as criteria in addition to that outlined in Table 2.1.

2.8 Whilst ProPG does not define a measurement interval for the assessment of L_{AFmax} levels, research undertaken by Paxton et al[4] indicates that, for Maximum Event Level assessments, a sampling interval of

[4] Paxton et al., Assessing L_{max} for residential development: The AVO Guide Approach, Institute of Acoustics, 2019

between 1 and 3 minutes relates most closely to how awakening events are experienced by people in reality when compared to longer sampling periods.

2.9 For brevity, within the study, the majority of people (circa 75-85%) under test returned to a sleep state by approximately 2.5 minutes after the initial awakening event.

2.10 In summary, a longer sampling period can result in the under assessment of the 10th highest maximum level, therefore, based upon research and the recommendation of the Institute of Acoustics (IOA), a sample measurement of 1 minute has been used to inform this assessment.

2.11 Upon completion of the ProPG's Stage 1 and 2 assessments, the findings should enable one of four possible recommendations to be presented to the decision maker, namely to grant permission without conditions, grant with conditions, 'avoid' or 'prevent'.

BS 8233:2014 *'Guidance on sound insulation and noise reduction for buildings'*

2.12 BS 8233 provides recommendations for the control of noise in and around buildings.

2.13 The guidance provided includes appropriate internal and external noise level criteria which are applicable to residential buildings exposed to steady external noise sources. It is stated in the British Standard that it is desirable for internal ambient noise levels to not exceed the criteria set out in Table 2.1.

Table 2.1: BS 8233: 2014 Table 4 – Indoor Ambient Noise Levels for Dwellings

Activity	Location	07:00 – 23:00 $L_{Aeq, 16hr}$ dB	23:00 – 07:00 $L_{Aeq, 8hr}$ dB
Resting	Living Room	35	-
Dining	Dining Room/Area	40	-
Sleeping (daytime resting)	Bedroom	35	30

2.14 Additional guidance in BS 8233 indicates that appropriate ventilation should be provided, if relying on closed windows to meet the guide values, and that such ventilation should not compromise the façade insulation and resulting noise levels.

2.15 BS 8233 additionally includes guidance on external amenity areas whereby it states that external noise levels should not exceed 50 dB $L_{Aeq, T}$ with an upper guideline of 55 dB $L_{Aeq, T}$ which would be acceptable in noisier environments.

2.16 Furthermore, due to the nationwide difficulty in satisfying the external criteria outlined above, the standard provides an over-arching consideration of how to treat external amenity areas as follows:

"... 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."

Acoustics Ventilation and Overheating Guide (AVOG)

2.17 The AVOG was published by the Association of Noise Consultants (ANC) and The Institute of Acoustics (IOA) in 2020. The guide outlines a methodology for the assessment of airborne sound during overheating conditions, and emphasises the co-dependency of acoustics, ventilation and overheating design.

2.18 Many developments require closed windows to provide good internal acoustic conditions. This is in direct contrast to the fact that residents typically open windows in order to keep a building cool. These opposing requirements are becoming a major issue in the design of buildings, in particular for housing, especially as the aim is to avoid widespread use of mechanical ventilation and cooling systems.

2.19 AVOG prescribes a two-level assessment procedure, as follows:

- Level 1 – Site Risk Assessment, based on external free-field noise levels (similar to that of ProPG); and
- Level 2 – Assessment of Adverse Effect, based on internal ambient noise level and duration.

2.20 An AVOG Level 2 assessment gives consideration to internal noise levels on a sliding scale depending on the likelihood and duration of overheating.

2.21 This report considers an AVOG Level 1 assessment.

3.0 ENVIRONMENTAL SOUND SURVEY

3.1 An environmental sound survey was undertaken between Tuesday 1st and Wednesday 2nd April 2025. The survey was undertaken in full accordance with the guidance set out in BS 7445[5].

3.2 A Sound Level Meter (SLM) was installed at one location, as follows:

- Continuous Measurement Position (CMP): along the northern boundary, approximately 5m from the carriageway edge of Longfield Road.

3.3 A monitoring location plan is provided in Figure 3.1.

Figure 3.1: Measurement Positions

Note: Red line boundary is approximate

Equipment

3.4 Measurements were taken using Class 1 integrating/averaging a SLM housed in environmental protection apparatus. The SLM was installed in a free field position at a height of 1.5m above local ground level, and field calibrated before and after the survey using a Class 1 calibrator, with no significant drift in calibration noted.

[5] BS 7445-1:2003 '*Description and measurement of environmental noise, Part 1: Guide to quantities and procedures*.'

3.5 The SLM was set up to capture the following parameters at a minimum: L_{Aeq}, L_{A90} and L_{AFmax} values, and full details of the equipment used to undertake the survey are presented in Table 3.1.

Table 3.1: Equipment and Calibration Details

Measurement Position	Description	Manufacturer & Type No.	Serial No.	Calibration Due Date
CMP	Sound Level Meter	01dB Fusion	14157	11/09/2025
	Microphone	GRAS 40CD	466804	
	Calibrator	01dB CAL31	89091	16/10/2025

Meteorological Conditions

3.6 During both setup and collection of the SLM, weather conditions were sunny and clear, with north easterly winds of up to 4.4 m/s.

3.7 Overall, these conditions are not considered to be adverse, and would not have significantly influenced the survey outcome.

Observations

3.8 Site notes indicate the dominant source of noise to be from road traffic using Longfield Road.

Results

3.9 A time history graph is provided in **Appendix C**.

3.10 Table 3.2 provides a summary of measured assessment appropriate sound levels at the CMP.

Table 3.2: Summary of Measured Sound Levels at CMP, dB

Date	Daytime 07:00 – 23:00	Night-time 23:00 – 07:00	
	$L_{Aeq,T}$	$L_{Aeq,8hr}$	Typical Maximum Event Level[(a)] $L_{AFmax,1min}$
Tue 1st	64[(b)]	62	84
Wed 2nd	66[(c)]	-	-

[(a)] Maximum noise level not exceeded more than 10 times per night.
[(b)] T = 11hr
[(c)] T = 5hr

3.11 The derived daytime $L_{Aeq,16hr}$ was 65 dB (rounding to the nearest whole number for assessment purposes), while the measured night-time $L_{Aeq,8hr}$ was 62 dB.

3.12 Analysis of the night-time $L_{AFmax,1min}$ noise levels shows that the individual noise events did not exceed 84 dB more than 10 times during the measured night-time period. Therefore, a value of 84 dB L_{AFmax} is considered appropriate for assessment purposes.

4.0 ASSESSMENT METHODOLOGY

Acoustic Modelling

4.1 An acoustic model of the Site and environs has been generated in Datakustik CadnaA® modelling software. CadnaA® considers various inputs, including topography, buildings and road noise sources, and calculates sound levels in accordance with national and international standards; in this case, the relevant UK standards are the procedures set out within ISO 9613-2[6].

4.2 The modelling assumptions and input information for the acoustic model are as follows:

- Digital Terrain Model – Lidar 1m (Environment Agency, downloaded on 21st March 2024);
- Open Street Map data (publicly available);
- Ground absorption for the Site = 0.5 (mixed ground);
- Building heights estimated following site observations or based upon masterplan;
- Buildings set to be reflective only with no absorption coefficient;
- First order reflections included in the modelling;
- Temperature set to 10°C; and
- Relative humidity set to 70%.

Source Sound Levels

Road Traffic

4.3 Based on the environmental sound survey, the sound levels used to calibrate the 3D acoustic model are presented in Table 4.1.

Table 4.1: Sound Levels Used to Calibrated 3D Acoustic Model, dB

Parameter	CMP
Daytime Ambient $L_{Aeq,16hr}$	65
Night-time Ambient $L_{Aeq,8hr}$	62
Night-time Maximum $L_{AFmax,1min}$	84

Helen Allison School

4.4 In the absence of a measurement position adjacent to the school, the approach has been to use MEC's comprehensive library of in-house measurement data, with source noise levels at the boundary of an Artificial Grass Pitch (AGP) used for the school's concrete play area, and from football being played on Brinsley Recreation Ground, used for the school's grass play area. This data is presented in **Appendix C**.

4.5 It should be noted that this approach will represent a worst-case assessment, as any noise contribution from an outdoor school play area would only be present for a typical period of 1-2 hours during the above 16-hour assessment period as the remainder of school hours are mainly spent at lessons inside the school buildings. Therefore, the remaining 14-hours would be totally unaffected, and the overall 16-hour noise exposure for

[6] ISO 9613-2 *'Acoustics – Attenuation of sound during propagation outdoors, Part 2: General method of calculation.*

nearby gardens will tend to be influenced most by the ambient noises present during the unaffected 14-hours rather than the 1-2 hour when the play areas might be used.

Modelled Scenarios

4.6 With reference to the noise criteria outlined in Section 2.0, the acoustic model has been used to predict sound levels across the Site in the following scenarios:

- Daytime $L_{Aeq,16hr}$ external sound levels at ground floor (1.5m) height;
- Night-time $L_{Aeq,8hr}$ external sound levels at first floor (4m) height; and
- Night-time $L_{AFmax,1min}$ external sound levels at first floor (4m) height.

5.0 ACOUSTICS ASSESSMENT

5.1 The following assessment has been undertaken using indicative receptors based on the development framework plan. For conciseness, this report tabulates the most exposed indicative receptors as Plot X, approximately 14m from Longfield Road, and Plot Y, overlooking the Helen Allison School, to give context to the most stringent mitigation measures. All other receptors are assessed through the various sound level contour and mitigation reference drawings presented in the various appendices to this report.

ProPG Initial Noise Risk Assessment

5.2 As required by the ProPG, an Initial Noise Risk Assessment (INRA) is presented Table 5.1, based on the modelled sound levels.

Table 5.1: Initial Site Noise Risk Assessment, dB

Risk	Negligible		Low		Medium		High	
Period	Day	Night	Day	Night	Day	Night	Day	Night
ProPG Threshold	< 50	< 40	50 – 60	40 – 50	60 – 70	50 – 60	> 70	> 60
Plot X			56			56		
Risk Assessment			Low			Medium		
Plot Y			53					
Risk Assessment			Low					

5.3 Based on the modelled sound levels, the most exposed receptor overlooking Longfield Road falls within the ProPG risk category of 'Low' during the daytime, for which the guidance states "*the Site is likely to be acceptable from a noise perspective provided that a good acoustic design process is followed*".

5.4 Similarly, the receptor located adjacent to the Helen Allison School is classified within the 'Low' ProPG risk category during the daytime period.

5.5 During the night-time period, the noise exposure at the most exposed receptor overlooking Longfield Road increases to a 'Medium' risk, for which the guidance states that "*a good acoustic design process must be followed which confirms how the adverse impacts of noise will be mitigated and minimised, and which clearly demonstrates that a significant adverse noise impact will be avoided."*

5.6 This report is considered to form the basis of the 'Acoustic Design Statement', which considers appropriate design measures to achieve suitable acoustic conditions for residential amenity.

BS 8233 External Amenity Criteria

5.7 The acoustics criterion often the most difficult to meet in residential environments situated next to busy transportation sources is BS 8233's criterion of 55 dB $L_{Aeq,\ 16hr}$ applicable to private external amenity spaces such as gardens.

5.8 The daytime $L_{Aeq,16hr}$ sound level contour map, shown on drawing 29473_04_120_04 in **Appendix D**, indicates that standard mitigation in the form of 1.8m high close boarded timber fencing will enable BS 8233's lower-level criterion of 50 dB $L_{Aeq,16hr}$ to be satisfied across the Site.

BS 8233 Internal Acoustic Criteria

5.9 Table 5.2 presents the required external to internal reduction requirements for the most exposed receptors overlooking Longfield Road (Plot X) and the Helen Allison School (Plot Y).

Table 5.2: Required Façade Performance, dB

Plot	Parameter	External Level	Internal Criteria	Required Reduction
X	Daytime Ambient $L_{Aeq,16hr}$	56	35	21
	Night-time Ambient $L_{Aeq,8hr}$	56	30	26
	Night-time Maximum $L_{AFmax,1min}$	78	45	33
Y	Daytime Ambient $L_{Aeq,16hr}$	53	35	18

5.10 For the most exposed dwelling overlooking Longfield Road, the results in Table 5.2 show that a sound reduction of up to 21 dB will be required to achieve the internal $L_{Aeq,16hr}$ criterion during the daytime, with a sound reduction of up to 33 dB required to achieve the L_{Amax} criterion for new receptors during the night-time.

5.11 For the most exposed receptor overlooking the Helen Allison School, Table 5.2 show that a sound reduction of up to 18 dB will be required to achieve the internal $L_{Aeq,16hr}$ criterion during the daytime.

AVOG Level 1 Assessment

5.12 AVOG prescribes a two-stage assessment. Level 1 looks to determine if overheating needs to be considered further, based on the predicted external façade levels for the most exposed receptors. The initial Level 1 assessment is presented in Table 5.3.

Table 5.3: AVOG Level 1 Assessment

Plot	Parameter	Predicted External Level dB	Level 1 Risk Grading	Level 2 Advised?
X	Daytime Ambient $L_{Aeq,16hr}$	56	Low	Optional
	Night-time Ambient $L_{Aeq,8hr}$	56	High	Recommended
Y	Daytime Ambient $L_{Aeq,16hr}$	53	Low	Optional

5.13 The results demonstrate that at the most exposed receptors overlooking Longfield Road, an AVOG Level 2 assessment is recommended due to the high-risk grading during the night-time period.

5.14 Furthermore, it should be noted that the night-time maximum levels will drive the acoustic design and therefore, with the introduction of the L_{AFmax} criteria outlined in AD-O[7], further investigation into internal acoustic conditions during periods of overheating will be required.

5.15 Nevertheless, demonstrating a suitable overheating strategy is not necessarily a planning application consideration, and could therefore be considered at a later stage, as part of other Building Control matters.

[7] The Building Regulations 2010, Overheating, Approved Document 'O'.

6.0 MITIGATION

External Sound Levels

6.1 For an indicative layout based on the development framework plan, BS 8233's lower-level criterion of 50 dB $L_{Aeq,16hr}$ will be satisfied at all garden locations on the Site through the provision of standard 1.8m high close boarded timber fencing.

Internal Sound Levels

6.2 Acoustic modelling has demonstrated potential façade sound levels and, in accordance with BS 8233, ProPG and AVOG, sound reduction performance requirements of the façade have been determined.

6.3 In terms of acoustics, windows and ventilation strategies are the 'weakest' acoustics point in any façade and subsequently, the composite sound reduction performance is typically dominated by these elements. Therefore, minimum performance requirements to be provided by the glazing and ventilation elements at all dwellings are presented herein.

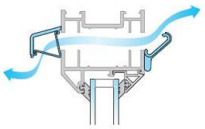
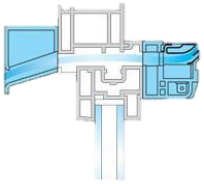
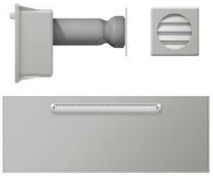
6.4 Drawing on the above, and the acoustic modelling undertaken, Table 6.1 provides typical reduction requirements and potential glazing and ventilation solutions across the Site in order to demonstrate compliance with the internal sound level criteria outlined in BS 8233 and ProPG during typical conditions; internal sound level criteria outlined in AVOG during overheating conditions; whilst adhering to the ventilation requirements of AD-F[8].

6.5 This table should be read in conjunction with the drawings in **Appendix E** whereby drawing 29473_04_120_07 demonstrates the required reduction for bedrooms and drawing 29473_04_120_08 demonstrates the required reduction for all other habitable rooms.

6.6 For each reference in Table 6.1, the sound reduction performance requirements, in octave band and weighted reduction format, are presented in **Appendix F**.

[8] The Building Regulations 2010, Ventilation, Approved Document F, 2021 Edition.

Table 6.1: Suggested Internal Mitigation Measures

Mitigation Ref.	Example Glazing Solution	Example Whole-Dwelling Ventilation Solution (AD-F)
Ref. A	4mm glass panel 12mm air gap 4mm glass panel Approx. 27 dB $R_w + C_{tr}$	<u>Standard Non-Acoustic Trickle Vent</u> Direct airpath trickle vent located in the top of the window frame  Approx. $D_{n,e,w} + C_{tr}$ = 32 dB
Ref: B	8mm pane 12mm air space 10mm pane Approx. $R_w + C_{tr}$ = 33 dB	<u>Acoustically Rated Trickle Vent</u> Slots typically located in the window frame with more torturous path and acoustic lining  Approx. $D_{n,e,w} + C_{tr}$ = 35 dB
Ref: C	6mm pane 18mm air space 9.5 mm laminated pane Approx. $R_w + C_{tr}$ = 36 dB	<u>Acoustically Rated Through Wall Trickle Vent</u> Through wall trickle vent with torturous airpath.  Approx. $D_{n,e,w} + C_{tr}$ = 42 dB

7.0 CONCLUSIONS

7.1 MEC has been commissioned by Richborough, to undertake an Acoustics Assessment for the proposed residential development on Land off Longfield Road, Meopham.

7.2 Detailed assessments of the Site, during typical conditions, have been undertaken in accordance with BS 8233 and ProPG criteria whilst giving consideration to typical condition ventilation requirements in AD-F.

External Sound Levels

7.3 Acoustic modelling has demonstrated that, based on the current site layout, BS 8233's lower-level criterion of 50 dB $L_{Aeq,16hr}$ will be satisfied at all garden locations on the Site through the provision of standard 1.8m high close boarded timber fencing.

Internal Sound Levels

7.4 With regards to internal acoustic conditions, the majority of new dwellings will satisfy the criteria in BS 8233 and ProPG through the provision of standard thermal double glazing and direct airpath window mounted trickle ventilators to achieve the whole-dwelling ventilation requirements of AD-F, with uprated acoustic glazing and acoustically rated through wall trickle ventilators required for the most exposed plots overlooking Longfield Road.

Overheating Considerations

7.5 When considering the planning guidance outlined in AVOG, an open window acoustics strategy is not permissible during periods of overheating. Therefore, further investigation will be required as part of any Reserved Matters application, during the detailed design phase. In any event, the application should not be delayed on these grounds, as it needs to be recognised that the overheating strategy will be determined under AD-O at Building Control stage.

Summary

7.6 In conclusion, it is considered that with the implementation of the recommended mitigation strategy, the Site is suitable for residential development.

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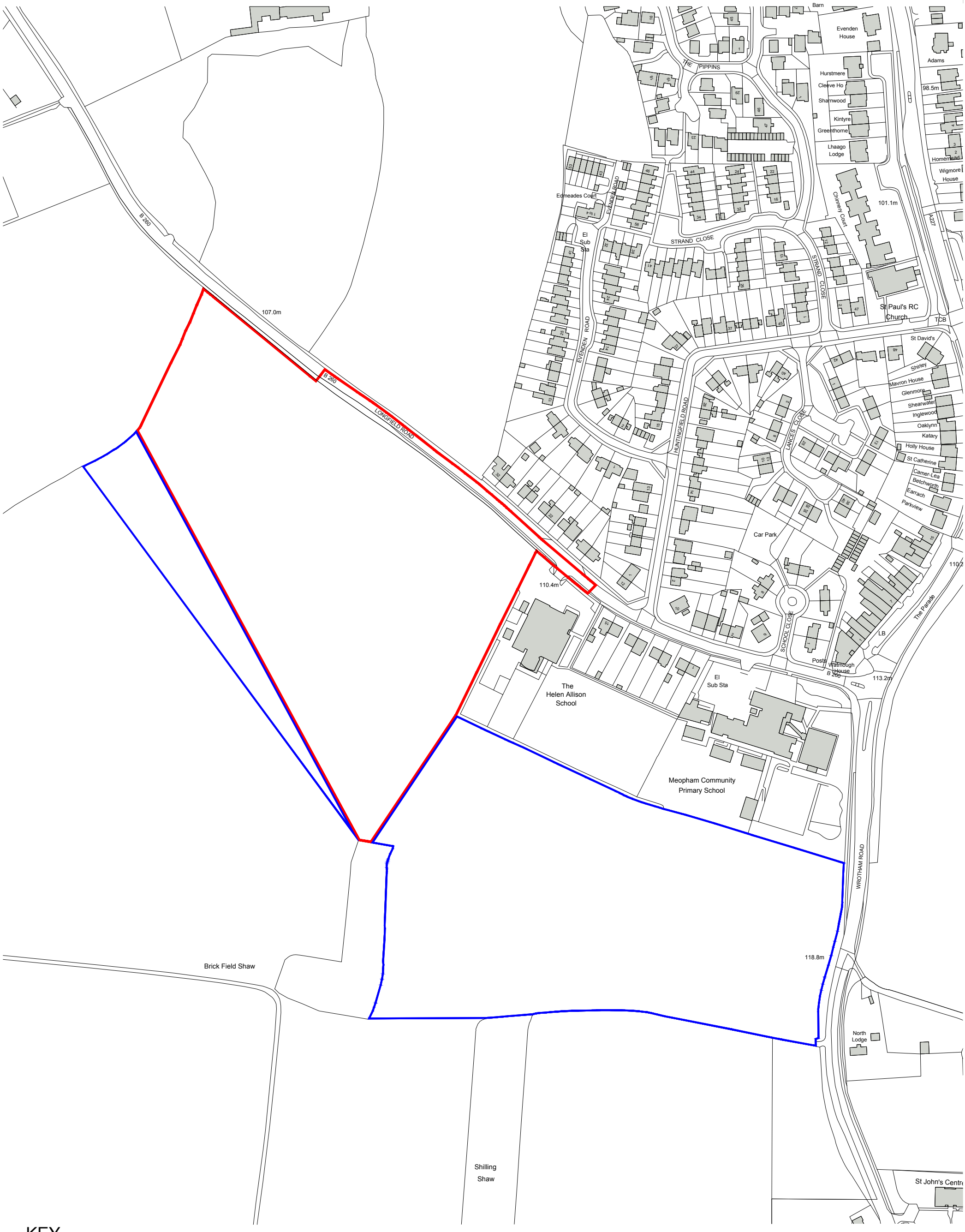
APPENDICES

APPENDIX A



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KEY

SITE LOCATION
5.68 HECTARES / 14.04 ACRES

OTHER LAND IN OWNERSHIP
6.1 HECTARES / 15.08 ACRES

REV A : RLB UPDATED. 01.09.25 (SB)

LONGFIELD ROAD, MEOPHAM - SITE BOUNDARY

PEGASUS GROUP

| PEGASUSGROUP.CO.UK | TEAM/DRAWN BY: SB/EA | APPROVED BY: JW | DATE: 18.07.25 | SCALE: 1:2500@A3 | DRWG: P25-0485_DE_2001_A_1 I CLIENT: RICHBOROUGH I

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KEY

- SITE BOUNDARY
- SITE ACCESS VIA LONGFIELD ROAD
- RESIDENTIAL DEVELOPMENT
- PUBLIC OPEN SPACE
- PRIMARY STREET
- SECONDARY STREET
- TERTIARY STREETS
- FOCAL SPACES
- PRIVATE LANES
- EXISTING PUBLIC RIGHTS OF WAY
- ACTIVE TRAVEL / CYCLE ROUTES
- FOOTPATH LINK
- EXISTING TREES
- NEW STRUCTURAL PLANTING
- NEW TREE PLANTING
- PROPOSED PLAY
- SUSTAINABLE DRAINAGE
- POTENTIAL IMPROVEMENTS TO EXISTING HIGHWAY FOR PEDESTRIAN AND CYCLE MOVEMENT
- PROPOSED TACTILE CROSSING AND FOOTWAY LINK
- SCHOOL DROP-OFF AREA

KEY PRINCIPLES

1. KEY ACTIVE TRAVEL ROUTES PROVIDING CONNECTIONS TO NEARBY MOVEMENT INFRASTRUCTURE;
2. KEY COMMONS PROVIDING EQUIPPED AREAS OF PLAY AND NODAL SPACES;
3. DEVELOPMENT EDGE TO RESPECT EXISTING DEVELOPMENT/ PUBLIC RIGHT OF WAY LINE;
4. STRUCTURAL PLANTING ALONG SOUTHERN BOUNDARY TO SCREEN DEVELOPMENT EDGE;
5. OVERFLOW PARKING FOR SCHOOL DROP-OFF;
6. MAXIMUM OUTWARD FACING DEVELOPMENT OVER NEWLY CREATED PUBLIC OPEN SPACE; AND
7. VIEW TO ST JOHNS THE BAPTIST CHURCH FROM PROW EXITING SITE .

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LAND OFF LONGFIELD ROAD, MEOPHAM – **ILLUSTRATIVE DEVELOPMENT FRAMEWORK PLAN**

| PEGASUSGROUP.CO.UK | TEAM/DRAWN BY: RL | APPROVED BY: JW | DATE: 30.04.25 | SCALE: 1:1250@A2 | DRWG: P25-0485_DE_2003_E_1 | CLIENT: RICHBOROUGH |

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APPENDICES

APPENDIX B

GLOSSARY OF TECHNICAL TERMS

Noise

Noise is defined as unwanted sound. Human ears are able to respond to sound in the frequency range 20 Hz (deep bass) to 20,000 Hz (high treble) and over the audible range of 0 dB (the threshold of perception) to 140 dB (the threshold of pain). The ear does not respond equally to different frequencies of the same magnitude, but is more responsive to mid-frequencies than to lower or higher frequencies. To quantify noise in a manner that approximates the response of the human ear, a weighting mechanism is used. This reduces the importance of lower and higher frequencies, in a similar manner to the human ear.

Furthermore, the perception of noise may be determined by a number of other factors, which may not necessarily be acoustic. In general, the impact of noise depends upon its level, the margin by which it exceeds the background level, its character and its variation over a given period of time. In some cases, the time of day and other acoustic features such as tonality or impulsiveness may be important, as may the disposition of the affected individual. Any assessment of noise should give due consideration to all of these factors when assessing the significance of a noise source.

The most widely used weighting mechanism that best corresponds to the response of the human ear is the 'A'-weighting scale. This is widely used for environmental noise measurements, and the levels are denoted as dB(A) or L_{Aeq}, L_{A90} etc., according to the parameter being measured.

The decibel scale is logarithmic rather than linear, and hence a 3 dB increase in sound level represents a doubling of the sound energy present. Judgement of sound is subjective, but as a general guide a 10 dB(A) increase can be taken to represent a doubling of loudness, whilst an increase in the order of 3 dB(A) is generally regarded as the minimum difference needed to perceive a change under normal listening conditions.

Typical sound levels found in the environment

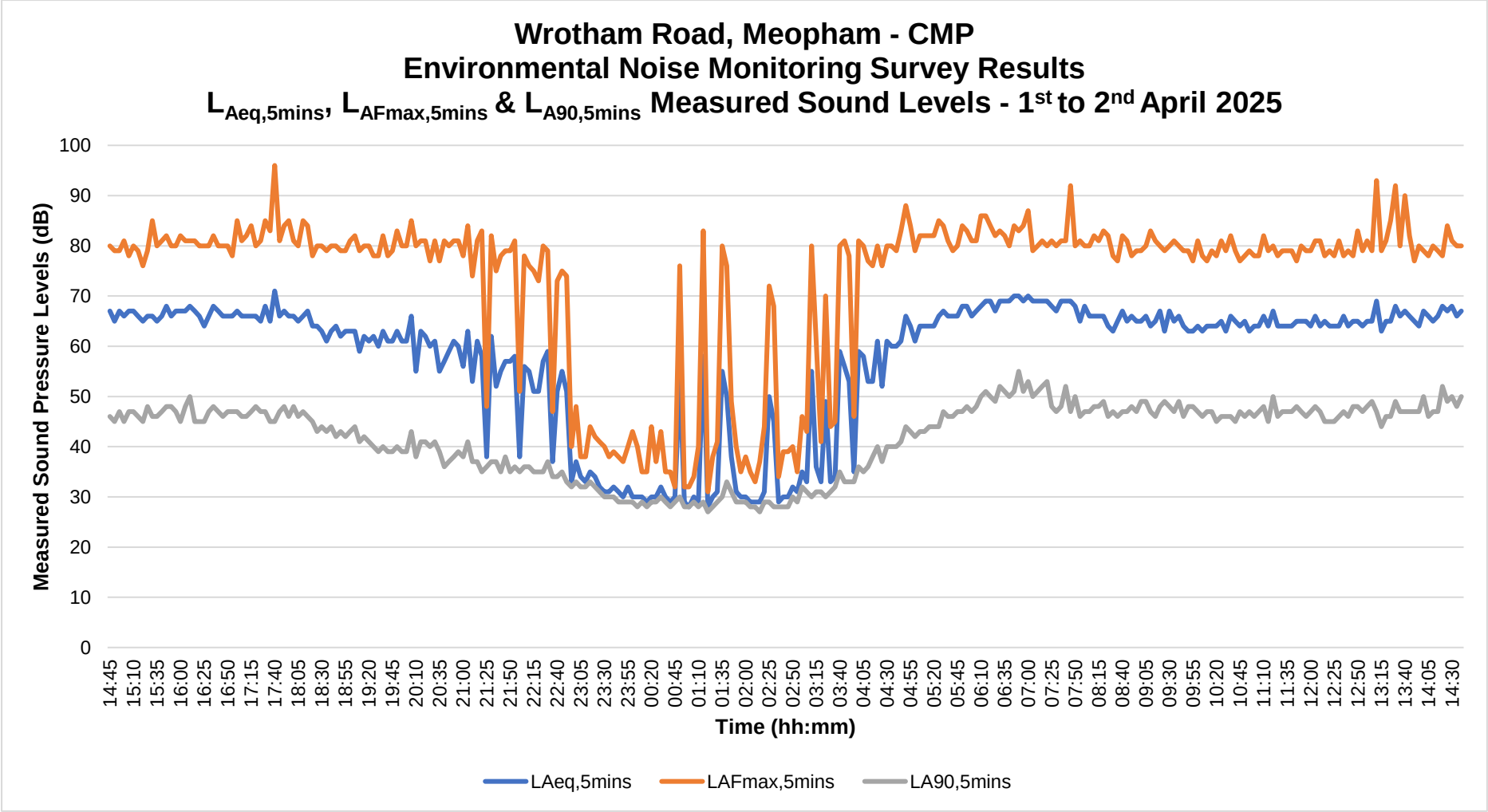
Sound Level	Location
0 dB(A)	Threshold of hearing
20 to 30 dB(A)	Quiet bedroom at night
30 to 40 dB(A)	Living room during the day
40 to 50 dB(A)	Typical office
50 to 60 dB(A)	Inside a car
60 to 70 dB(A)	Typical high street
70 to 90 dB(A)	Inside a factory
100 to 110 dB(A)	Burglar alarm at 1m away
110 to 130 dB(A)	Jet aircraft taking off
140 dB(A)	Threshold of pain

Descriptor	Terminology
Sound Pressure	Sound, or sound pressure, is a fluctuation in air pressure over the static ambient pressure.
Sound Pressure Level	The sound level is the sound pressure relative to a standard reference pressure of 20μPa (20x10-6 Pascals) on a decibel scale.
Decibel (dB)	A scale for comparing the ratios of two quantities, including sound pressure and sound power. The difference in level between two sounds s1 and s2 is given by 20 log10 (s1 / s2). The decibel can also be used to measure absolute quantities by specifying a reference value that fixes one point on the scale. For sound pressure, the reference value is 20μPa.
A-weighting (dB(A))	The unit of sound level, weighted according to the A-scale, which takes into account the increased sensitivity of the human ear at some frequencies.
Noise Level Indices	Noise levels usually fluctuate over time, so it is often necessary to consider an average or statistical noise level. This can be done in several ways, so a number of different noise indices have been defined, according to how the averaging or statistics are carried out.
$L_{eq, T}$	A noise level index called the equivalent continuous noise level over the time period, *T*. This is the level of a notional steady sound that would contain the same amount of sound energy as the actual, possibly fluctuating, sound that was recorded.
$L_{AFmax, T}$	A noise level index defined as the maximum noise level during the measurement period. L_{Max} is sometimes used for the assessment of discrete loud noises, which may have little effect on the overall L_{eq} noise level but will still affect the noise environment. It is typically measured using the 'fast' sound level meter response.
$L_{90, T}$	A noise level index. The noise level exceeded for 90% of the time over the period, *T*. *L*90 can be considered to be the "average minimum" noise level and is often used to describe the background noise.
$L_{10, T}$	A noise level index. The noise level exceeded for 10% of the time over the period, *T*. *L*10 can be considered to be the "average maximum" noise level. Generally used to describe road traffic noise.
Free-Field	Far from the presence of sound reflecting objects (except the ground), usually taken to mean at least 3.5m.
Façade	At a distance of 1m in front of a large sound reflecting object such as a building facade.
Fast/Slow Time Weighting	Averaging times used in sound level meters.
Octave Band	A range of frequencies whose upper limit is twice the frequency of the lower limit
One-third Octave Band	A frequency band in which the upper limit is 21/3 times the frequency of the lower limit.
Rating Level	The specific sound level, plus any adjustment for characteristic feature of sound in BS 4142.
Specific Sound Level	The A-weighted L_{eq} sound level produced by a sound source during a specified period of time. Commonly known as the sound source under investigation as defined in BS 4142.
Typical Maximum Level	The 90th percentile maximum event level (L_{AFmax}) measured during a period. Used for assessing night-time maximum levels under typical and overheating conditions.

MEC
Consulting Group

APPENDICES

APPENDIX C


Wrotham Road, Meopham - CMP
Environmental Noise Monitoring Survey Results
LAeq,5mins, LAFmax,5mins & LA90,5mins Measured Sound Levels - 1st to 2nd April 2025
Measured Sound Pressure Levels (dB)
100
90
80
70
60
50
40
30
20
10
0
14:45
15:10
15:35
16:00
16:25
16:50
17:15
17:40
18:05
18:30
18:55
19:20
19:45
20:10
20:35
21:00
21:25
21:50
22:15
22:40
23:05
23:30
23:55
00:20
00:45
01:10
01:35
02:00
02:25
02:50
03:15
03:40
04:05
04:30
04:55
05:20
05:45
06:10
06:35
07:00
07:25
07:50
08:15
08:40
09:05
09:30
09:55
10:20
10:45
11:10
11:35
12:00
12:25
12:50
13:15
13:40
14:05
14:30
Time (hh:mm)
LAeq,5mins
LAFmax,5mins
LA90,5mins

AGP Noise Monitoring Positions & Noise Measurements

Date	L_{Aeq}	L_{Amax}	L_{A01}	L_{A10}	L_{A90}
Position 1(1)					
(2017/04/19 18:02:22.00)	41.8	51.5	47.4	43.7	39.2
(2017/04/19 18:03:22.00)	41.6	50.8	47	43.5	38.8
(2017/04/19 18:04:23.00)	42.1	54.2	49.8	43.4	39.4
(2017/04/19 18:05:23.00)	46.4	56.6	54.3	50.5	39.8
(2017/04/19 18:06:23.00)	43.1	49.4	48.4	45.8	39.5
(2017/04/19 18:07:24.00)	42.3	50.9	48.2	44.3	39.9
(2017/04/19 18:08:24.00)	43.5	58.2	51	45.1	40.3
(2017/04/19 18:09:24.00)	45.8	55.6	52.4	48.4	42.2
(2017/04/19 18:10:24.00)	42.7	55	52.2	44.9	38.8
(2017/04/19 18:11:25.00)	46.2	63.9	55.3	48.6	39.4
(2017/04/19 18:12:25.00)	45.6	57.5	55.6	47.7	39.6
(2017/04/19 18:13:25.00)	45.7	62.4	58.7	46.3	37.8
(2017/04/19 18:14:26.00)	45	54.5	53.3	48.3	39.8
(2017/04/19 18:15:26.00)	48.1	60	57.5	51.4	41.2
(2017/04/19 18:16:27.00)	47.8	61.3	59	50.9	40
(2017/04/19 18:17:27.00)	46.9	60.4	58.2	49.7	39.6
(2017/04/19 18:18:27.00)	47.3	61.5	58.6	50.2	39.5
(2017/04/19 18:19:28.00)	47.5	59.4	58.2	50.2	39.4
(2017/04/19 18:20:28.00)	49	63.7	60.6	51.8	39.1
(2017/04/19 18:21:28.00)	48.8	63.5	59	53.1	39.8
Minimum	41.6	49.4	47	43.4	37.8
Maximum	49	63.9	60.6	53.1	42.2
Average	45.4	57.5	54.2	47.9	39.7
Position 2(1)					
(2017/04/19 18:24:25.00)	43.8	57.2	54.1	46.6	38.1
(2017/04/19 18:25:26.00)	47.3	61.5	59.3	49.7	38.9
(2017/04/19 18:26:26.00)	46.5	57.9	55.7	49.6	40.2
(2017/04/19 18:27:26.00)	48.7	62.7	59.7	51.1	40.2
(2017/04/19 18:28:27.00)	47.3	58.6	55.6	51	40.1
(2017/04/19 18:29:27.00)	45	55.2	53.9	47.9	39.3
(2017/04/19 18:30:27.00)	49.3	64.9	60	51.9	40.9
(2017/04/19 18:31:28.00)	46.4	58.8	55.6	49	40.1
(2017/04/19 18:32:28.00)	50.2	60.4	56.4	52.9	46
(2017/04/19 18:33:28.00)	48.3	64.7	57.5	50.4	41.6
(2017/04/19 18:34:29.00)	46.1	59	56.6	48.5	38.6
(2017/04/19 18:35:29.00)	50.3	63.8	60	54.4	40.5
(2017/04/19 18:36:29.00)	49.5	61	57.2	52.6	44.1
(2017/04/19 18:37:30.00)	46.5	60.6	55	48.9	41.4
(2017/04/19 18:38:30.00)	46.8	60.9	58	48.6	40.8
(2017/04/19 18:39:30.00)	49.6	63.6	59.4	53.4	41.6
(2017/04/19 18:40:30.00)	46	57.2	54.8	49.5	39.2
(2017/04/19 18:41:31.00)	47.7	60.7	58.2	51.1	39.3
(2017/04/19 18:42:31.00)	48.6	60.3	57.4	52.4	41.2
(2017/04/19 18:43:31.00)	49.5	63.8	59.4	52.6	42.1
Minimum	43.8	55.2	53.9	46.6	38.1
Maximum	50.3	64.9	60	54.4	46

Average	47.7	60.6	57.2	50.6	40.7
Position 3(1)					
(2017/04/19 18:46:35.00)	43	51.7	49.8	45.3	39.8
(2017/04/19 18:47:35.00)	43.9	53.4	51.2	46.6	39.6
(2017/04/19 18:48:36.00)	46.7	62.8	55.8	49.3	39.9
(2017/04/19 18:49:36.00)	48.2	64.6	57.8	50.3	41.2
(2017/04/19 18:50:36.00)	47.7	58.3	55.2	50.6	42.9
(2017/04/19 18:51:37.00)	47.1	59.9	56.3	50.2	41.4
(2017/04/19 18:52:37.00)	48.4	60.8	57.6	51.7	41.6
(2017/04/19 18:53:37.00)	46.9	57	55.4	49.9	41.5
(2017/04/19 18:54:38.00)	49.5	61.9	60.4	53	40.7
(2017/04/19 18:55:38.00)	45.5	61.4	55.4	47.8	40.1
(2017/04/19 18:56:38.00)	50.4	69.3	61.6	51.4	40.5
(2017/04/19 18:57:39.00)	48.7	63.6	58.9	51.3	41
(2017/04/19 18:58:39.00)	48.1	59.7	57.2	51.6	41
(2017/04/19 18:59:39.00)	46.5	59	54.4	49.5	41.2
(2017/04/19 19:00:40.00)	49	61.6	59.2	51.7	42.9
(2017/04/19 19:01:40.00)	52.2	63.3	61.2	56.4	42
(2017/04/19 19:02:40.00)	50.6	63	60	54.4	41.2
(2017/04/19 19:03:40.00)	49.6	63.2	59.6	54.4	40.1
(2017/04/19 19:04:41.00)	48.8	55	54.1	51.8	42.8
(2017/04/19 19:05:41.00)	47.2	55	53.1	50.2	42.9
Minimum	43	51.7	49.8	45.3	39.6
Maximum	52.2	69.3	61.6	56.4	42.9
Average	47.9	60.2	56.7	50.9	41.2
Position 1(2)					
(2017/04/19 19:08:27.00)	46.3	59	54.8	48.5	41.8
(2017/04/19 19:09:28.00)	45.2	57.2	53.8	47.2	40.8
(2017/04/19 19:10:28.00)	42.8	55.7	51.6	45.6	38.7
(2017/04/19 19:11:28.00)	45.8	60.2	54.8	48.7	40.1
(2017/04/19 19:12:29.00)	46.6	61.4	56.4	48.3	40.7
(2017/04/19 19:13:29.00)	48.6	65	60.8	50.3	39.5
(2017/04/19 19:14:29.00)	48.7	62	59.8	51.5	40.6
(2017/04/19 19:15:30.00)	52.2	69.7	59.6	55.4	41.9
(2017/04/19 19:16:30.00)	53.8	60.4	59.1	56.4	50.2
(2017/04/19 19:17:30.00)	50.5	64	58.4	52.5	44.1
(2017/04/19 19:18:31.00)	49.3	61.1	59.1	52.8	41.9
(2017/04/19 19:19:31.00)	47.8	59.8	55.4	50.6	42.6
(2017/04/19 19:20:31.00)	50.3	66.8	61.2	53.4	39.8
(2017/04/19 19:21:31.00)	49.9	63.9	62.4	52.3	41
(2017/04/19 19:22:32.00)	47.1	57.4	55.3	50.8	39.1
(2017/04/19 19:23:32.00)	47.8	61.5	57	51.1	40.9
(2017/04/19 19:24:32.00)	50.7	65.1	62.9	54	42.7
(2017/04/19 19:25:33.00)	50	65.4	61.2	53.9	40.7
(2017/04/19 19:26:33.00)	53.2	75	65.6	50	40.4
(2017/04/19 19:27:33.00)	46.2	60.4	56.2	48.8	40.1
Minimum	42.8	55.7	51.6	45.6	38.7
Maximum	53.8	75	65.6	56.4	50.2

Average	48.6	62.6	58.3	51.1	41.4
Position 2(2)					
(2017/04/19 19:30:08.00)	55.9	75.2	66.6	56.5	46.2
(2017/04/19 19:31:08.00)	54.8	75.2	66	55.1	43.2
(2017/04/19 19:32:08.00)	54.6	72.7	67.3	56.8	40.5
(2017/04/19 19:33:09.00)	56	78.8	66.4	55.2	43
(2017/04/19 19:34:09.00)	53.6	73.8	62.8	55.7	42.5
(2017/04/19 19:35:09.00)	61.7	84.6	72.4	61.5	44.6
(2017/04/19 19:36:10.00)	56.8	75.2	68	59.4	43.2
(2017/04/19 19:37:10.00)	51.8	63.5	60.2	55.6	42.4
(2017/04/19 19:38:10.00)	53.8	70.2	64.8	56.7	44.1
(2017/04/19 19:39:10.00)	58.9	70.4	67.2	62.6	50
(2017/04/19 19:40:11.00)	55.7	66.3	64	59.3	48
(2017/04/19 19:41:11.00)	53	66.9	61.4	55.8	45.7
(2017/04/19 19:42:11.00)	48.6	59.3	56.2	52.3	42.4
(2017/04/19 19:43:11.00)	50.7	62.9	59.6	53.2	43.9
(2017/04/19 19:44:12.00)	53.5	64.4	61.8	57.4	43.6
(2017/04/19 19:45:12.00)	56.1	71.2	66	59.5	43.9
(2017/04/19 19:46:12.00)	54.4	69.2	64	58	43.7
(2017/04/19 19:47:12.00)	55	67	62.8	58.7	46.5
(2017/04/19 19:48:13.00)	61.7	81.4	74.6	62.8	47.2
(2017/04/19 19:49:13.00)	58.1	73.1	67.8	61.9	46.8
(2017/04/19 19:50:14.00)	62.7	86.2	72.2	58.4	42.5
Minimum	48.6	59.3	56.2	52.3	40.5
Maximum	62.7	86.2	74.6	62.8	50
Average	55.6	71.8	65.3	57.7	44.5
Position 3(2)					
(2017/04/19 19:52:33.00)	52.1	65.4	62.1	55.2	43.6
(2017/04/19 19:53:33.00)	54.1	68.9	65.6	56.4	43.8
(2017/04/19 19:54:34.00)	52.6	65.5	62.4	56.2	42.9
(2017/04/19 19:55:34.00)	50.8	64.5	59.8	53.8	43.6
(2017/04/19 19:56:34.00)	53.3	65.3	62.4	56.1	46.1
(2017/04/19 19:57:35.00)	46.2	57.2	53.1	49.4	40.8
(2017/04/19 19:58:35.00)	49	62.3	58.4	52.9	40.6
(2017/04/19 19:59:35.00)	55.4	73.6	65.7	58.5	44
(2017/04/19 20:00:36.00)	54.2	70.7	63.2	57.9	43.9
(2017/04/19 20:01:36.00)	53.8	67.6	64.8	56.8	45
(2017/04/19 20:02:36.00)	54.4	69.5	63.6	58.4	43.3
(2017/04/19 20:03:37.00)	54.2	67.8	63.8	57.9	44.1
(2017/04/19 20:04:37.00)	54.9	67.2	64.9	59.2	42.6
(2017/04/19 20:05:37.00)	52.6	66.9	63.8	56.5	40.5
(2017/04/19 20:06:38.00)	51.5	66.4	62.2	55.4	40.6
(2017/04/19 20:07:38.00)	56.4	75.1	67.6	58.7	41.2
(2017/04/19 20:08:38.00)	50.1	62.7	60	53.9	41.9
(2017/04/19 20:09:38.00)	56.5	68.5	64.4	60.3	48
(2017/04/19 20:10:39.00)	53.7	66.7	61.6	57.7	44.7
(2017/04/19 20:11:39.00)	52.2	70.1	62.4	55.4	40.9
(2017/04/19 20:12:39.00)	54.9	69.5	64.4	58.4	43

Minimum	46.2	57.2	53.1	49.4	40.5
Maximum	56.5	75.1	67.6	60.3	48
Average	53	67.2	62.7	56.4	43.1
Position 1(3)					
(2017/04/19 20:15:30.00)	47.2	62.8	59	48.7	39.6
(2017/04/19 20:16:31.00)	50.4	68.3	62	52.7	40.8
(2017/04/19 20:17:31.00)	48.4	64.4	58.4	50	42.4
(2017/04/19 20:18:32.00)	50.8	64.2	61	54.2	41.7
(2017/04/19 20:19:32.00)	49.8	61.2	58.8	53.5	42.5
(2017/04/19 20:20:33.00)	52.1	65.9	62.2	55.7	43.8
(2017/04/19 20:21:33.00)	50.3	60.9	59	53.5	42.4
(2017/04/19 20:22:33.00)	51.6	67.8	64.1	52.9	39.8
(2017/04/19 20:23:34.00)	49.2	60.7	58.7	53.5	41
(2017/04/19 20:24:34.00)	50.4	68.1	62.2	51.7	39.1
(2017/04/19 20:25:34.00)	49	63.8	60.2	51.6	39.7
(2017/04/19 20:26:34.00)	51.4	64.7	61.2	54.9	41.8
(2017/04/19 20:27:34.00)	50.8	62.9	60.4	54.6	40.1
(2017/04/19 20:28:35.00)	50.1	64.6	61.3	52.6	40.3
(2017/04/19 20:29:35.00)	51.7	69.4	64.4	52.8	38.9
(2017/04/19 20:30:35.00)	50.1	62.7	59.6	53.4	42.8
(2017/04/19 20:31:36.00)	54.6	71.1	66.4	56.9	41.3
(2017/04/19 20:32:36.00)	52.3	66	61.8	56.1	42.9
(2017/04/19 20:33:36.00)	51.2	65	61	54.9	40.1
(2017/04/19 20:34:36.00)	51.1	64.7	58.2	54.5	43.9
Minimum	47.2	60.7	58.2	48.7	38.9
Maximum	54.6	71.1	66.4	56.9	43.9
Average	50.6	65	61	53.4	41.2
Position 2(3)					
(2017/04/19 20:37:26.00)	51.7	68.8	62.2	54.6	40.8
(2017/04/19 20:38:27.00)	52.8	68.4	64.2	55.7	39.5
(2017/04/19 20:39:27.00)	49.2	63.6	58.8	53.1	38.2
(2017/04/19 20:40:27.00)	45.8	59.2	56.5	49	37.7
(2017/04/19 20:41:28.00)	53.8	66.9	64.4	57.2	43
(2017/04/19 20:42:28.00)	48.6	64.8	61.8	50.4	39
(2017/04/19 20:43:28.00)	49.7	66.6	61.4	52.2	37.8
(2017/04/19 20:44:28.00)	45.1	61.4	55.2	48	36.8
(2017/04/19 20:45:29.00)	52	68.1	65.4	53.4	36.5
(2017/04/19 20:46:29.00)	48.5	66.7	58	52.1	36
(2017/04/19 20:47:30.00)	53	69	63.5	57.1	36.7
(2017/04/19 20:48:30.00)	45.3	58.3	55.5	48.8	36.2
(2017/04/19 20:49:31.00)	48.1	63.7	57.6	50.9	41
(2017/04/19 20:50:31.00)	44.9	58.6	56.2	48.1	36
(2017/04/19 20:51:31.00)	51.4	64.1	62.8	56	38.8
(2017/04/19 20:52:31.00)	54.8	71.3	68.1	56.6	39.9
(2017/04/19 20:53:32.00)	54.7	72.2	64.2	57.8	45
(2017/04/19 20:54:32.00)	53.3	76.3	61.2	53.8	38.2
(2017/04/19 20:55:33.00)	50.3	71.9	62.4	51	38.7
(2017/04/19 20:56:33.00)	54.3	71.6	66.4	57	38.2

(2017/04/19 20:57:33.00)	42.8	55.8	50.2	45.7	36.5
(2017/04/19 20:58:33.00)	39.3	51.5	48.1	41.2	35.5
Minimum	39.3	51.5	48.1	41.2	35.5
Maximum	54.8	76.3	68.1	57.8	45
Average	49.5	65.4	60.2	52.3	38.5

Sports/Football Pitches Monitoring Positions & Noise Measurements

Noise Measurements

Date	L_{Aeq}	L_{Amax}	L_{A01}	L_{A10}	L_{A90}
Location 1					
On boundary at approx 25m from pitch					
Warm up					
(2021/09/19 10:11:36.00)	52.3	72.1	62.2	53.8	46.3
(2021/09/19 10:15:02.00)	50.1	60.6	56.2	52.5	46.2
(2021/09/19 10:20:02.00)	53.5	67.3	62.5	56	48.8
Average	52.2	66.7	60.3	54.1	47.1
Maximum	53.5	72.1	62.5	56	48.8
Kick off @ 10:22					
(2021/09/19 10:25:01.00)	55.6	76.5	65.4	58.5	48.5
(2021/09/19 10:30:02.00)	59.2	79.6	70.5	60.6	46.9
(2021/09/19 10:35:02.00)	56.3	75.3	66.8	59.1	47
(2021/09/19 10:40:02.00)	54.4	69.5	63.6	58.2	46.1
(2021/09/19 10:45:02.00)	55.6	68.7	65.1	59.4	47.5
(2021/09/19 10:50:02.00)	53.5	74.6	63.7	55.3	47.2
(2021/09/19 10:55:02.00)	54.1	70.3	65.2	56.4	47.4
(2021/09/19 11:00:02.00)	52.2	69.3	65.1	53.4	44.3
(2021/09/19 11:05:02.00)	48.5	64.8	56	49.4	45.6
(2021/09/19 11:10:01.00)	49.1	69.8	55.1	50.4	45
Average	54.9	71.8	63.7	56.1	46.6
Maximum	59.2	79.6	70.5	60.6	48.5
Location 2					
On half way line at approx 10m from sideline					
(2021/09/19 11:13:10.00)	58.5	74	68.7	61.9	49.3
(2021/09/19 11:15:02.00)	59.3	78.7	70.3	62.6	49.4
(2021/09/19 11:20:02.00)	59.6	79.1	71.9	61.9	46.8
(2021/09/19 11:25:02.00)	60.5	81.4	72.3	62.6	47.7
(2021/09/19 11:30:02.00)	57.5	78.6	69.8	59.5	44.7
(2021/09/19 11:35:02.00)	57.3	80.4	68.3	58.3	47.6
(2021/09/19 11:40:02.00)	58	79.6	68.6	59.4	48
(2021/09/19 11:45:02.00)	60.4	82.3	72.1	63.1	48.2
(2021/09/19 11:50:02.00)	59.9	78.4	72.9	61.5	48
Average	59.2	79.2	70.5	61.2	47.7
Maximum	60.5	82.3	72.9	63.1	49.4

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APPENDICES

APPENDIX D

NOTES:

1. DO NOT SCALE THIS DRAWING.

KEY

- 0–50dB(A)
- 50–55dB(A)
- 55–60dB(A)
- 60–65dB(A)
- 65–70dB(A)
- 70–75dB(A)
- 75–80dB(A)
- >80dB(A)
- Sports Pitch

REV:	AMENDMENTS:	DRN:	CHK:	APP:	DATE:
-		CP	EW	NF	01.07.25

PROJECT:
WROTHAM ROAD,
MEOPHAM

DRAWING TITLE:
DAYTIME AMBIENT SOUND LEVELS
LAeq,16hour

CLIENT:
RICHBOROUGH

DRAWING NUMBER:
29473_04_120_04

REVISION:	SHEET SIZE:	SCALE:
-	A3	NFS

STATUS:
FOR INFORMATION / APPROVAL

MEC Consulting Group
Birmingham | Brighton | Leicester

Telephone: 01530 264 753
Email: group@m-ec.co.uk
Website: www.m-ec.co.uk

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NOTES:

1. DO NOT SCALE THIS DRAWING.

KEY

- 0–50dB(A)
- 50–55dB(A)
- 55–60dB(A)
- 60–65dB(A)
- 65–70dB(A)
- 70–75dB(A)
- 75–80dB(A)
- >80dB(A)

REV:	AMENDMENTS:	DRN:	CHK:	APP:	DATE:
-		CP	EW	NF	01.07.25

PROJECT:
WROTHAM ROAD,
MEOPHAM

DRAWING TITLE:
NIGHT-TIME AMBIENT SOUND LEVELS
LAeq,8hour

CLIENT:
RICHBOROUGH

DRAWING NUMBER:
29473_04_120_02

REVISION:	SHEET SIZE:	SCALE:
-	A3	NFS

STATUS:
FOR INFORMATION / APPROVAL

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Birmingham | Brighton | Leicester

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NOTES:

1. DO NOT SCALE THIS DRAWING.

KEY

- 0–50dB(A)
- 50–55dB(A)
- 55–60dB(A)
- 60–65dB(A)
- 65–70dB(A)
- 70–75dB(A)
- 75–80dB(A)
- >80dB(A)

REV:	AMENDMENTS:	DRN:	CHK:	APP:	DATE:
-		CP	EW	NF	01.07.25

PROJECT:
WROTHAM ROAD,
MEOPHAM

DRAWING TITLE:
NIGHT-TIME MAXIMUM SOUND LEVELS
LAFmax,T

CLIENT:
RICHBOROUGH

DRAWING NUMBER:
29473_04_120_06

REVISION:	SHEET SIZE:	SCALE:
-	A3	NFS

STATUS:
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Birmingham | Brighton | Leicester

Telephone: 01530 264 753
Email: group@m-ec.co.uk
Website: www.m-ec.co.uk

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APPENDICES

APPENDIX E

NOTES:

1. DO NOT SCALE THIS DRAWING.
2. Please refer to report reference 29473-ENV-0401 for details on the proposed glazing and ventilation references.

KEY

- Ref. A
- Ref. B
- Ref. C

REV:	AMENDMENTS:	DRN:	CHK:	APP:	DATE:
-		CP	EW	NF	01.07.25

PROJECT:
WROTHAM ROAD,
MEOPHAM

DRAWING TITLE:
MITIGATION REFERENCE FOR HABITABLE BEDROOMS

CLIENT:
RICHBOROUGH

DRAWING NUMBER:
29473_04_120_07

REVISION:	SHEET SIZE:	SCALE:
-	A3	NFS

STATUS:
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NOTES:

1. DO NOT SCALE THIS DRAWING.
2. Please refer to report reference 29473-ENV-0401 for details on the proposed glazing and ventilation references.

KEY

Ref. A

Ref. B

Sports Pitch

REV:	AMENDMENTS:	DRN:	CHK:	APP:	DATE:
-		CP	EW	NF	01.07.25

PROJECT:
WROTHAM ROAD,
MEOPHAM

DRAWING TITLE:
MITIGATION REFERENCE FOR ALL OTHER HABITABLE ROOMS (NON-BEDROOMS)

CLIENT:
RICHBOROUGH

DRAWING NUMBER:
29473_04_120_08

REVISION:	SHEET SIZE:	SCALE:
-	A3	NFS

STATUS:
FOR INFORMATION / APPROVAL

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APPENDICES

APPENDIX F

Reference A Performance Requirements

Façade Element	Sound Insulation Performance Requirements (dB) in Octave Band Centre Frequencies (Hz)						R_w / $D_{n,e,w}$ (dB)	C_{tr} (dB)
	125	250	500	1k	2k	4k		
Glazing	22	20	26	36	39	31	31	-4
Ventilation (Trickle)	32	32	31	33	31	31	32	0
The glazing reduction requirements can typically be found in a configuration of 4/12/4, where the information is presented in terms of the thickness of one pane of glass in mm, followed by the size of the air gap in mm, followed by the thickness of the second pane of glass in mm. The background ventilation requirements can be found in standard window mounted non-acoustic trickle ventilators.								

Reference B Performance Requirements

Façade Element	Sound Insulation Performance Requirements (dB) in Octave Band Centre Frequencies (Hz)						R_w / $D_{n,e,w}$ (dB)	C_{tr} (dB)
	125	250	500	1k	2k	4k		
Glazing	29	27	35	37	36	45	36	-3
Ventilation (Trickle)	39	38	30	46	42	40	39	-3
The reduction requirements can typically be found in 8/12/10 thermal double glazing and acoustically rated window mounted trickle ventilators for typical conditions.								

Reference C Performance Requirements

Façade Element	Sound Insulation Performance Requirements (dB) in Octave Band Centre Frequencies (Hz)						R_w / $D_{n,e,w}$ (dB)	C_{tr} (dB)
	125	250	500	1k	2k	4k		
Glazing	25	29	40	48	47	56	42	-6
Ventilation (Trickle)	43	37	38	46	57	66	45	-3
The reduction requirements can typically be found in 6/18/9.5 thermal double glazing and acoustically rated through wall trickle vents for typical conditions.								

It is appreciated that it is impractical to achieve every octave band minimum performance requirement, therefore, during procurement of solutions, the R_w + C_{tr} or $D_{n,e,w}$ + C_{tr} should be adhered to at a minimum.

- CIVIL ENGINEERING
- TRANSPORT
- FLOOD RISK & DRAINAGE
- STRUCTURES
- GEO-ENVIRONMENTAL
- ACOUSTIC AIR
- UTILITIES
- GEOMATICS
- LIGHTING
- EXPERT WITNESS

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