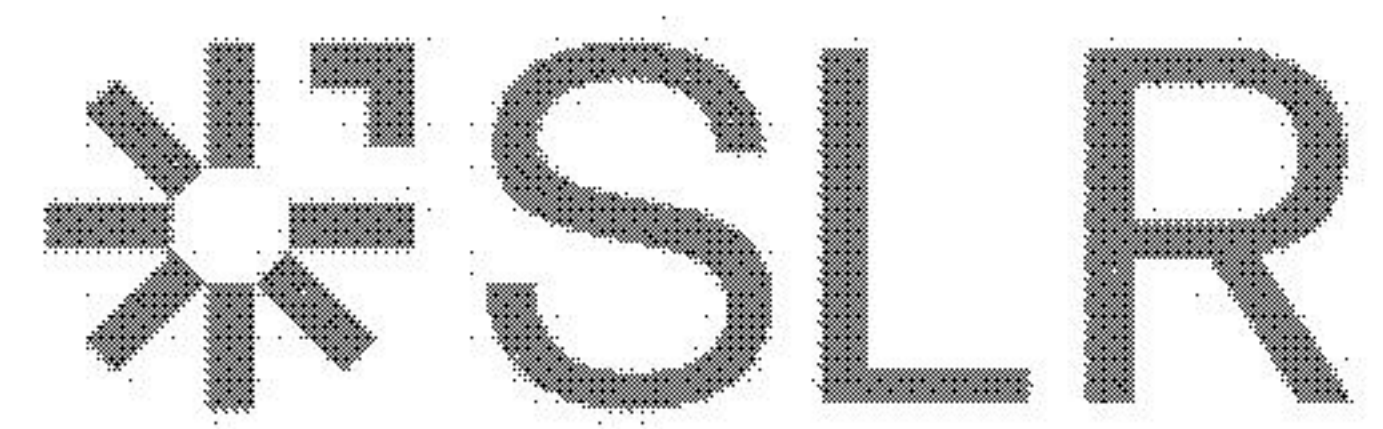




Noise Impact Assessment

Unit 16, Birches Industrial Estate, East Grinstead, RH19 1XZ

Royal London Mutual Insurance Society Limited c/o Royal London Property Pension Fund

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Basis of Report

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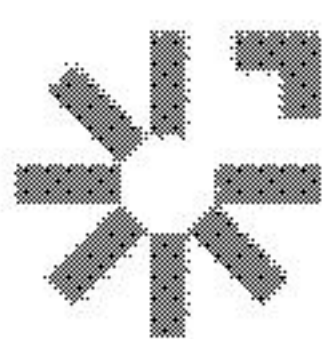
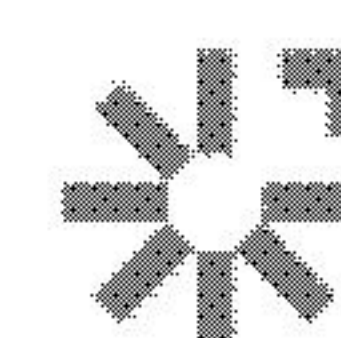


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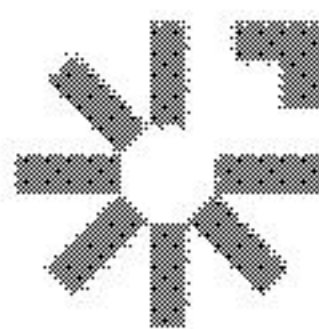
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1.0 Introduction

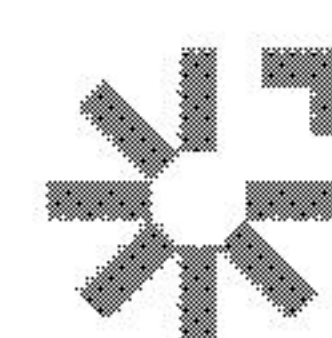
Royal London Mutual Insurance Society Limited c/o Royal London Property Pension Fund has appointed SLR Consulting Ltd (SLR) to support a full planning application for the flexible change of use from B8 to E(g)(ii), E(g)(iii), B2, and B8 at Unit 16, The Birches Industrial Estate, Hills Road, East Grinstead, RH19 1XZ (the 'Proposed Development').

No noise-related planning conditions are attached to the Site. However, the adjacent Unit 13 was previously granted permission for the continued implementation of a B2 use, for which the Environmental Health Officer (EHO) imposed noise-related conditions.

SLR consulted with the Senior EHO at Mid Sussex District Council on 25 June 2026 to ensure the proposed noise assessment methodology was acceptable. This was subsequently accepted in principle, however, full compliance with the requirements of Planning Noise Advice Document for Sussex (PNADS) would be required. This is discussed further in Section 3.5.1.

This report has been prepared to inform noise impacts from proposed mechanical plant and on-site vehicle movements following the assessment principles of British Standard BS 4142:2014 + A1:2019 *Methods for rating and assessing industrial and commercial sound*. It has been developed in accordance with overarching national and local requirements for planning and noise, as well as the relevant technical standards and guidance in the assessment of noise impacts.

This report has been prepared and checked by suitably qualified persons as defined in Section 8.0. Whilst reasonable effort has been made to ensure that this report is easy to understand, it is technical in nature. To assist the reader, a glossary of terminology has been included in Appendix A.



2.0 Site Description

2.1 Existing Site

The application Site is Unit 16 on the Birches Industrial Estate, East Grinstead. The unit is bounded to the east by Hills Road and to the west by Willard Way.

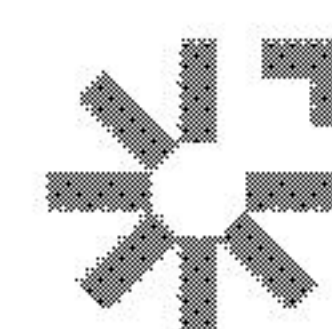
The Birches Industrial Estate is located to the north-west of East Grinstead town centre and directly south of Felbridge. Access to the wider industrial estate is gained from Imberhorne Lane. The Estate is located within an established employment area characterised by a range of commercial uses. Operators within the employment site primarily operate under a range of B1, B2 and B8 uses.

The nearest Noise Sensitive Receptors (NSRs) are located approximately 30 metres to the east and northeast of the Site.

In terms of the wider area, a number of trade and industrial parks are located to the north, east and south-east of the site including Felbridge Business Park, The Independent Business Park, and Bridge Park.

An overview of the Site and surrounding area can be seen in Figure A below.

Figure A: Site Location



2.2 Proposed Site

The Proposed Development comprises a flexible change of use of Unit 16 from Class B8 (Storage and Distribution) to Classes E(g)(ii), E(g)(iii), B2 and B8. The proposal does not include any alterations to the existing building footprint or form.

Access to the site will continue to be taken from Willard Way. The site layout will remain largely unchanged, including the use of external areas for vehicle movements, unloading and parking. The proposal also includes the continued use of existing office space located to the east of the building, with access to this area provided from Hills Road.

2.3 Noise Generation from Proposed Activities

The below activities have been considered in the cumulative assessment of environmental noise impacts as follows:

- Movement of HGVs and forklifts around external loading bays.
- Use of parking areas.
- Breakout noise from buildings.
- External plant and equipment.

For a development of this nature, exacting operational information has been considered to remain largely unknown given the potential variation between future operators. Some level of reasonable assumption has therefore been necessary in forming noise impact assessment for the. The noise impact assessment method applied to the proposed development has been based on techniques used for similar developments granted planning approval.

2.4 Noise Sensitive Receptors

The Site has been noted to reside in a mixed industrial and residential area, with nearest noise sensitive receptors (NSRs) of residential use surrounding to the east and northeast of the Site. Those NSRs of consideration within this assessment have been referenced from land and property search information as:

- A. NSRs located at Stream Park.

The above-listed receptors have been identified within the site plan of Figure B.

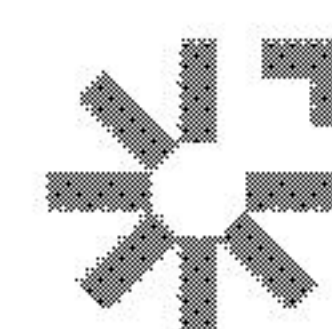
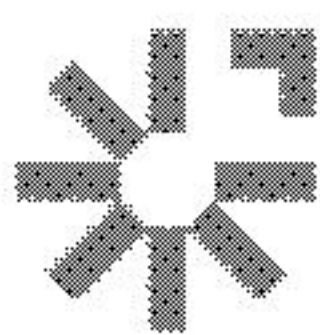


Figure B: Aerial Location Plan and Identification of NSRs



3.0 Guidance and Standards

3.1 Noise Policy Statement for England (NPSE)

Inter alia, the NPSE “seeks to clarify the underlying principles and aims in existing policy documents, legislation and guidance that relate to noise”. The aims and this statement apply to all forms of noise including environmental noise, neighbour noise and neighbourhood noise. These noise types are qualified from the NPSE as follows:

- “Environmental noise” includes noise from transportation sources.
- “Neighbour noise” includes noise from inside and outside people’s homes; and
- “Neighbourhood noise” which includes noise arising from within the community such as industrial and entertainment premises, trade and business premises, construction sites and noise in the street.

The Statement sets out the long-term vision of the Government’s noise policy, which is to “promote good health and a good quality of life through the effective management of noise within the context of policy on sustainable development.”

It is recognised that the statement expresses the long-term desired policy outcome, whereby using the words of “promote” and “good” recognises that it is not possible to have a single objective noise-based measure that is either mandatory or applicable to all sources of noise in all situations.

The concept applicable to the “effective management of noise” applies to all types of noise and that the solution could be more than simply minimising the noise.

The NPSE provides definitions of health and quality of life as follows:

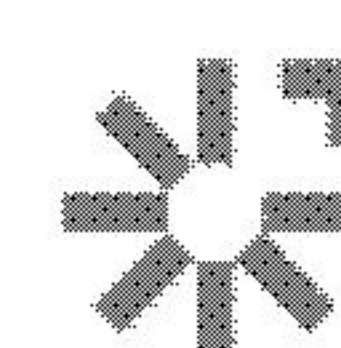
“2.12 The World Health Organisation defines health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, and recognises the enjoyment of the highest attainable standard of health as one of the fundamental rights of every human being.

2.13 It can be argued that quality of life contributes to our standard of health. However, in the NPSE it has been decided to make a distinction between “quality of life” which is a subjective measure that refers to people’s emotional, social and physical wellbeing and “health” which refers to physical and mental wellbeing.

2.14 It is recognised that noise exposure can cause annoyance and sleep disturbance both of which impact on quality of life. It is also agreed by many experts that annoyance and sleep disturbance can give rise to adverse health effects. The distinction that has been made between ‘quality of life’ effects and ‘health’ effects recognises that there is emerging evidence that long term exposure to some types of transport noise can additionally cause an increased risk of direct health effects. The Government intends to keep research on the health effects of long-term exposure to noise under review in accordance with the principles of the NPSE.”

The policy promotes the effective management and control of noise, within the context of Government policy on sustainable development and includes three aims to:

- avoid significant adverse impacts on health and quality of life;
- mitigate and minimise adverse impacts on health and quality of life; and
- where possible, contribute to the improvements of health and quality of life.



This Statement adopts established concepts from toxicology that are currently being applied to noise impacts. This concept details effect levels, at which an exposure may be classified into a specific category. The classification categories as detailed within the NPSE are as follows:

- No Observed Effect Level (NOEL) - the level below which no effect can be detected. Below this level no detectable effect on health and quality of life due to noise can be established;
- Lowest Observable Adverse Effect Level (LOAEL) - the level above which adverse effects on health and quality of life can be detected; and
- Significant Observed Adverse Effect Level (SOAEL) - the level above which significant adverse effects on health and quality of life occur.

The second aim of the NPSE to *“mitigate and minimise adverse impacts on health and quality of life”* refers to the situation where noise impact lies somewhere between the LOAEL and SOAEL. This requires that all reasonable steps are taken to mitigate adverse effects on health and quality of life while accounting for the guiding principles of sustainable development. The NPSE states *“this does not mean that such adverse effects cannot occur”*.

In defining the upper limit of SOAEL the NPSE states that *“it is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all source of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptor and at different times...”*. Consequently, values of SOAEL will differ between sources and situations.

3.2 National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) was introduced by The Department for Communities and Local Government in March 2012, with the latest revision dated December 2024 (updated February 2025).

The NPPF defines the Government’s planning policies for England and sets out the framework, within which local authorities must prepare their local and neighbourhood plans, reflecting the needs and priorities of their communities. The Government’s stated purpose in producing the NPPF was to streamline policy, so the planning process is less restrictive, to give a more easily understood framework for delivering sustainable development.

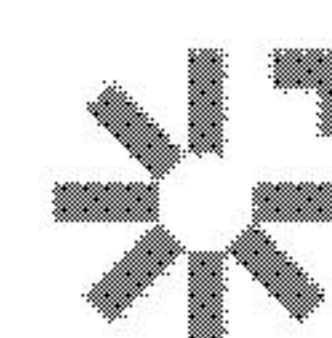
Under the heading of Section 15 conserving and enhancing the natural environment, the NPPF states the requirement to prevent unacceptable environmental impacts including noise:

“187. Planning policies and decisions should contribute to and enhance the natural and local environment by: ...

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability...”

Paragraph 198 of the NPPF further provides commentary on noise as follows:

“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 new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life⁷²

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...”

Foot Note 72 - See Explanatory Note to the Noise Policy Statement for England (Department for Environment, Food & Rural Affairs, 2010).

The NPPF acknowledges that there is a host of existing sources of national and international guidance which can be used, in conjunction with the Framework, to inform the production of Local Plans and decision making.

3.3 Planning Practice Guidance – Noise (PPGN)

PPGN provides guidance on how planning can manage potential noise impacts in new development, with interpretation and implementation of planning policy contained in the NPPF and NPSE. This was introduced in 2014 with the most recent version issued in July 2019.

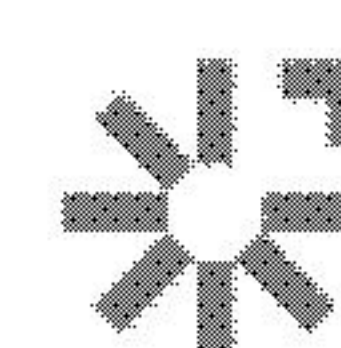
The PPGN noise exposure hierarchy table introduces a new threshold of the NOAEL no observed adverse effect level, being between the NOEL and LOAEL and where the noise has no adverse effect where exposure to it does not cause any change in behaviour, attitude or other physiological response.

The PPGN clearly established whether noise is likely to be a concern, following policy statements and requirements of the NPSE and NPPF with additional categorisation and guidance as follows:

“At the lowest extreme, when noise is not perceived to be present, there is by definition no effect. As the noise exposure increases, it will cross the ‘no observed effect’ level. However, the noise has no adverse effect so long as the exposure does not cause any change in behaviour, attitude or other physiological responses of those affected by it. The noise may slightly affect the acoustic character of an area but not to the extent there is a change in quality of life. If the noise exposure is at this level no specific measures are required to manage the acoustic environment.

As the exposure increases further, it crosses the ‘lowest observed adverse effect’ level boundary above which the noise starts to cause small changes in behaviour and attitude, for example, having to turn up the volume on the television or needing to speak more loudly to be heard. The noise therefore starts to have an adverse effect and consideration needs to be given to mitigating and minimising those effects (taking account of the economic and social benefits being derived from the activity causing the noise).

Increasing noise exposure will at some point cause the ‘significant observed adverse effect’ level boundary to be crossed. Above this level the noise causes a material change in behaviour such as keeping windows closed for most of the time or avoiding certain activities during periods when the noise is present. If the exposure is predicted to be above this level the planning process should be used to avoid this effect occurring, for example through the choice of sites at the plan-making stage, or by use of appropriate mitigation such as by altering the design and layout. While such decisions must be made taking account of the economic and social benefit of the activity causing or affected by the noise, it is undesirable for such exposure to be caused.



At the highest extreme, noise exposure would cause extensive and sustained adverse changes in behaviour and / or health without an ability to mitigate the effect of the noise. The impacts on health and quality of life are such that regardless of the benefits of the activity causing the noise, this situation should be avoided.”

It is qualified further to the above statements that the word “level” does not necessarily refer to a single value of noise exposure and that several factors may need to be considered to determine what noise would amount to an adverse or significant adverse effect. Specifically stating:

“Although the word ‘level’ is used here, this does not mean that the effects can only be defined in terms of a single value of noise exposure. In some circumstances adverse effects are defined in terms of a combination of more than one factor such as noise exposure, the number of occurrences of the noise in a given time period, the duration of the noise and the time of day the noise occurs.”

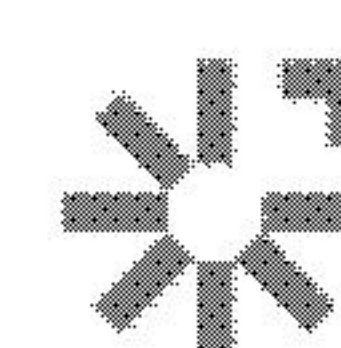
The guidance indicates there are four broad types of mitigation including:

- *“engineering: reducing the noise generated at source and/or containing the noise generated;*
- *layout: where possible, optimising the distance between the source and noise-sensitive receptors and/or incorporating good design to minimise noise transmission through the use of screening by natural or purpose built barriers, or other buildings;*
- *using planning conditions/obligations to restrict activities allowed on the site at certain times and/or specifying permissible noise levels differentiating as appropriate between different times of day, such as evenings and late at night, and;*
- *mitigating the impact on areas likely to be affected by noise including through noise insulation when the impact is on a building.”*

Use of toxicology thresholds of NOEL, LOAEL and SOAEL for the assessment of noise impacts is reinforced within PPGN, which includes a noise exposure hierarchy table to define human perception at these effect levels, as titled “when noise could be a concern” and shown below in Table A.

Table A: Planning Practice Guidance Noise Exposure Hierarchy Table

Response	Example of Outcomes	Increasing Effect Level	Action
NOEL – No observed effect level			
Not present	No effect	NOEL	No specific measures required
No observed adverse effect level			
Present and not intrusive	Noise can be heard but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Adverse Effect	No specific measures required
LOAEL – Lowest Observed Adverse Effect Level			
Present and intrusive	Noise can be heard and causes small changes in behaviour and/or attitude, e.g. turning up volume of television; speaking more loudly; where there is no alternative	Observed Adverse Effect	Mitigate and reduce to a minimum



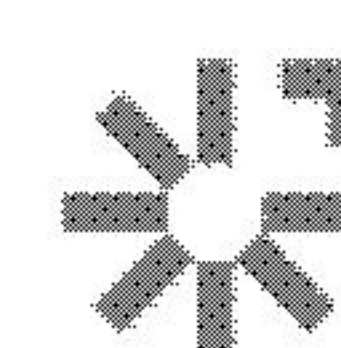
Response	Example of Outcomes	Increasing Effect Level	Action
	ventilation, having to close windows for some of the time because of the noise. Potential for sleep disturbance. Affects acoustic character of the area and creates a perceived change in quality of life.		
SOAEL – Significant Observed Adverse Effect Level			
Present and disruptive	The noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Present and very disruptive	Extensive and regular changes in behaviour and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

3.4 BS 4142:2014 +A1:2019

The British Standard BS 4142:2014 +A1:2019 *Methods for Rating and Assessing Industrial and Commercial Sound* (BS 4142) notably describes methods for rating and assessing sound of an industrial or commercial nature. It has been referenced where required in policy and guidance documents to assess the potential impact of sound of an industrial and/or commercial nature, at existing and proposed noise-sensitive receptor locations within the context of the existing sound environment.

Certain acoustic features can increase the significance of impact from a comparison of the specific sound level to the background sound level where these features are likely to affect perception and response. Where such features are present at the assessment location, a character correction (or penalty) to the specific sound level is made to obtain the rating level. This can be approached from subjective, objective and reference methods.

- **Tonality:** A correction of 0 dB to + 6 dB for sound ranging from not tonal to prominently tonal.
- **Impulsivity:** A correction of up to + 9 dB can be applied for sound that is impulsive.
- **Intermittency:** A penalty of + 3 dB can be applied if on/off conditions are readily distinctive within the reference time interval over the period of the greatest amount of on-time.
- **Other characteristics:** A penalty of + 3 dB can be applied in the absence of all other defined characteristics, where the specific sound contains a distinctive feature in the residual acoustic environment.
- The rating sound level is equal to the specific sound level if there are no acoustic features present or expected to be present.



The significance of sound depends upon both the margin by which the rating level exceeds the background sound level and the context in which the sound occurs. An initial estimate of the impact of the specific sound is made by subtracting the measured background sound level from the rating level.

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

BS 4142 has stipulated that context is important when assessing the impact of sound of a commercial and/or industrial nature. Amongst a range of advocated considerations, this can include mitigation, residual sound levels, location and absolute sound levels in the consideration of context.

3.5 Local Guidance

3.5.1 Planning Noise Advisory Document: Sussex 2023

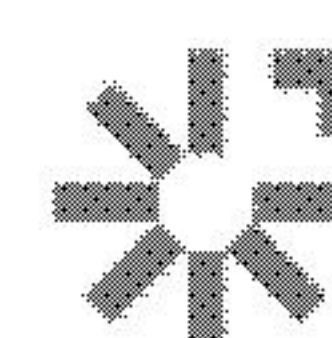
The Planning Noise Advice Document: Sussex 2023 (PNAD) provides guidance to support developers and consultants in preparing planning applications in East and West Sussex regarding noise.

It establishes that a noise assessment is essential for understanding existing background sound levels and the potential impact of a proposed development. Noise reports should be accurate, proportionate and integrated into the design process, following recognised methodologies such as BS 4142:2014 + A1:2019 *Methods for Rating and Assessing Industrial and Commercial Sound* where relevant.

Early agreement of scope with the Local Planning Authority is encouraged to avoid delays. Reports should clearly describe the proposal, outline the existing acoustic environment, present transparent calculations, justify modelling assumptions, and provide key information such as operational hours, equipment sound levels, equipment location, proposed mitigation and predicted receptor levels.

The document also outlines expectations for assessing industrial and commercial sound sources. BS 4142:2014 + A1:2019 is identified as the appropriate methodology for sound from industrial processes which includes fixed plant and building services, loading and unloading activities, and mobile plant such as fork-lift truck movements.

The guidance states that the rating level of industrial or commercial sound should, where practicable, not exceed the representative background sound level. In some cases, a rating level below background may be appropriate, determined through discussion with the Local Planning Authority, particularly where concerns exist regarding incremental noise increases. Where criteria cannot be met, the noise report should justify the reasons and demonstrate how best practicable means will be applied. All assessments should consider context, and any mitigation should reflect principles of good acoustic design.



4.0 Baseline Sound Survey

To determine baseline sound levels in the vicinity of the Site, a noise survey was undertaken between Thursday 2nd July and Monday 6th July 2026.

4.1 Equipment and Measurements

Sound pressure level measurements were carried out using the following equipment listed in Table B, of Class 1 acoustic accuracy for sound level meters and matched calibrators.

The sound level meters were calibrated before the measurements using the handheld acoustic calibrator and further checked upon completion of the survey. No significant drift was observed with calibration offsets of ≤ 0.5 dB.

The calibration chain of equipment has been maintained traceably to national standards, no greater than one year for sound calibrators and two years for sound level meters.

Table B: Sound Monitoring Equipment

Location	Description	Manufacturer	Type	Serial Number	Laboratory Calibration Date	Certificate Number
1	Sound Level Meter	Acoem	Fusion	16432	17/07/2025	DTE-L-25-PVE-92523
	Pre-Amplifier			N/A		N/A
	½" Pre-Polarised Microphone	GRAS	40CD	627399		N/A
	Outdoor kit	Acoem	DMK01	2506077	17/07/2025	DTE-L-25-PVE-92523
	Calibrator	Norsonic	NOR1251	31872	17/11/2025	TCRT25/1853

The monitoring protocol consisted of substantially unattended readings over the survey with attendances at the start and end of the monitoring period.

All sound level measurements were provided in free-field conditions, 1.5 m above ground. These were primarily to understand residual and background sound levels as representative proxies of the NSRs located to the northeast and east. A weather station was located for the duration of the survey.

The location and purpose of the measurement location have been described below and illustrated on the aerial Site plan of Figure C.

- Location 1: Located on the northeast Site boundary. Representative of NSRs located at Stream Park.

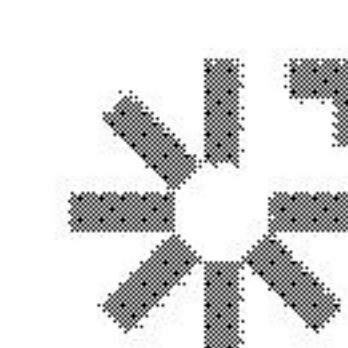


Figure C: Baseline Sound Monitoring Location



Location 1 was considered representative of the acoustic environment experienced at nearby receptors, given the influence of both local and distant industrial and commercial noise sources associated with the industrial estate.

Furthermore, the measurement position was partially screened from Hills Road, along which frequent car and HGV movements were observed. As a result, baseline sound levels at the NSRs, which had a clearer line of sight to Hills Road, were expected to be comparable to, or marginally higher than, those measured at the survey position.

The following sound level indices have been reported at varying intervals in decibels (dB):

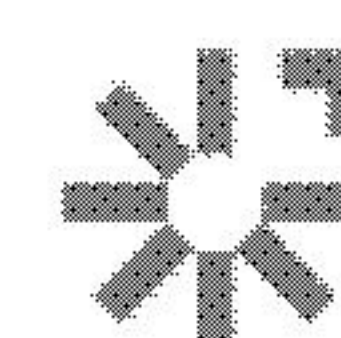
- $L_{Aeq,T}$ – The A-weighted equivalent continuous level over the measurement period.
- $L_{A90,T}$ – The A-weighted level exceeded for 90% of the measurement period.
- $L_{A10,T}$ – The A-weighted level exceeded for 10% of the measurement period.
- $L_{Amax(F)}$ – The maximum A-weighted level during the measurement period.

Graphical results describing unattended data have been provided for the above-listed sound level metrics at 15-minute histories within Appendix B. The sound level meters at all locations were otherwise configured to record one-second time history as allowing the recalculation of other time-history metrics in following of overarching guidance.

4.2 Weather Conditions

Data from the weather station has been provided within Appendix B to explain the range of monitored conditions.

- Temperatures ranged from 12 – 30 °C.



- Average wind speeds typically fell below 2 m/s with gusts up to 4.5 m/s.
- Rainfall was not present for the duration of the survey.
- A southeasterly wind direction was prominent throughout the study as providing a neutral vector from the Site.

Weather conditions were viewed to be generally acceptable for environmental sound level measurements for the duration of the survey; therefore, no adverse wind or rainfall conditions have been filtered from the measured dataset when reviewing typical background and residual sound level conditions.

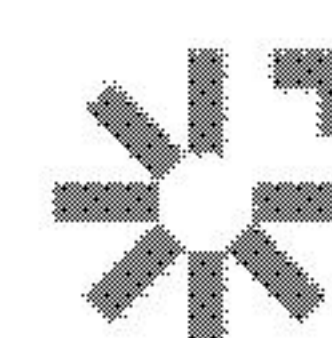
4.3 Sound Climate

A full witnessed log of events has been obtained to describe main sound sources incident on the Site during times of Site attendance. Routine audio recordings were otherwise recorded to retrospectively understand the prevailing sound climate in unattended conditions.

Observations in and around the Site have included the following notes summarised below:

- Industrial noise was dominant at Location1 during setup and collection and included:
 - Fixed plant located at the adjacent unit to the northwest which was noted as the dominant noise source.
 - Extract fans from Unit 13, located to the west of the Site.
 - Various bangs, sirens, and machinery noises associated with the industrial estate.
- Transportation noise sources were noted as including:
 - HGVs passing by. Reverse sirens were also occasionally audible.
 - Forklift movements nearby, including reverse sirens.
 - Cars passing along Willard Way with distant road traffic noise from London Road also audible.
- Sound from the natural environment included breeze in trees which was audible during collection.

The time history of data has been presented within Appendix B.



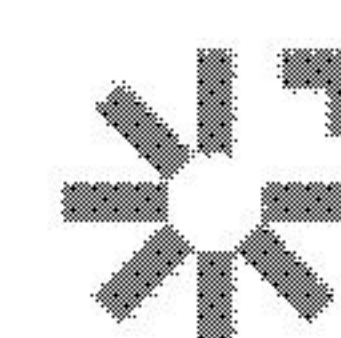
4.4 Residual and Background Sound Levels

The 'typical' background sound levels have been replicated in Table C in accordance with BS 4142, as established from modal dB $L_{A90,T}$ data provided in the submitted acoustic report. These describe the underlying sound climate at NSRs during the separated periods of the day and night, covering weekday or weekend periods.

In line with Section 8.1.4 of BS 4142, the monitoring duration has reflected the range of background sound levels for the period assessed. In practice, there has been no single level for background sound where this is a fluctuating parameter, although a representative value of the period has been used. Note this has not been either the lowest or mean average value of dB $L_{A90,T}$ according to the assessment standard.

Table C: Summary of Measured Residual and Background Sound Levels

Measurement Details				Residual sound level dB $L_{Aeq,T}$		Background sound level dB $L_{A90,T}$	
Date Range	Location	Period	Time HH:MM	Range	Typical	Range	Typical
02/07/2026 – 06/07/2026	LT1	Day	07:00 – 23:00	43 - 55	49	41 - 52	47
		Night	23:00 – 07:00	41 - 56	46	40 - 47	45
Typical values of background sound levels have been estimated from the range of long-term measurements at L1, being modal averaged values covering weekday and weekend periods.							



5.0 Noise Impact Assessment

The impact of noise from the development on the surrounding environment will depend on several factors, including (but not limited to) the time of day, frequency of occurrence and nature of sound source.

Development activities will naturally pose greater noise risk where they have been permitted during noise sensitive periods of the evening and night where the likelihood of annoyance or sleep disturbance increases. Human response to noise depends on sociological factors, attitudes and perceptions which can be difficult to define and account for any individual case.

The recognised methodology for assessment of operational phase impacts has been taken from BS 4142:2014 + A1:2019 *Methods for rating and assessing industrial and commercial sound*. This standard has been noted to include consideration of sound from industrial processes, fixed plant installations, loading and unloading of goods and mobile plant that is intrinsic to the premises. The numerical assessment has been provided below for relevant periods of proposed operation, following the definition of specific sound levels.

5.1 Specific Sound Level Calculations

Given the proposal for employment use development with unknown future operators, some level of reasonable assumption has been necessary to describe the likely noise emissions. All established assumptions and limitations have been outlined herein this section, which have been based on similar and approved employment use schemes.

The development masterplan has been used as a baseline for assessing operational emissions from the Site. This has included considerations of the following components based on industry standard methods, and measurements of similar developments:

- Movement of HGVs and forklifts around external loading bays.
- Use of parking areas.
- External plant and equipment.
- Breakout from buildings.

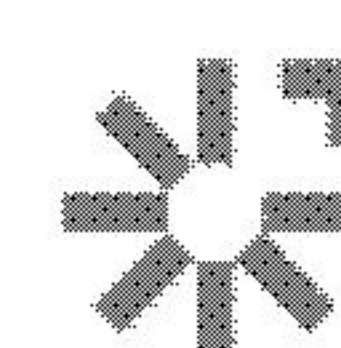
Data has been provided in this section as a summary of those provided in octave bands in Appendix C. Where reference has been made to single figure values, such as sound power level, in all cases the spectral values have been used in noise modelling calculations.

The quantification of noise impacts has been considered with extended operation of the scheme over day (07:00 – 23:00) and night (23:00 – 07:00) periods to align with the development proposals. These time periods accord with reference time intervals of BS 4142 Clause 3.8, where relevant variation in baseline conditions has been provided in Section 4.4.

5.1.1 Vehicle Movements Along the Access Route and New Road

Vehicle movements along the access route beyond the Site boundary have not been included within this assessment as this would typically be considered as part of a separate off-site traffic assessment and would require baseline and forecast traffic flow data.

As such data is not available, only vehicle movements occurring within the red line boundary have been considered. Furthermore, the Site is located within an established industrial and commercial area where HGV and other commercial vehicle movements are already a common feature of the local road network. As such, any additional vehicle movements associated with the Proposed Development are anticipated to have a negligible influence on the existing noise environment.



5.1.2 On-Site Vehicle Movements

An assumption has been made that HGVs could be reversing into or about loading areas with additional external movements from forklift trucks. As no site-specific information relating to vehicle movements or loading activities has been provided and noting that the Proposed Development includes two loading doors, a reasonable assumption of two HGV movements per hour has been adopted.

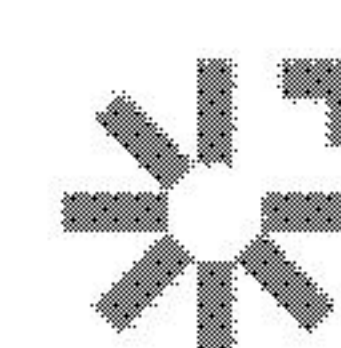
Octave band input data in Appendix C has accounted for measurements of vehicles reversing with associated alarms. An assumption of forklift movements in operation adjacent to each HGV has been made during the daytime only. All sources have been considered at 1.5 m height.

Table D: On-Site Vehicle Movements

Speed, km/h	Vehicle Type	Input Sound Power Level, dB <i>L_{WA}</i>	Time of Day	Quantity of Two-Way Movements Per Hour
8	HGV	93	Day and Night	2
	HGV Reversing	90		
	Forklift	88	Day	10

The data used for forklift and HGV movements has been further extracted from SLR's library of similar situations, based on forklift unloading of an HGV in a loading bay setting. In this regard the data is realistic and aligns with a witnessed quantity of forklift movements where the greatest quantity would be expected during the day.

Some level of assumption has been necessary to define the on-time of each activity of Table D. Reversing of HGVs has been considered as short-lived but slow events, with forklift operations as intermittent and in operation for several trips during any hour.



5.1.3 Use of Parking Areas

There has been no standard assessment method adopted in the UK for the assessment of noise from proposed parking bays. Sound from the car park will be characteristic of vehicles entering and exiting, to include short-term noises associated with vehicles arriving and leaving parking bays, as well as people entering and exiting their vehicles. This type of sound will be typical of most of the existing Site to the east which contains parking areas.

This assessment has considered the sound emission from all parking bays in accordance with the LfU Study 2007¹ as modelled elements within CadnaA software. The referenced method has been summarised to give sound power levels for parking area sources, considering two movements in and out of each space, standardised from reference measurements at 7.5 m from the parking bay.

As no anticipated vehicle trip data has been provided, the frequency of vehicle use associated with the parking bays is unknown. Accordingly, a conservative assumption of one two-way vehicle movement per hour has been applied during the daytime period. For the night-time period, it has been assumed that each parking space may be utilised at least once. To account for the likelihood that not all spaces would be occupied and used during this period, a utilisation coefficient of 0.5 has been applied.

Parking data has been provided in terms of parking coefficients and sound power levels within Table E below.

Table E: Car Parking Sound Levels

Total Quantity of Parking Area Shown	Total 2-Way Movements Per Hour	In or Out Movements Per Space Per Hour	Time of Day	Area Sound Power Level, dB L_{WA}
20	40	1.0	Day	79
	20	0.5	Night	76

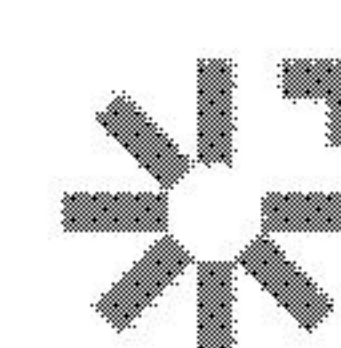
5.1.4 Breakout from Operational Buildings

Noise modelling has assumed that noise breakout would occur from every square metre of the building as noise generating façade wall and roof components; except areas containing offices. This remains a conservative assumption, where it must be acknowledged that *some level of assumption* is necessary to define the potential noise breakout from proposed employment use buildings of unknown future occupiers.

There remains potential for variation in the assessment of sound breaking out of proposed employment buildings depending on their use. It has been considered that the typical occupancy noise level of any building used under industrial use building would be expectedly higher than those for storage and distribution. This is because storage areas and racking are typically non-noise generating, except typically for reach trucks, packaging or distribution areas. General industrial uses could have a much wider indoor noise generation.

Consequently, there could be no single value associated with the indoor noise level during occupancy, given the potential range of activities. A reasonable assumption has therefore been based on 80 dB $L_{Aeq,T}$ occurring immediately inside each façade and roof of each proposed building based on SLR library data of measurements inside similar use buildings.

¹ Bavarian State Office for the Environment – Parking Area Noise. Recommendations for the Calculation for sound Emission of Parking areas, Motorcar Centres and Bus Stations as well as of Multi-Storey Car Parks and Underground Car Parks. Revised Edition, 2007.



This assumption would allow much higher indoor levels central within each building given the floor area associated with the building.

Any future operator would have an onus to control internal sound levels with reference to the levels defined by The Control of Noise at Work Regulations (2005). The upper exposure action value of which, at 85 dB $L_{EP,d}$ for any employee, has been used to approximate an internal reverberant sound level 5 dB below at 80 dB $L_{Aeq,T}$ immediately inside each façade and the roof. As such, the assumption is considered robust for the assessment of breakout noise and is likely to represent a reasonable worst-case scenario for a range of potential end users. The sound spectrum used to define internal reverberant sound pressure levels are provided within Appendix C.

For the purposes of this assessment, the building has been assumed to comprise typical industrial warehouse construction, predominantly formed from profiled sheet steel cladding panels with a thickness of up to 0.7 mm. In the absence of a confirmed specification, a composite sound reduction index of 25 dB R_w has been assumed for both the walls and roof. This adopted sound insulation performance provides a suitably robust basis for assessing potential sound breakout from the Proposed Development.

The acoustic performance of loading bay doors has been considered relevant and in the region of 15 – 18 dB R_w of single skin or 22 – 25 dB R_w of double skin composition. The acoustic model has considered the two loading doors to the west. The acoustic performance of these doors has been modelled with a 15 dB loss from indoor to external areas, 4.0 m wide and 4.5 m high, as implying a single skin design.

It should be noted that docking bay doors would normally remain closed or attached to a vehicle, therefore would never be considered normally open which could be further controlled by site-management practices.

Smaller areas of lower sound insulating elements (such as fire exit doors) have been considered to have no meaningful effect on noise breakout from employment use areas when rated nominally 25 – 30 dB R_w .

If necessary to grant planning approval, a minimum façade specification could be provided for the Proposed Development to protect against noise breakout, where the Applicant should have sight of such condition. It should also be borne in mind that the specifications of façade components do not remain exclusive to the acoustic design (where factors such as final U-values to achieve thermal insulation targets would need to be duly coordinated).

5.1.5 External Plant and Equipment

The type, quantity, and nature of plant to be located or ventilating externally to each unit has considered to include air-source heat pumps, ventilation systems and a new substation.

The main external plant sources have been considered as air source heat pumps (ASHPs) and have been positioned towards the rear of the building. This position was verified during the site visit. Mechanical ventilation with heat recovery units (MVHRs) have been considered inside each office with ventilation louvres at high level above the windows of each ancillary. The substation has been positioned within the existing area to the west within the Site.

Candidate selections of plant used within this noise impact assessment are defined initially for all units of the scheme per Table F.

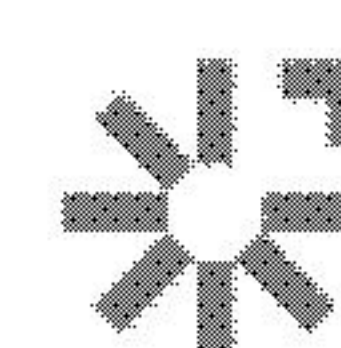


Table F: Plant Type and Quantity

Quantity	Type	Candidate Model	Sound Level
1	ASHP	Daikin REYA12A9	63 dB L_{pA} at 1m ^a
1	ASHP	Daikin REYA20A9	68 dB L_{pA} at 1m ^a
6	MVHR	Daikin VAM1000J	58 dB L_{wA} ^b
1	Substation	500 kVA	56 dB L_{wA} ^c
^a Heating mode (loudest) operation at 1 m hemispherical over a reflecting surface. ^b Sound power level at fan speed ‘high’ and without any atmospheric attenuation. ^c Limit according to ENA TS 35-1 and IEC 60076-10 reduced maximum sound power level.			

The upper limit of sound power level for the distribution transformer has been referenced from the Energy Networks Association Technical Specification TS 35-1 (ENA TS 35-1), with further reference from IEC 60076-10 Power transformers Part 10: Determination of sound levels. According to ENA TS 35-1, a transformer with a rating of 500 kVA must comply with a standard maximum sound power level of 56 dB L_{wA} . This has been noted to relate to the reduced maximum sound power level of IEC 60076-10 for a transformer of this size.

5.1.6 Embedded Mitigation

The existing Site layout incorporates embedded noise mitigation through the positioning of the loading doors on the western elevation of the building. This part of the building footprint is recessed inwards, providing inherent screening of loading and unloading activities and internal noise breakout when the doors are open. As a result, the building structure acts as a physical barrier between the loading area and the NSRs at Stream Park, reducing the potential for direct noise propagation from the Proposed Development.

5.2 Modelling Outputs

The following specific sound levels of Table G have been estimated from the described modelling process, with results illustrated in Figure D and Figure E. Results have highlighted the highest level on the façade, at either ground or upper floor level appropriate to the height of the receptor.

Table G: Specific Sound Levels

Noise Sensitive Receptor		Predicted Specific Sound Level dB $L_{Aeq,T}$	
Ref	Name	Day 07:00 – 23:00	Night 23:00 – 07:00
A	NSRs located at Stream Park	≤ 39	≤ 38

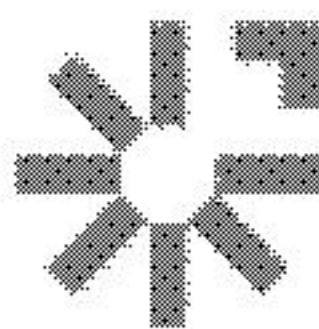


Figure D: Specific Sound Levels at Residential Building Façades – Day

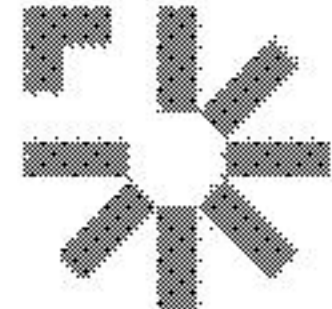
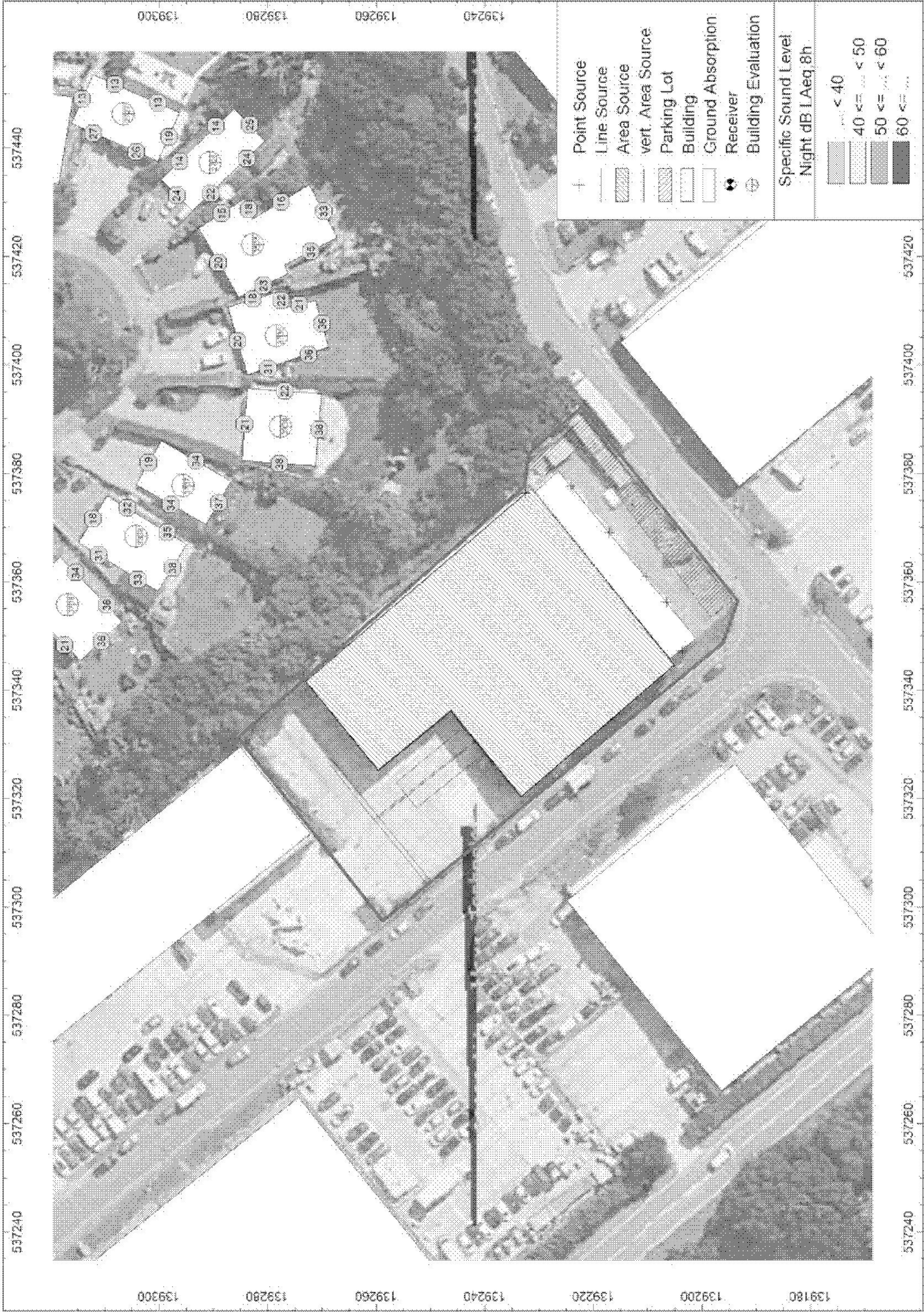


Figure E: Specific Sound Levels at Residential Building Façades – Night

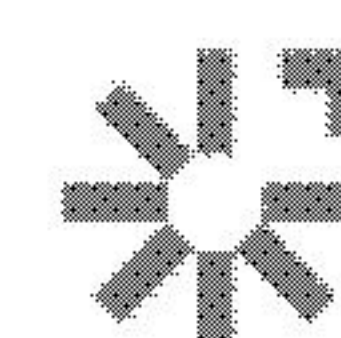


5.3 BS 4142 Assessment

The following numerical assessments have been provided in Table H below in accordance with BS 4142 to provide a comparison between the rating sound levels of the proposal against the typical sound levels existing prior to development.

Table H: BS 4142 Assessment of Proposed Development – Worst Case

Results	Day 07:00 – 23:00	Night 23:00 – 07:00	Commentary
Residual sound level, dB $L_{Aeq,T}$	49	46	Lowest representative background sound level from Table C (Location 1) to present a worst-case assessment.
Background sound level, dB $L_{A90,T}$	47	45	
Reference time interval	1-hour	15-minute	
Specific sound level, dB $L_{Aeq,T}$	39	38	Highest off-site values from noise modelling results of Table G to present a worst-case assessment.
Acoustic feature correction, dB	+ 3	+ 3	Correction of 3 dB applied to source of intermittent character which could be perceptible in the residual sound climate. Sound would not be of tonal, impulsive or other features.
Rating level, dB $L_{Ar,Tr}$	42	41	Specific sound level plus acoustic feature correction.
Excess of rating over background sound level	- 5	- 4	
Assessment indicates likelihood of: <i>*depending on context</i>	Low impact*		Where the rating level does not exceed the background level, this is an indication that the specific sound source will have a low impact, depending on the context. The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact.
Uncertainty of the assessment	Not significant		The excess of the background sound level over the rating level is very large and in this instance the uncertainty of the measurement does not have any significance to the outcome of the assessment.



Results	Day 07:00 – 23:00	Night 23:00 – 07:00	Commentary
			See statement of uncertainty in Section 5.3.2.

The numerical assessments have highlighted a low impact at the worst affected NSRs, where the rating sound levels have been predicted significantly below the representative background sound levels at all times of operation. In following of the assessment requirements of BS 4142, these numerical predictions have been considered in context in Section 5.3.1.

5.3.1 Context

The concept of “context” has been notably emphasised in Section 11 of BS 4142 when considering numerical impacts established from applying the standard.

The purpose of numerical assessments within Table H have been to review likely noise impacts occurring from an industrial use development in a mixed, residential and industrial area, where operation at any time has been outwardly considered.

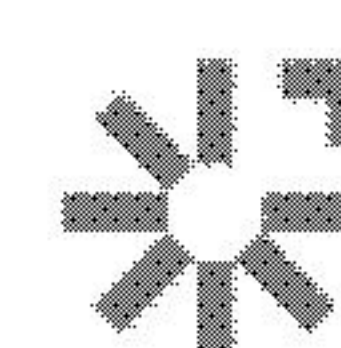
During operational hours, predictions have provided differences (i.e. ≥ 8 dB) between the residual sound level over the specific sound level, such that in context, the ambient sound level should not change by a perceptible degree due to the development. It has subsequently been considered in context that the Proposed Development activities will be indistinguishable, and masking will be afforded by the residual sound level dominated by commercial and industrial operations and transportation infrastructure. In context at any time, the character of the specific sound consisting of external activity noises would likely remain imperceptible against the existing climate.

The morning, evening and night have been considered particularly sensitive periods of operation where it would normally be appropriate to consider that residents could be resting or sleeping within their homes. During these times, it could be expected that residents may choose to leave windows open, where a level difference of approximately 13 dB would normally be expected inside the dwelling through a partially open window. The nearest NSRs have not been noted to contain any sound insulation provisions that allow occupants to keep windows closed (e.g. mechanical ventilation) therefore an open window assessment has been considered appropriate in context.

For any operational hours, resulting ambient noise levels outside or within the worst affected receptors have been predicted to relate to the residual sound climate where this prevails beyond the specific sound levels of this assessment. During these times, the resulting ambient sound level would not change because of the development and comprise mainly of the residual sound from transportation and existing commercial and industrial operations in the area, rather than that of the development.

Where sound associated with the Proposed Development remains audible, this would be experienced within the context of an established industrial and commercial area. As such, any audible sound would not be out of character with the prevailing acoustic environment, and any resulting effects are anticipated to be minor.

Mitigation has also been considered, mainly using appropriate layout and façade controls. Predicted noise impacts have therefore been supported as low when considering the context of the Site.



5.3.2 Statement of Uncertainty

Uncertainty has been considered as a limit to the accuracy of any noise assessment, including associated steps of measurement, calculation, or prediction. Factors have been considered to include (but not limited to) the following:

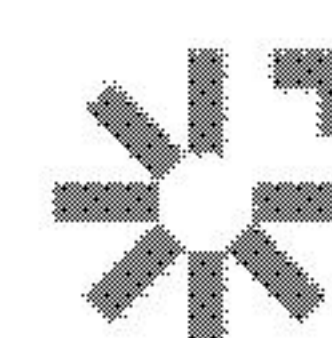
- The inherent accuracy limitation of methodology in Standards and guidance.
- Variability in meteorological conditions.
- The accuracy of sound source input data of a calculation.

It has been a requirement of the assessment standard BS 4142 to minimise uncertainty to a level commensurate with the intention of the assessment objective. Measures taken in this assessment to minimise uncertainty have included:

- Baseline sound levels were measured over a 96-hour period including the weekend and therefore provide a good indication of representative background and residual sound levels at any time.
- Baseline sound level measurements undertaken in accordance with recognised Standards, using a tall environmental windshield and during acceptable weather conditions e.g. low wind speeds and precipitation.
- A direct measurement location was used to provide a representative basis for background sound levels at the nearest receiver locations.
- Field calibration checks were undertaken before and after measurements to record very low levels of equipment drift.
- The chosen values for background sound level and associated calculations have been conservative as not to under-predict the resulting impacts.

These measures have been considered to reduce uncertainty to a level considered not to have any significance to the outcome of this assessment.

The predicted operational noise levels associated with the Proposed Development are based on professional experience and educated assumptions regarding the likely plant, equipment, and operational activities. Whilst these assumptions are considered appropriate at this stage, uncertainty remains until the end user and final plant specification have been confirmed; therefore, it is recommended that a more detailed noise assessment is undertaken once this information becomes available.



6.0 Conclusion

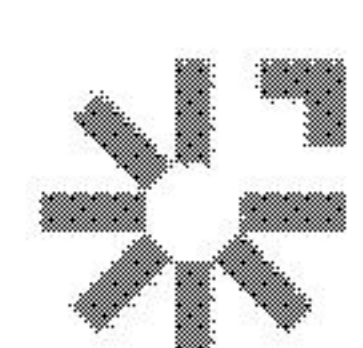
Royal London Mutual Insurance Society Limited c/o Royal London Property Pension Fund has appointed SLR Consulting Ltd (SLR) to support a full planning application for the flexible change of use from B8 to E(g)(ii), E(g)(iii), B2, and B8 at Unit 16, The Birches Industrial Estate, Hills Road, East Grinstead, RH19 1XZ.

A noise impact assessment has been carried out in line with BS 4142 methodology by a suitably qualified acoustician. Cumulative rating sound levels have been predicted at nearest sensitive receptors using noise modelling techniques, for plant and activities, defined by representative noise emissions. Whilst operational noise levels have been based on representative assumptions at this stage, these are considered reasonable and reflective of similar operational scenarios.

The numerical assessments have predicted worst-case rating levels below the representative background sound levels at all times of proposed operation. Predicted noise impacts have been supported as low when considering Site context.

The likely acoustic effects have been established below the LOAEL threshold of the NPSE, such that noise would not cause any change in behaviour or attitude or a perceivable change in the quality of life.

It has been concluded from the findings of this assessment that the range of noise impacts for the Proposed Development would be acceptable with respect to overarching and local requirements for planning and so, noise should not present reasonable grounds for planning refusal.



7.0 Closure

The assessment has required a suitable level of technical ability and has been undertaken by a Suitably Qualified Person (SQP). An individual with all the following credentials has been considered a SQP for this assessment:

- Has a minimum of two years' verifiable experience (within the last five years) of providing noise impact assessments in planning. Such experience has clearly demonstrated a practical understanding of factors affecting acoustics in relation to the proposed development use and in the built environment in general, including acting in an advisory capacity to provide recommendations and design advice in planning, and;
- Holds a recognised acoustic qualification and membership of an appropriate professional body. The primary professional body for acoustics in the UK is the Institute of Acoustics.

This assessment has been led and managed by a SQP as defined above.

Where some elements of the assessment (e.g. measurements) have been carried out by an acoustician who does not meet the requirements above, this has been undertaken with the direct guidance and supervision of a SQP who has reviewed, agreed and overseen the measurement methodology and any results obtained.

The SQP confirms that the relevant measurements and calculations:

- Represent good industry practice in accordance with available guidance.
- Are appropriate given the development being assessed and scope of works proposed.
- Avoid invalid, biased and exaggerated claims.

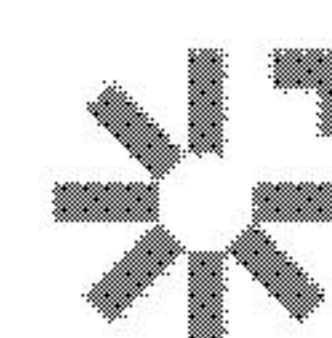
The checker and author of this document confirm that they both comply with the definition of a SQP defined in this Section.

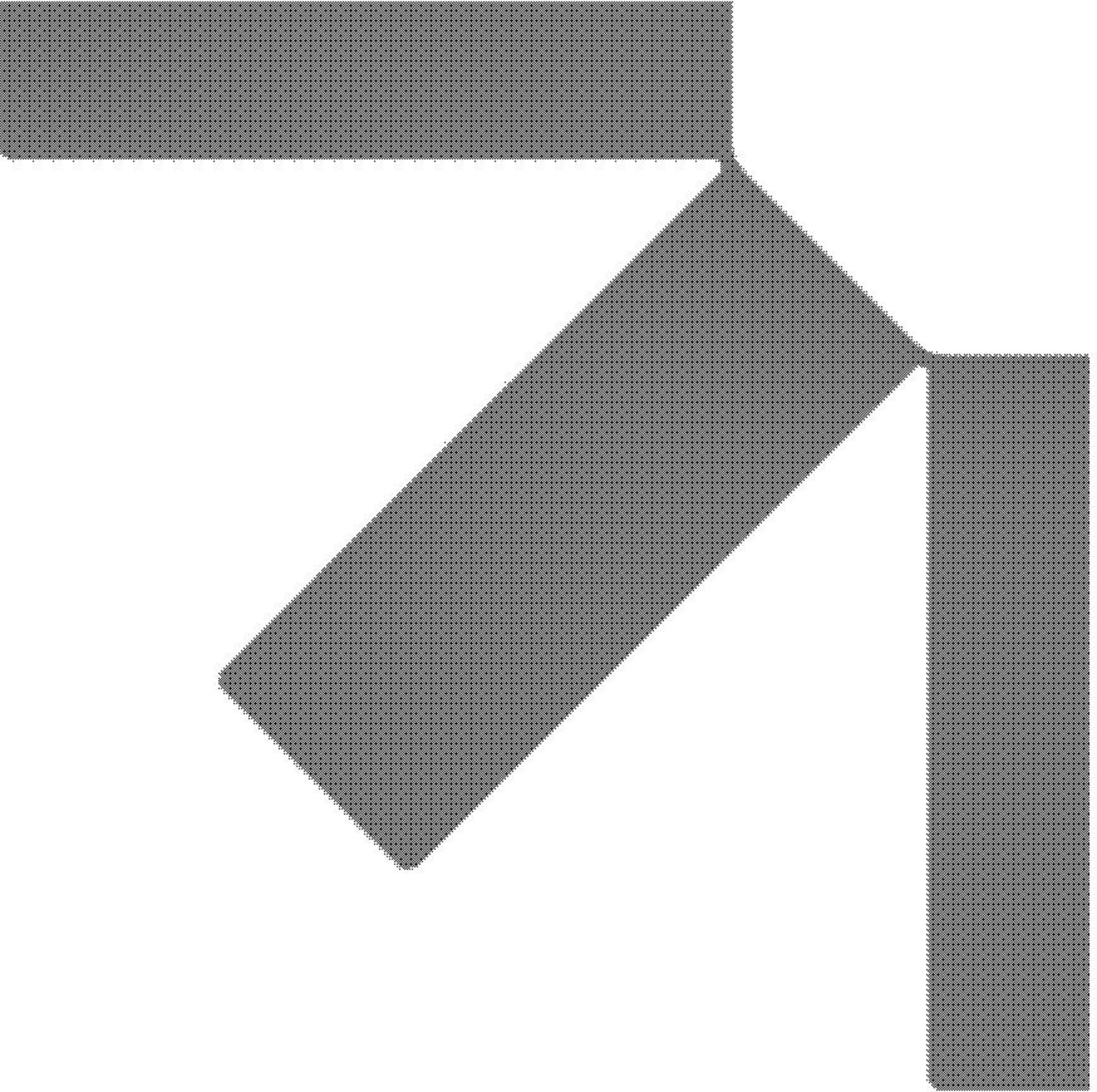
Regards,

SLR Consulting Limited

James Tranter, BSc. PgDip AMIOA
Associate Acoustic Consultant

Ben Sarton, BSc. (Hons) MIOA
Technical Director – Acoustics & Vibration





Appendix A Glossary of Terminology

A.1 Glossary of Terminology

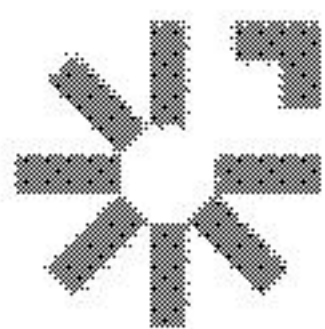
The human ear can detect a very wide range of pressure fluctuations, which are perceived as sound. In order to express these fluctuations in a manageable way, a logarithmic scale called the decibel, or dB scale is used. The decibel scale typically ranges from 0dB (the threshold of hearing) to over 120dB. An indication of the range of sound levels commonly found in the environment is given in the following table.

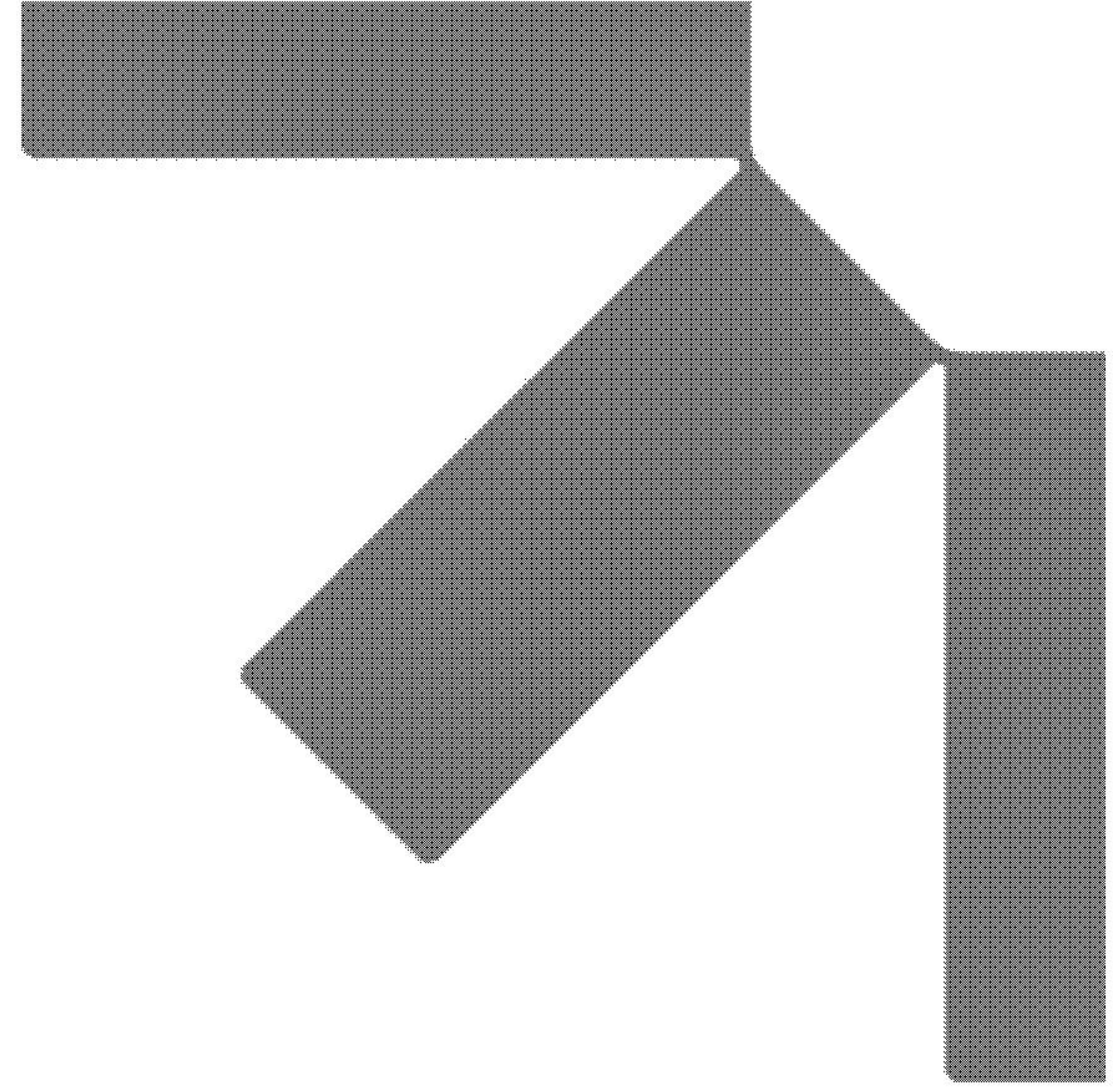
Table A-1: Sound Levels Commonly Found in the Environment

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 factory
100 to 110 dB(A)	Burglar alarm at 1m away
110 to 130 dB(A)	Jet aircraft on take off
140 dB(A)	Threshold of Pain

A.2 Acoustic Terminology

dB (decibel)	The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure (of 20 µPa).
dB(A)	A-weighted decibel. This is a measure of the overall level of sound across the audible spectrum with a frequency weighting (i.e. 'A' weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.
$L_{Aeq,T}$	$L_{Aeq,T}$ is defined as the notional steady sound level which, over a stated period T , would contain the same amount of acoustical energy as the A-weighted fluctuating sound measured over that period.
$L_{A10,T}$ & $L_{A90,T}$	If a non-steady noise is to be described it is necessary to know both its level and the degree of fluctuation. The L_n indices are used for this purpose, and the term refers to the level exceeded for n% of the time. Hence L_{10} is the level exceeded for 10% of the time and as such can be regarded as the 'average maximum level'. Similarly, L_{90} is the 'average minimum level' and is often used to describe the background noise. It is common practice to use the L_{10} index to describe traffic noise.
$L_{Amax(F)}$	$L_{Amax(F)}$ is the maximum A-weighted sound pressure level recorded over the period stated. L_{Amax} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the overall $L_{eq,T}$ noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response.





Appendix B Survey Summary Results

Figure C1: Time History Graph, Sound Pressure Level – Location 1

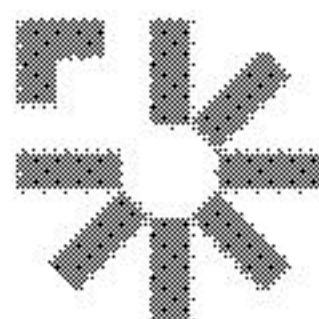
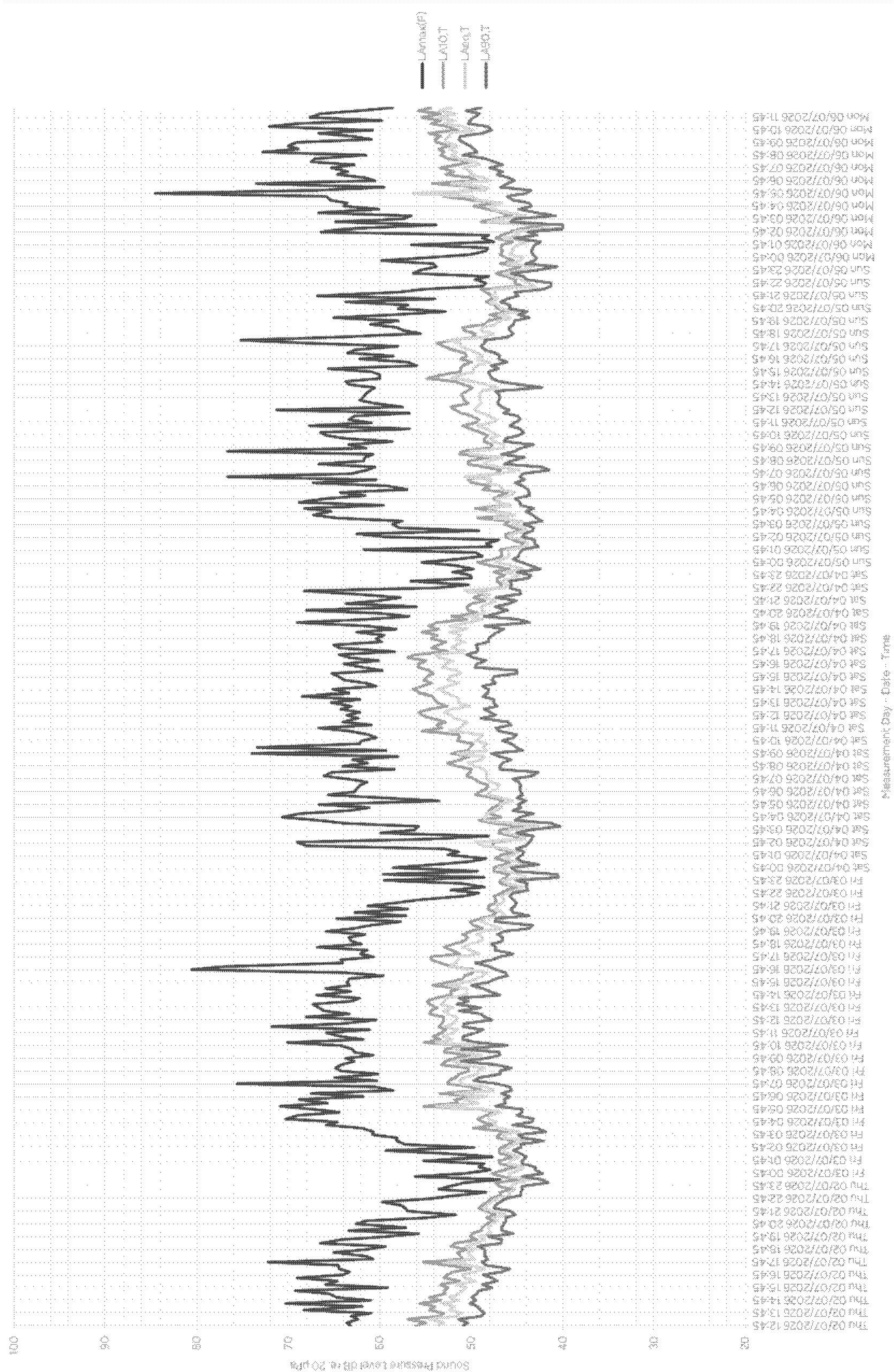


Figure C2: Background Sound Level Histogram – Location 1

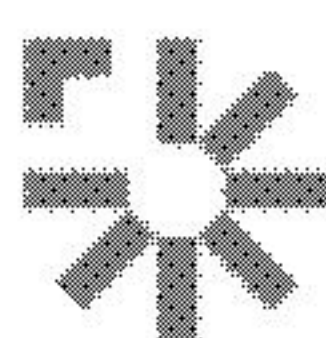
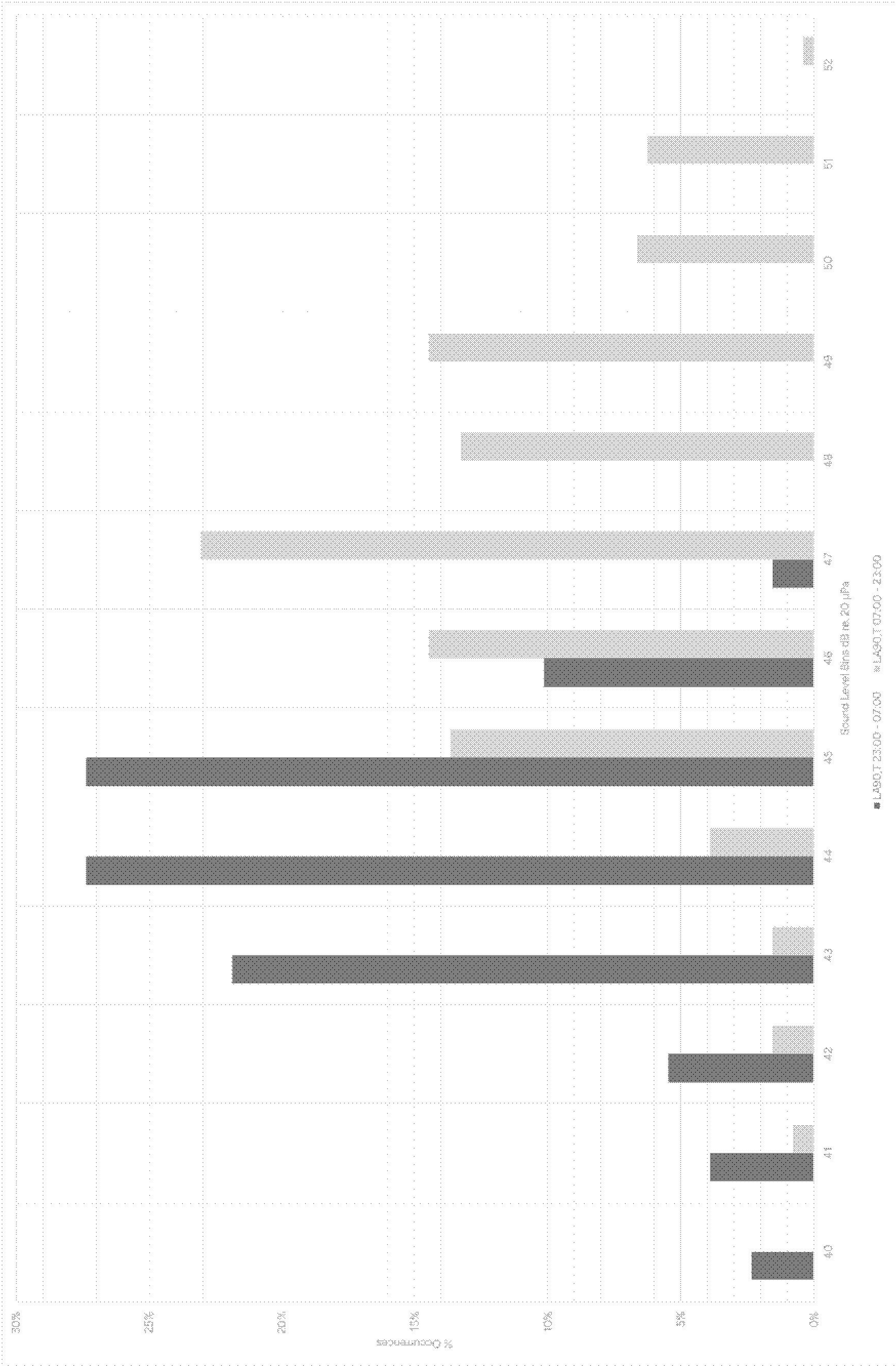


Figure C3: Time History Graph, Weather Conditions

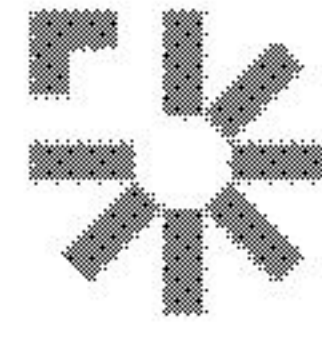
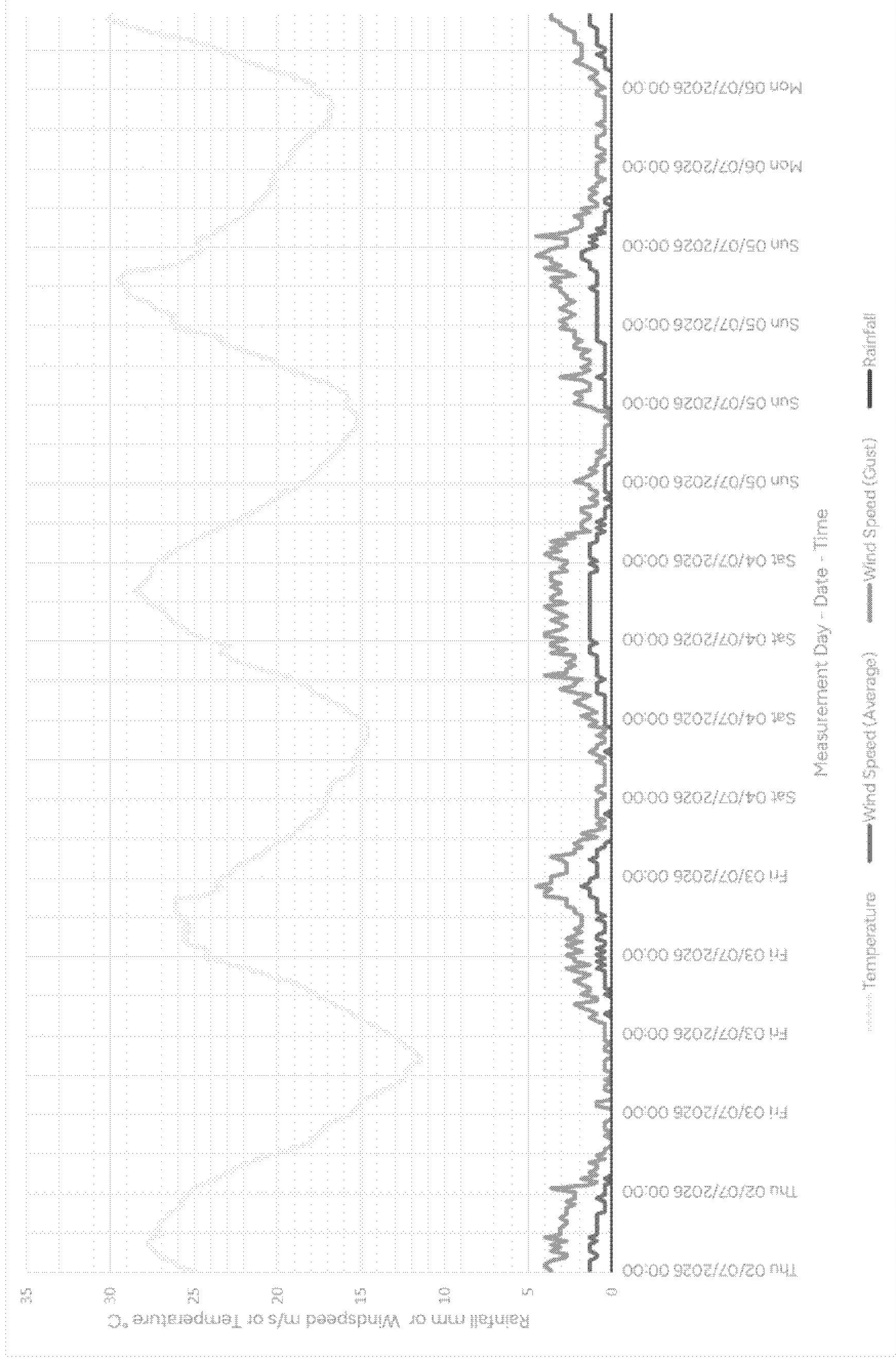
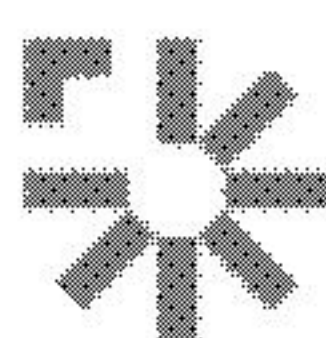
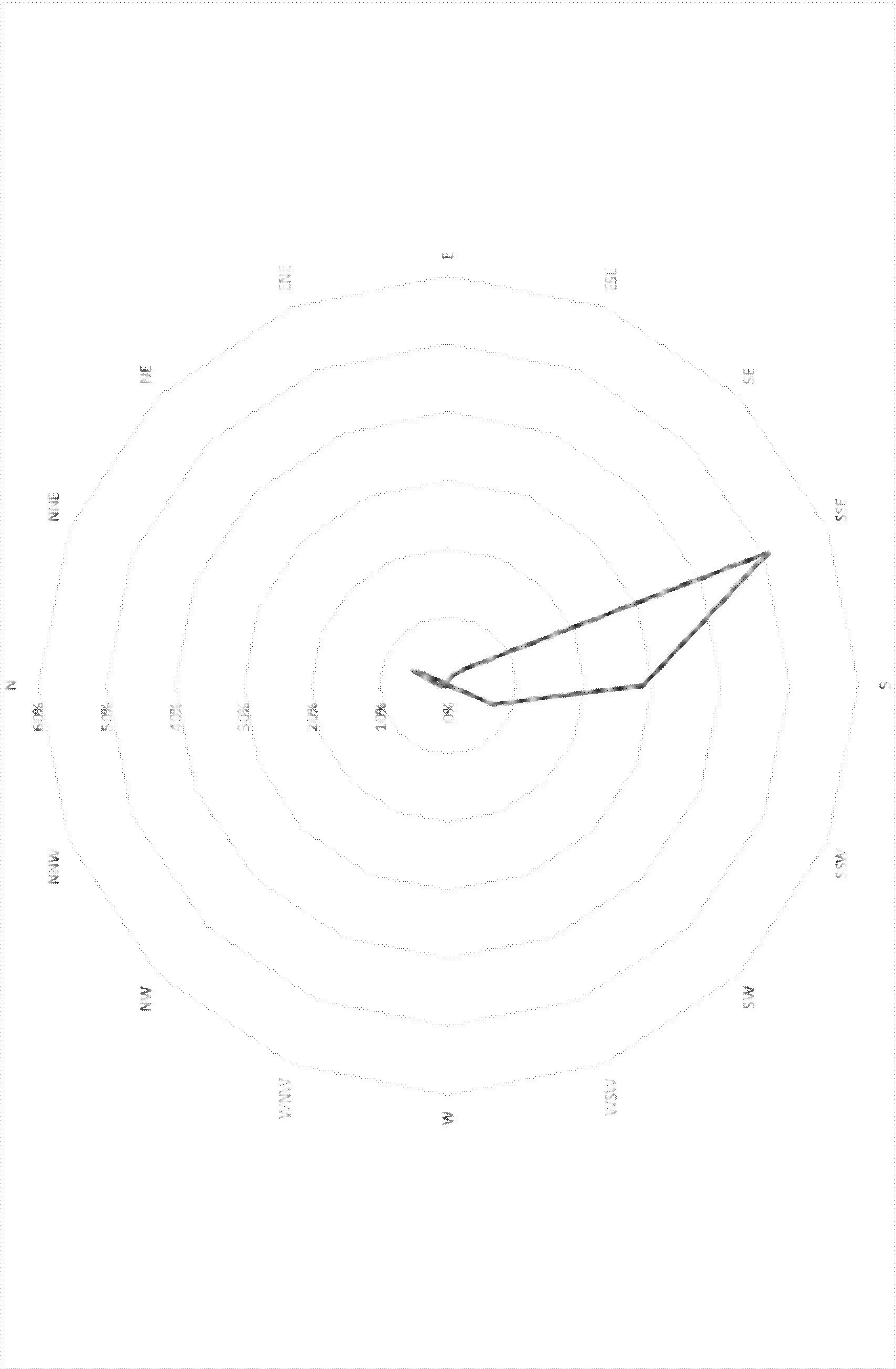
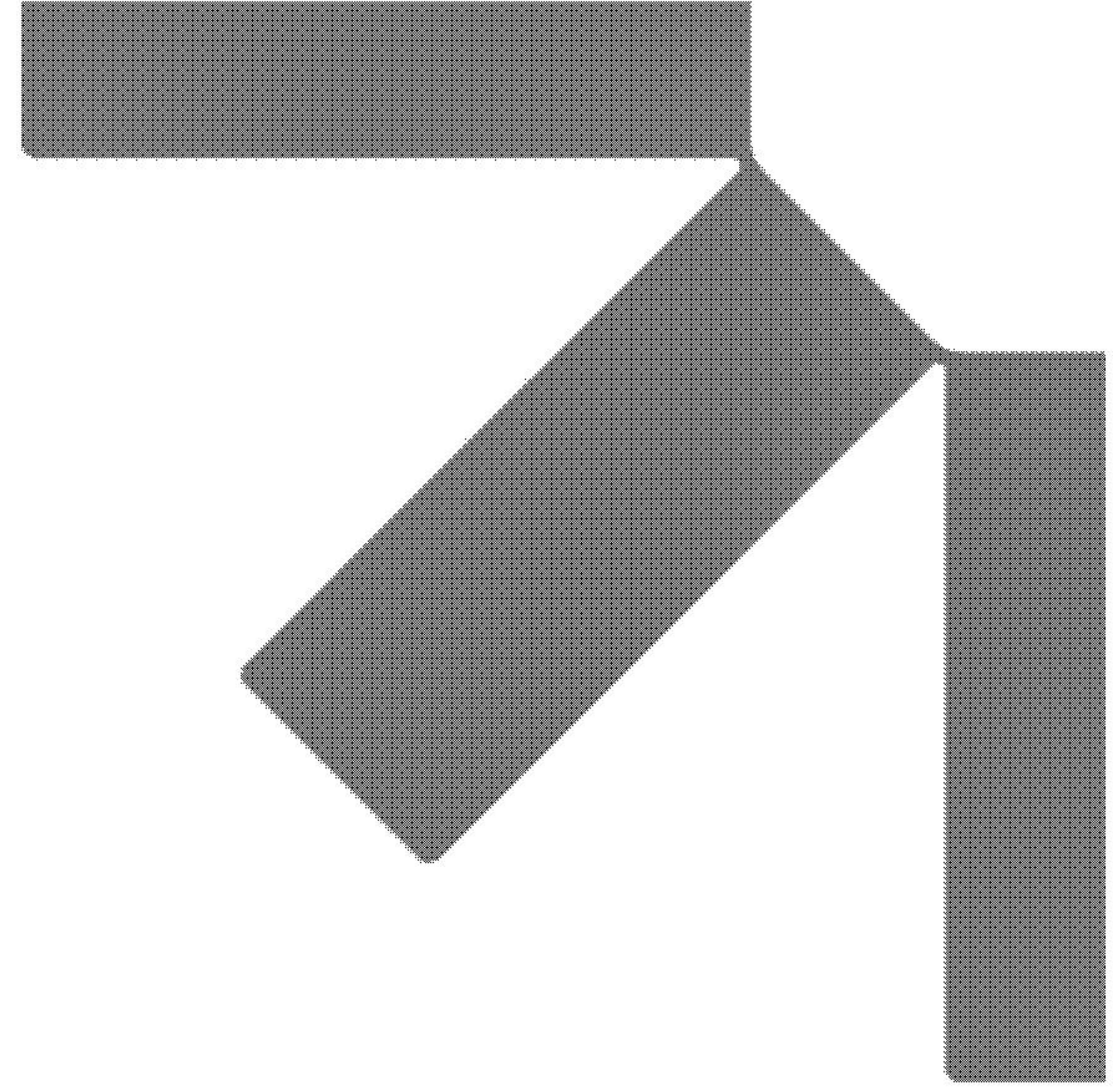


Figure C3: Wind Direction Polar Plot





Appendix C Noise Modelling Parameters

Table D1: Modelling Parameters and Associated Detail

Model Parameter	Detail
Software Version	CadnaA Version 2026 MR1 (64-bit) (build: 215.5625)
Ground Effect Co-efficient (G)	0 = hard ground, 1 = soft ground
Calculation Model	Industry: ISO 9613:2024.
Order of Reflections	3 - Maximum search radius Receiver – 1000 m - Maximum search radius Source – 100 m
Meteorology	10 °C Temperature 70 % Relative Humidity 3.0 m/s windspeed for direction
Topography	- Lidar composite DTM (1 m resolution) from https://environment.data.gov.uk/survey. - Converted to 1 m contour Shapefile using QGIS software.
Buildings	- Reflective with 1 dB façade loss. - Receptors modelled at 1.5 m height increasing + 3.0 m per floor level.
Mapping Imagery	- Georeferenced client drawings. - Simplified using AutoCAD LT software.

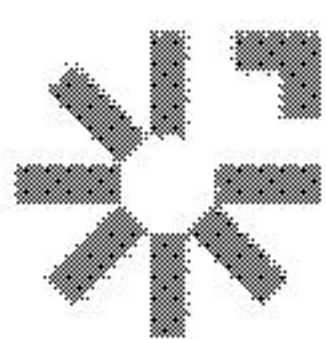
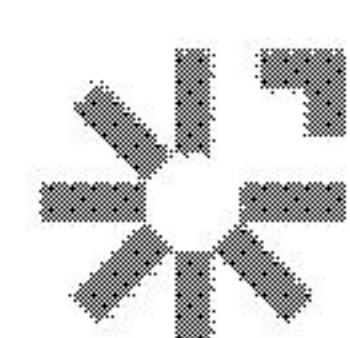
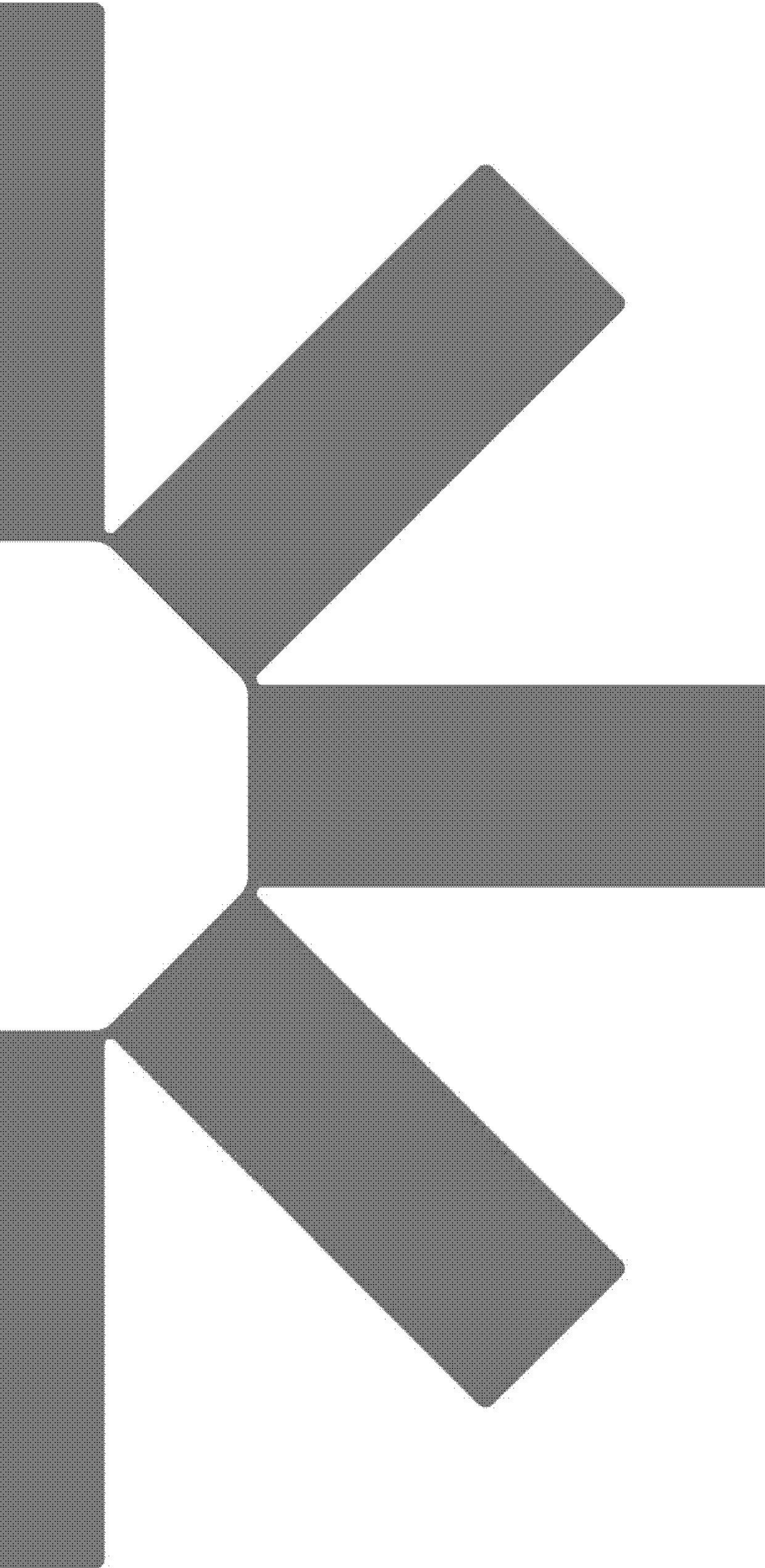


Table D2: Octave Band Data Used in Noise Modelling

Description	Data	Sound Level dB per Octave Band Centre Frequency Hz								Sum A
		63	125	250	500	1000	2000	4000	8000	
HGV	dB L_w	95.4	91.8	89.5	88.1	88.4	86.9	81.3	70.0	93.0
HGV reversing	dB L_w	95.5	90.8	88.0	84.1	84.9	82.2	79.6	74.3	89.6
Forklift unloading	dB L_w	97.5	88.6	85.4	84.9	82.6	79.8	77.6	74.5	88.0
Car at 10 mph	dB L_w	91.0	82.4	77.2	74.9	74.6	74.5	67.7	60.6	80.2
Internal	dB $L_{p,rev}$	76.9	76.4	76.3	75.7	75.1	72.6	70.1	69.2	80.0
Daikin REMA5A9	dB L_p at 1 m	59	63	61	55	51	50	45	43	58
Daikin REYA8A9	dB L_p at 1 m	59	63	61	55	51	50	45	43	58
Daikin REYA12A9	dB L_p at 1 m	73	72	60	57	57	54	52	45	63
Daikin REYA20A9	dB L_p at 1 m	72	67	66	66	60	57	60	51	68
Daikin VAM1000J8	dB L_w	71	61.5	59	56	52	47.5	41.5	35	58
Substation 500 kVA	dB L_w	56.7	61.7	56.7	56.7	47.7	39.7	34.7	27.7	56.7





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