Noise Impact Assessment

Environmental Permit Variation

Inert and Excavation Waste Processing and Transfer, Small Heath Rail Sidings, Birmingham

GRS RAIL SERVICES LTD

R25.12600/1/AG
Date of Report: 26 June 2025

REPORT DETAILS

Client	GRS Rail Services Limited
Report Title	Noise Assessment – Environmental Permit Variation – Inert and Excavation Waste Processing and Transfer
Site Address	Small Heath Rail Sidings, Anderton Road, Small Heath, Birmingham, B11 1TG
Report Ref.	R25.12600/1/AG
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QUALITY ASSURANCE

Issue No.	Issue Date	Prepared by	Technical Review
1	26/06/25		
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COMPETENCY AND EXPERTISE

The Company

Vibrock Ltd is an established independent environmental consultancy who has been providing noise, dust and vibration consultancy services to industry since 1991. Vibrock Ltd is a member of the Association of Noise Consultants (ANC) and its Consultants are Associate or Corporate Members of the Institute of Acoustics (IOA).

Consultants

Aaron Gutteridge BSc (Hons), MSc, MIOA, MIEnvSc: an MSc Applied Acoustics Graduate joined Vibrock Limited May 2015, where he has worked in an Environmental Consultant role specialising in Environmental Acoustics and Air Quality. Aaron regularly undertakes various environmental assessments, such as air quality studies for environmental impact assessments, industrial noise assessments and environmental noise assessments. Mr Gutteridge has completed both an 'International Environmental Policy and Law Certificate of Credit' and an 'Environmental Impact Assessment Certificate of Credit' as part of the Postgraduate Certificate in Environmental Management. Aaron holds memberships to both the Institute of Acoustics, and the Institution of Environmental Sciences (including the Institute of Air Quality Management).

Andrew Pickford *BSc, MSc, PgDip, MIOA* has undertaken responsible work in noise impact assessment and acoustics since 2006. Andrew specialises in the measurement and assessment of environmental noise for a wide range of applications within the industrial, commercial, residential, waste disposal and mineral extraction sectors. In addition to a diploma in Acoustics and Noise Control, Andrew holds the IOA Certificate of Competency in Environmental Noise Measurement, an MSc in Environmental Management and is a Member of the Institute of Acoustics.

NON-TECHNICAL SUMMARY

1. Vibrock Ltd are commissioned to prepare a noise impact assessment to accompany an application to vary an Environmental Permit relating to the continued importation, processing and transfer of inert and excavation wastes at Small Heath Rail Sidings in Birmingham.

2. As part of the assessment, background noise levels have been measured at locations chosen to represent noise-sensitive premises in the vicinity of the application site. This information has been used to characterise the existing acoustic environment.

3. Predicted noise levels from the site have been calculated at nearby noise-sensitive premises and the proposals has been assessed with reference to BS 4142 '*Methods for rating and assessing industrial and commercial so*und' in line with Environment Agency stipulations.

4. The outcome of the assessment demonstrates that the continuation of the permit operations are not likely to result in adverse impacts in accordance with BS 4142. It is therefore considered that there will be no significant or unacceptable adverse impacts at noise-sensitive premises in the vicinity of the site.

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1.0 INTRODUCTION

1.1 Vibrock Ltd are commissioned to prepare a noise impact assessment to accompany an application to vary Environmental Permit number EPR/JB3107HT (the permit) held by GRS Rail Services Limited for the operation of an inert and excavation waste transfer station at Small Heath Rail Sidings, Anderton Road, Birmingham (the site).

1.2 The permit currently authorises the receipt, treatment and transfer of up to 250,000 tonnes per annum of inert and excavation waste as described in standard rules SR2009 No6. Waste is delivered to the site by rail and off-loaded onto concrete hardstanding where imported materials are stockpiled. Some materials are processed via crushing and screening plant operated on a campaign basis as required. Stockpiled products are loaded onto HGVs for onward transfer to the market via road.

1.3 Standard rules permit SR2009 No 6 was withdrawn on 18 December 2024 and consolidated into standard rules permit SR2022 No 1: which relates to the treatment of waste to produce soil, soil substitutes and aggregate.

1.4 As a result an application to vary the Standard Rules Permit to a bespoke permit to authorise the continuation of crushing and screening of inert and excavation waste at the site is required. To support the application, this noise impact assessment has been produced with reference to the guidance presented within BS 4142 as required by the Environment Agency.

1.5 The permit boundary is identified in Figure 1. Explanation of the acoustic terminology used within this report is provided in Appendix 1.

2.0 GUIDANCE

2.1 Environment Agency Guidance: Noise and vibration management: environmental permits

2.1.1 Environmental permits have conditions that require operators to control pollution – this includes controlling noise and vibration.

2.1.2 The Environment Agency, Scottish Environment Protection Agency, Natural Resources Wales and Northern Ireland Environment Agency have produced this guidance to help holders and potential holders of permits apply for, vary, and comply with their permits.

2.1.3 Operators (or permit applicants) must consider the potential noise impact of their site. They may need to carry out noise impact assessments:

- at the permit application stage
- when applying to vary a permit
- to comply with specific permit conditions

2.1.4 Where noise is possibly causing an impact, the operator must carry out an assessment to determine:

- the level of impact
- how much work needs to be done to prevent or minimise noise pollution

2.1.5 For assessment purposes, '*BS 4142: Methods for rating and assessing industrial and commercial sound*' must be used to quantify the level of environmental noise impact from industrial processes.

2.1.6 Noise impact assessments should be carried out to an appropriate standard and by competent personnel, for example, holders of either an Institute of Acoustics:

- Diploma in Acoustics and Noise Control
- Certificate of Competence in Environmental Noise Measurement, with relevant experience

2.1.7 Operators must prevent significant pollution and also comply with the requirements to use 'appropriate measures' (Waste Framework Directive 2018/851) or 'best available techniques' (BAT) to prevent or minimise noise pollution.

2.1.8 For any particular case, the environment agencies have to decide whether or not you are causing (or are likely to cause) unacceptable noise pollution, even if appropriate measures are used. It is the responsibility of the operator to avoid significant pollution and to demonstrate the use of BAT or appropriate measures to prevent, or where that is not practicable, to minimise noise impact.

2.2 BS 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound

2.2.1 This British Standard was amended in June 2019. BS 4142:2014+A1:2019 supersedes BS 4142:2014, which is withdrawn.

2.2.2 This British Standard describes methods for rating and assessing sound of an industrial and/or commercial nature, which includes:

1) sound from industrial and manufacturing processes;
2) sound from fixed installations which comprise mechanical and electrical plant and equipment;
3) sound from the loading and unloading of goods and materials at industrial and/or commercial premises; and
4) sound from mobile plant and vehicles that is an intrinsic part of the overall sound emanating from premises or processes, such as that from forklift trucks, or that from train or ship movements on or around an industrial and/or commercial site.

2.2.3 The methods described in this British Standard use outdoor sound levels to assess the likely effects of sound on people who might be inside or outside a dwelling or premises used for residential purposes upon which sound is incident.

2.2.4 This standard is intended to be used for the purposes of:

a) investigating complaints;
b) assessing sound from existing, proposed, new, modified or additional source(s) of sound of an industrial and/or commercial nature; and
c) assessing sound at proposed new dwellings or premises used for residential purposes.

2.2.5 This standard is not intended to be applied for the following purposes:

- The determination of noise amounting to a nuisance;
- The assessment of indoor sound levels;
- The assessment of low-frequency noise;
- The assessment of sound from the passage of vehicles on public roads and railway systems;
- The assessment of sound from recreational activities, including all forms of motorsport;

- music and other entertainment;
- shooting grounds;
- construction and demolition;
- domestic animals;
- people;
- public address systems for speech;
- The assessment of sound from other sources falling within the scopes of other standards or guidance.

2.2.6 The significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs. When making assessments and arriving at decisions it is essential to place the sound in context.

2.2.7 The sound level from a source when determined as a discrete entity, distinct and free of other influences contributing to the ambient sound, is referred to as the 'specific sound level'. The specific sound level is evaluated, at an identified assessment location, over the appropriate reference time interval which is as follows:

- 1 hour during the daytime (07:00 – 23:00); and
- 15 minutes during the night-time (23:00 – 07:00).

NB. The shorter reference time interval at night means that short duration sounds with an on time of less than 1 hour can lead to a greater specific sound level when determined over the reference time interval during the night than when determined during the day.

2.2.8 The specific noise may be subject to an acoustic character correction if the noise level at the assessment location is subjectively considered to exhibit certain acoustic features that could increase the significance of impact over that expected from a basic comparison between the specific sound level and the background sound level. Where such features are present at the assessment location, add a character correction to the specific sound level to obtain the rating level.

2.2.9 This standard requires the assessor to consider the subjective prominence of the character of the specific sound at the noise-sensitive locations and the extent to which such acoustically distinguishing characteristics will attract attention. Such features are taken into account by applying the following corrections to the specific sound level to obtain the rating level as summarised in Table 1.

Table 1: Summary of BS 4142 Acoustic Feature Corrections

Subjective Prominence	Tonality	Impulsivity	Intermittency	Other Sound Characteristic (neither tonal, nor impulsive, nor intermittent)
Just Perceptible	+2 dB	+3 dB	-	-
Clearly Perceptible	+4 dB	+6 dB	-	-
Highly Perceptible	+6 dB	+9 dB	-	-
Readily Distinctive Against Residual Environment	-	-	3 dB	3 dB

2.2.10 If characteristics likely to affect perception and response are present in the specific sound, within the same reference period, then the applicable corrections ought normally to be added arithmetically. However, if any single feature is dominant to the exclusion of the others then it might be appropriate to apply a reduced or even zero correction for the minor characteristics. The rating level is equal to the specific sound level if there are no such features present or expected to be present.

2.2.11 An initial estimate of the impact of the specific sound is obtained by subtracting the measured background sound level from the rating level, and consider the following.

a) Typically, the greater this difference, the greater the magnitude of the impact.

b) A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.

c) A difference of around +5 dB or more is likely to be an indication of an adverse impact, depending on the context.

d) The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.

2.2.12 Where the initial estimate of the impact needs to be modified due to the context, take all pertinent factors into consideration, including the following.

1) The absolute level of sound.

2) The character and level of the residual sound compared to the character and level of the specific sound.

3) The sensitivity of the receptor and whether dwellings or other premises used for residential purposes will already incorporate design measures that secure good internal and/or outdoor acoustic conditions.

    i) façade insulation treatment;

    ii) ventilation and/or cooling that will reduce the need to have windows open so as to provide rapid or purge ventilation; and

    iii) acoustic screening.

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

2.4 Other Relevant Guidance

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

2.3.1 This Standard provides guidance for the control of noise in and around buildings and is applicable to the design of new buildings, or refurbished buildings undergoing a change of use, but does not provide guidance on assessing the effects of changes in the external noise levels to occupants of an existing building.

2.3.2 For dwellings, the main considerations are:

a) for bedrooms, the acoustic effect on sleep; and
b) for other rooms, the acoustic effect on resting, listening and communicating.

2.3.3 It is desirable that the internal ambient noise level does not exceed the guideline values detailed in Table 2 below.

Table 2: Indoor ambient noise levels for dwellings (From Table 4 of BS 8233)

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

2.3.4 For traditional external areas that are used for amenity space, such as gardens, it is desirable that the external noise level does not exceed 50 dB $L_{Aeq,T}$, with an upper guideline value of 55 dB $L_{Aeq,T}$.

World Health Organisation (WHO)

2.3.5 The World Health Organisation '*Guidelines for Community Noise*' 1999 aims to provide environmental health authorities and professionals with guidance on the adverse health effects of community noise on people.

2.3.6 This document presents a summary of research and opinions on the impacts of noise and recommends guideline values for avoidance of particular effects e.g. annoyance and sleep disturbance. It is the primary reference point for other guidance value based documents, such as BS 8233.

2.3.7 The following guideline values have been derived according to specific environments. The values relevant to residential development are shown in Table 3 below.

Table 3: Guideline values for community noise in specific environments. (From Table 4.1 of WHO Guidelines)

Specific Environment	Critical Health Effect(s)	L_{Aeq} (dB)	Time base (hrs)	$L_{Amax,f}$ (dB)
Outdoor living area	Serious annoyance, daytime and evening	55	16	-
	Moderate annoyance, daytime and evening	50	16	-
Dwelling, indoors	Speech intelligibility and moderate annoyance, daytime and evening	35	16	
Inside bedrooms	Sleep disturbance, night-time	30	8	45

3.0 BACKGROUND SOUND LEVELS

3.1 Survey Methodology

3.1.1 Sound levels were measured over a 7-day period from 4th – 11th June 2025 at 2 locations selected to represent the closest noise-sensitive premises to the application site. A monitoring and receptor location plan is provided in Figure 2.

3.1.2 Measurements were undertaken with reference to the guidance presented within BS 7445 and BS 4142.

3.2 Instrumentation

3.2.1 Monitoring was undertaken using the equipment detailed in Table 4.

Table 4: Noise Monitoring Equipment

Manufacturer	Type	Serial No.	Date of last calibration
Cirrus	Class 1 Integrating Sound Level Meter CR:811C	D21904FD	Apr. 2025
	Class 1 Integrating Sound Level Meter CR:811C	D20518FD	Feb. 2024
	Class 1 Integrating Sound Level Meter CR:171B	G056448	Jan. 2025
	Acoustic Calibrator CR:515	78059	Aug. 2024

3.2.2 During all measurements the microphone was protected with a suitable outdoor windshield and mounted on a tripod. The monitoring position was 'free field' (no vertical reflective surfaces within 3.5 metres of the microphone) and at a height of between 1.2 – 1.5 metres above ground level.

3.2.3 The following set-up parameters were used:

- Time Weighting: Fast
- Frequency Weighting: A
- Averaging-Integrating Period: 15 min
- Data Logging: Repeat (contiguous)
- Resolution: 1 second

3.2.4 With the equipment set up in the configuration used during measurement, field calibration checks were performed on site immediately before and after the survey period using a sound calibrator. No significant drift (i.e. no greater than ±0.5 dB) in the calibration value of 93.7 dB was observed between the initial and final checks. Further details are provided in Table 5.

Table 5: Field Calibration Check Details

Location	Serial No.	Calibration Level	Offset
L1	D21904FD	93.7	+0.3 dB
L2	D20518FD	93.7	-0.2 dB

3.3 Observations

3.3.1 The acoustic environment in the vicinity of the site comprises noise from commercial/industrial premises along Montgomery Street to the south, pedestrians using the Canal and Canalside footpath, occasional trains on the mainline which runs between Birmingham City Centre and Solihull, and local road traffic using links such Anderton Road and the A45.

3.3.2 Weather conditions during the survey were measured using a portable Davis Vantage Vue Precision Weather Station located adjacent to the sound level meter positioned at L1. The data obtained is shown in Figure 3. Conditions were dry with no precipitation throughout the survey period. Average wind speeds of approximately 0 – 1 ms^{-1}. Relative humidity varied between 43 – 93% and temperatures ranged from 8 – 21°C.

3.4 Results

3.4.1 The measurement data collected during the survey is presented in Figure 4, tabulated in Appendix 2 and summarised in Table 6 for time periods pertinent to the assessment.

Table 6: Summary of Measured Sound Levels

Location	Time Period (*T*)	Ambient Sound Level Average $L_{Aeq,T}$ dB	Background Sound Level Average $L_{A90,T}$ dB	
			Mean	Mode
L1 Representing receptors to the north-east (A45/Bolton Rd)	Mon – Fri Early AM 0600 – 0700	64.0	48.1	46.0
	Mon – Fri Daytime 0700 – 1600	64.9	50.6	50.0
	Mon – Fri Late PM / Evening 1600 – 2200	68.8	47.9	47.0
	Mon – Fri Night-time 2200 – 0600	68.1	42.9	42.0

Location	Time Period (*T*)	Ambient Sound Level Average $L_{Aeq,T}$ dB	Background Sound Level Average $L_{A90,T}$ dB	
			Mean	Mode
L2 Representing receptors to the south-west in the vicinity of Marlborough Rd	Mon – Fri Early AM 0600 – 0700	57.0	49.1	47.0
	Mon – Fri Daytime 0700 – 1600	58.8	49.9	49.0
	Mon – Fri Late PM / Evening 1600 – 2200	59.2	49.4	46.0
	Mon – Fri Night-time 2200 – 0600	57.0	44.5	41.0

4.0 POTENTIAL NOISE EMISSIONS

4.1 Introduction

4.1.1 The level of noise in the local environs that arises from a site will depend on a number of factors. The more significant of which are:

(a) the sound level output of the plant or equipment used on site;
(b) the periods of operation of the plant on site;
(c) the distance between the source noise and the receiving position;
(d) the presence of screening due to barriers;
(e) the reflection of sound;
(f) soft ground attenuation.

4.1.2 Noise levels from Site operations have been calculated at the identified assessment locations based on the following methodologies and assumptions.

4.2 Calculation Methodology

4.2.1 In order to assist in the calculation of predicted noise levels from the site, CadnaA noise modelling software has been used. The noise prediction software has been configured to undertake the noise calculations in accordance with ISO 9613 '*Acoustics - Attenuation of sound during propagation outdoors*'. Noise model configuration details are outlined in Table 7 below.

Table 7: Noise Model Configuration Details

Parameter	Input
Software	DataKustik GmbH CadnaA v.2025 MR1 (build: 211.5558)
Calculation Standards/Guidelines	ISO 9613-2:2024
Model of Terrain	Triangulation
Max. Order of Reflection	2
Ground Attenuation	Spectral
Frequency Band Calculation	Octave Bands (63Hz – 8kHz)
Temperature / Relative Humidity	10°C / 70%
Topographic data	3D contour data – 1.0m DTM EA LiDAR
Ground Absorption	Default 0.90 (Res 1.0m), Site and Railway 0.25
Receiver Heights	Day – 1.5m above ground / Night 4.0m 1F and 6.5m 2F

4.2.2 Within the model, HGVs and train movements have been modelled as line sources. Point sources have been used to represent stationary or quasi-stationary activities such as processing plant and activities undertaken in a defined area such as the unloading/loading of materials.

4.2.3 For all noise prediction calculations, the ground absorption coefficient has been estimated according to the combination of soft and hard ground conditions present between the source and receiver position. 'Soft' ground is taken to refer to surfaces which are absorbent to sound, e.g. grassland, cultivated land or plantations as opposed to 'hard' ground surfaces which reflect sound such as paving, asphalt and surface water.

4.2.4 The modelling software predictions assume conditions favouring sound propagation from source to receiver. The ISO 9613 calculation methodology assumes wind direction with $\pm 45^0$ of the direction connecting the centre of the dominant sound sources and the centre of the specified receptor region, together with wind speeds of between 1 – 5 ms^{-1}. It should therefore be noted that in practice the eventual longer-term measured levels are invariably lower than predicted levels due to the temporal variation in meteorological conditions.

4.2.5 The predictions made by the modelling software are for 'free-field' sound levels to allow for an appropriate comparison with the free-field background sound levels measured during the survey.

4.2.6 The convention applied within BS 4142, and this report, is that all measured or calculated numbers are rounded to the nearest whole number with 0.5 being rounded up.

4.3 Noise Source Details

4.3.1 Information regarding the operation of the site has been based on discussions with the applicant, on-site observations and permit application plans.

4.3.2 A list of noise generating plant and activities, from which the noise predictions have been made, is presented in Appendix 3 along with a number of assumptions regarding typical operating times and vehicle movements.

4.3.3 The sound levels used within this assessment are based on recent observations and sound pressure level measurements at the existing site. Where necessary these have been supplemented by measurement data sourced from Vibrock's extensive sound level library which contains sample measurements of a wide range of noise generating activities taking place at similar mineral and waste sites across the UK.

4.4 Calculation Results

4.4.1 Table 8 summarise the results of the noise level predictions at the identified assessment locations.

Table 8: Calculation Results

Assessment Location	Floor	Calculated Specific Sound Level $L_{Aeq,Tr}$ (free-field) dB		
		Early AM 0600 – 0700	Daytime 0700 – 1600	Late PM/Evening 1600 – 2200
260 - 264 Bolton Road	G	27.9	49.3	43.5
	1F	29.2	50.6	45.4
314 - 324 Bolton Road	G	27.3	48.2	43.7
	1F	29.3	49.5	45.4
	2F	30.5	49.8	46.1
Edmonds Court	G	28.1	47.1	41.6
	1F	28.9	48.5	43.5
	2F	29.2	48.9	44.4
The Birmingham Hotel	G	38.3	49.2	45.5
	1F	38.7	50.2	46.6
	2F	38.8	50.4	47.3
Anderton Road	G	27.4	38.6	34.2
	1F	29.9	42.0	38.6
	2F	32.0	45.0	40.8
Former Marlborough PH	G	26.7	42.7	37.4
	1F	33.5	48.5	42.3
	2F	36.2	50.3	43.5
Gracelands Nursery	G	28.5	41.5	37.0
Grace Road	G	27.5	39.7	35.0
	1F	30.1	42.4	39.1
Montgomery Primary School	G	20.9	37.6	33.9
White Road	1F	20.0	39.4	35.7
	2F	22.4	42.4	39.2

5.0 ASSESSMENT

5.1 This assessment has been undertaken with reference to the guidance provided within BS 4142.

5.2 This standard requires the following levels to be established:

- The Background Sound Level
- The Specific Sound Level
- The Rating Level

Background Sound Level

5.3 BS 4142 requires the quantification of typical background sound levels at locations representing the noise-sensitive receptors. The results of the survey are presented in Section 3 of this report.

Specific Sound Level

5.4 The specific sound level has been determined by calculation following the guidance within Section 7 of BS 4142. The method of calculation is explained in Section 4 of this report.

Rating Level

5.5 In determining the Rating Level it is recognised that certain acoustic features can increase the significance of noise impact over that expected from a basic comparison between the specific sound level and the background sound level.

5.6 Noise emissions associated with operations at the site are not considered to contain any significant tonal or intermittent features that would be readily distinguishable, however, it is considered that the sound from activities associated with the off-loading of train wagons could contain impulsive features that may be distinguishable at the nearest residential premises particularly during the early evening period when residual sound levels are lower and there is less of a masking effect at the receptor locations.

5.7 In accordance with BS 4142 it is considered appropriate to apply corrections of +3 dB for 'just perceptible impulsivity' to the calculated specific sound levels to account for the presence of these characteristics.

Initial Estimate of Impact

5.8 Table 9 presents an 'initial estimate' of the potential impact in accordance with BS 4142.

Table 9: Initial Estimate of Impact (BS 4142)

Location	Period	Background Sound Level $L_{A90,T}$ dB	Specific Sound Level $L_{Aeq,Tr}$ dB	Acoustic Feature Correction dB	Rating Level $L_{Ar,Tr}$ dB	Initial Estimate Excess of rating over background sound level (dB)
260 – 264 Bolton Rd	EarlyAM 0600 - 0700	46	29.2	0	29	**-17**
	Daytime 0700 - 1600	50	49.3	0	49	**-1**
	LatePM/Eve 1600 - 2200	47	43.5	+3	47	**0**
314 – 324 Bolton Rd	EarlyAM 0600 - 0700	46	30.5	0	31	**-15**
	Daytime 0700 - 1600	50	49.8	0	50	**0**
	LatePM/Eve 1600 - 2200	47	46.1	+3	49	**+2**
Edmonds Court	EarlyAM 0600 - 0700	46	29.2	0	29	**-17**
	Daytime 0700 - 1600	50	48.9	0	49	**-1**
	LatePM/Eve 1600 - 2200	47	44.4	+3	47	**0**
The Birmingham Hotel	EarlyAM 0600 - 0700	46	38.8	0	39	**-7**
	Daytime 0700 - 1600	50	50.4	0	50	**0**
	LatePM/Eve 1600 - 2200	47	47.3	+3	50	**+3**
Anderton Road	EarlyAM 0600 - 0700	46	32.0	0	32	**-14**
	Daytime 0700 - 1600	50	45.0	0	45	**-5**
	LatePM/Eve 1600 - 2200	47	40.8	+3	44	**-3**

Location	Period	Background Sound Level $L_{A90,T}$ dB	Specific Sound Level $L_{Aeq,Tr}$ dB	Acoustic Feature Correction dB	Rating Level $L_{Ar,Tr}$ dB	Initial Estimate Excess of rating over background sound level (dB)
Former Marlborough PH	EarlyAM 0600 - 0700	47	36.2	0	36	**-11**
	Daytime 0700 - 1600	49	50.3	0	50	**+1**
	LatePM/Eve 1600 - 2200	46	43.5	+3	47	**+1**
Gracelands Nursery	EarlyAM 0600 - 0700	47	n/a	n/a	n/a	**n/a**
	Daytime 0700 - 1600	49	41.5	0	42	**-7**
	LatePM/Eve 1600 - 2200	46	37.0	+3	40	**-6**
Grace Road	EarlyAM 0600 - 0700	47	30.1	0	30	**-17**
	Daytime 0700 - 1600	49	39.7	0	40	**-9**
	LatePM/Eve 1600 - 2200	46	35.0	+3	38	**-8**
Montgomery Primary School	EarlyAM 0600 - 0700	47	n/a	n/a	n/a	n/a
	Daytime 0700 - 1600	49	37.6	0	38	**-11**
	LatePM/Eve 1600 - 2200	46	33.9	+3	37	**-9**
White Road	EarlyAM 0600 - 0700	47	22.4	0	22	**-25**
	Daytime 0700 - 1600	49	39.4	0	39	**-10**
	LatePM/Eve 1600 - 2200	46	35.7	+3	39	**-7**

5.9 Typically, the greater the difference between the rating level and the background sound level, the greater the magnitude of the impact.

5.10 BS 4142 states that where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact. A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context. A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.

5.11 It should be noted that the initial estimates are not to be considered in isolation and due regard to the following sections on context and uncertainty should also be made.

Context

5.12 In addition to the initial estimate of noise impact which has determined the excess of rating level over background sound level, the following should also be considered as part of the impact assessment process:

- *Operational Period* – The noise sources under assessment would primarily take place during the daytime when there is a lower likelihood of adverse impact compared to operations which take place during more sensitive periods such as the evening and night-time. The only operations during a more sensitive early morning period from 0600 – 0700 are HGV movements in to the site awaiting loading which takes place from 7am onwards. This operational practice of opening the site access gates prior to 7am has become necessary to avoid local traffic disruption caused by HGVs queuing along the public highway (Anderton Road) waiting for the site to open.

- *Character of the Sound* – As part of the assessment the potential character of the sound has been assessed and an acoustic feature correction applied accordingly in accordance with BS 4142. The existing acoustic environment around the site is influenced predominantly by road traffic but also comprises a range of other industrial and commercial sound sources. Overall, the character of the sound from the proposed recycling operations is not considered incongruous with the residual acoustic environment and it is not expected that the new permit would exacerbate the prominence of any acoustic features or introduce any new acoustic features at the site.

- *Absolute Level of Sound* – In some circumstances, absolute noise levels can be as, or more, relevant than the margin by which the rating level exceeds the background. With reference to the guide values recommended by BS 8233 and WHO, worst-case external noise levels from the site are such that noise emissions from the site are considered likely to have a low impact on residents using private external amenity areas during the daytime.

- *Comparison to the Residual Sound* – Noise emissions from the site are expected to be lower than the residual sound levels at the nearest noise-sensitive premises to the site which are in the region of 55 – 65 dB during the daytime.

- *Setting* – The activities associated with the Permit application are well established at the site. Should the Environmental Permit be granted, the site would continue to operate as per the current situation.

Uncertainty

5.13 Uncertainty can occur throughout all aspects of the noise measurement and assessment process, the approach undertaken at all stages has been adopted with the aim of reducing uncertainty via the implementation of good practice. During this process reference has been made to BS 4142 Annex B '*Consideration of uncertainty and good practice for reducing uncertainty*'.

5.14 The following list details the key steps taken to reduce uncertainty:

- Background sound level measurements were made over a long duration to ensure that the acoustic environment was accurately characterised. Suitably secure monitoring locations close to noise-sensitive premises in the area were not able to be identified and the decision was made to install equipment at site boundary locations. Care was taken to ensure that the equipment was located to capture the residual acoustic environment influencing receptor locations and minimise the contribution from waste transfer activities at the Site. It should be noted that no crushing/screening of materials took place during the monitoring period.

- Measurement procedures were in accordance with Section 6 of BS 4142 including precautions against interference such as unsuitable weather conditions;

- Monitoring carried out by experienced and qualified acousticians holding full membership of the Institute of Acoustics (MIOA);

- Site noise levels were determined by calculation with reference to Section 7 of BS 4142 and utilising the methodology outlined within ISO 9613 which is a widely accepted standard for the calculation of outdoor sound propagation;

- Operations during the sample measurements at the existing site were considered to be representative of typical operating conditions and the measurement durations were considered to be representative of any longer term fluctuations in the specific sound. The influence of sound from other sources was minimised by measuring at times when the residual sound had subsided to a relatively low level;

- The instrumentation used was in accordance with Section 5 of BS 4142. Use of digital transfer methods and equipment whose conformity and calibration have been checked periodically.

6.0 SUMMARY

6.1 An assessment of potential noise impact associated with the permit application has been made following the guidance presented within BS 4142 and the specific supplementary guidance provided by the Environment Agency.

6.2 Following an initial estimate of noise impact, along with consideration of the context and any potential effects of uncertainty, the continuation of waste treatment and recycling operations at the site are likely to have a low impact. It is therefore considered that there will be no significant or unacceptable adverse impacts at existing noise-sensitive premises in the vicinity of the site.

7.0 REFERENCES

1. ANC Guidelines: *Environmental Sound Measurement Guide*. ANC. May 2021.

2. BS 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound*, British Standards Institution 2019.

3. BS 7445-1:2003 *Description and measurement of environmental noise – Part 1 Guide to quantities and procedures*. British Standards Institution 2003.

4. *Guidance: Method* implementation document (MID) for BS 4142. Environment Agency Environment Agency, Natural Resources Wales and Department of the Environment (Northern Ireland). December 2023.

5. *Guidance: Noise impact assessments involving calculations or modelling. Environment Agency.* August 2022.

6. *Guidance: Noise and vibration management: environmental permits*. Environment Agency. January 2022.

7. *Guidance: Risk assessments for your environmental permit.* Environment Agency and Department for Environment, Food and Rural Affairs. January 2025.

8. *Guidelines for Environmental Noise Impact Assessment*, v1.2. Institute of Environmental Management & Assessment. November 2014.

9. ISO 9613-2:2024 *Acoustics - Attenuation of sound during propagation outdoors - Part 2: Engineering method for the prediction of sound pressure levels outdoors.* Edition 2, 2024.

10. *Environmental Permits: Horizontal Guidance - Noise and vibration management***.** Natural Resources Wales

FIGURE 1

Application Site

Schedule 1 - Site plan

This is the plan referred to in the standard rules SR2009No6

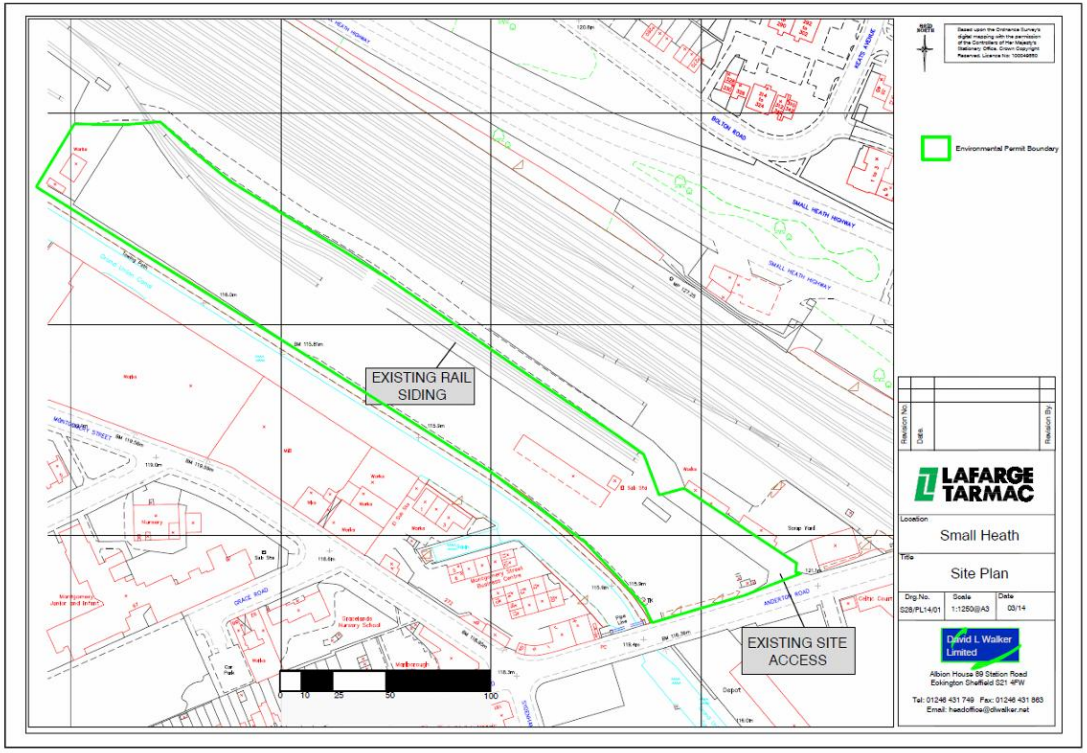

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FIGURE 2a

Monitoring and Assessment Location Plan

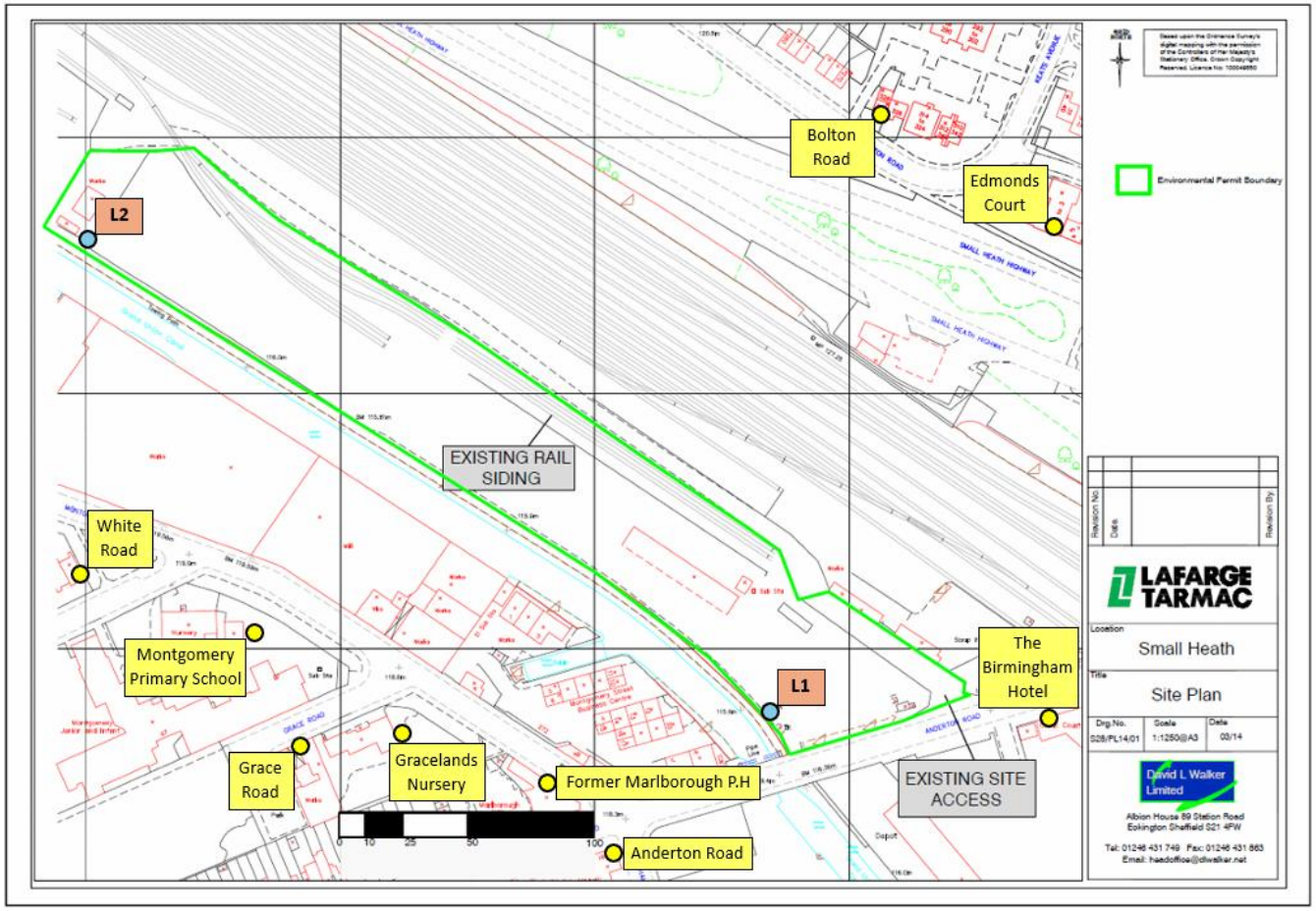


FIGURE 2b

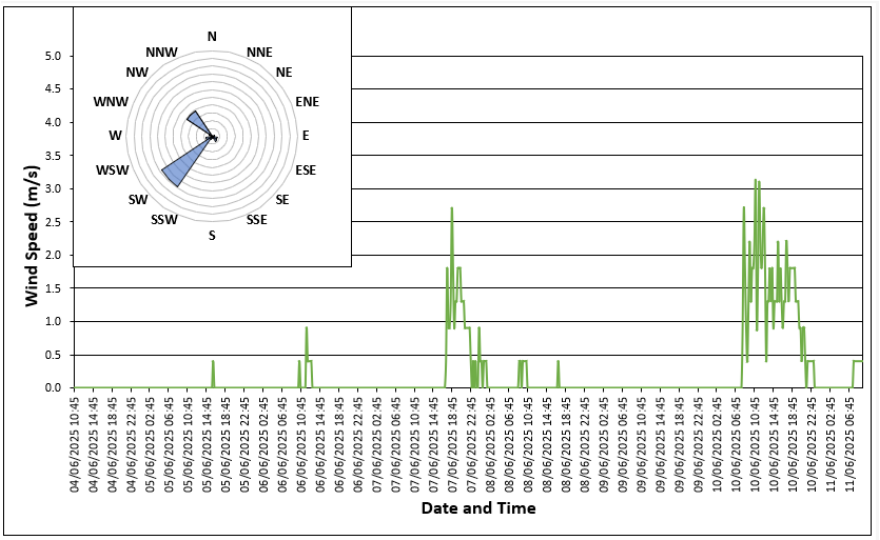
Monitoring and Assessment Location Details

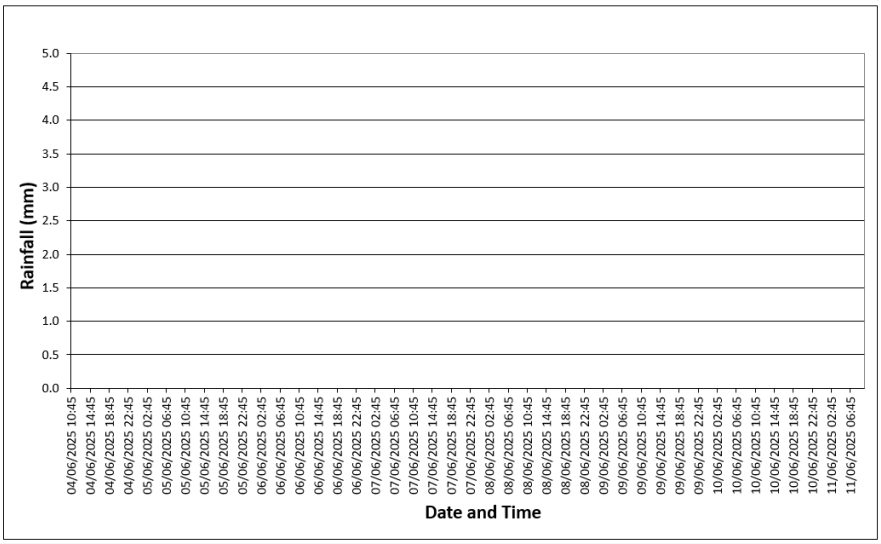
Receptors	Type	Floor	Coordinates (m)		
			X	Y	Z
260 - 264 Bolton Road	Residential	GF	409478	285333	124
		FF	409478	285333	126
314 - 324 Bolton Road	Residential	GF	409526	285303	124
		FF	409526	285303	127
		SF	409526	285303	129
Edmonds Court	Residential	GF	409600	285257	126
		FF	409600	285257	128
		SF	409600	285257	131
The Birmingham Hotel	Hotel	GF	409577	285077	124
		FF	409577	285077	126
		SF	409577	285077	129
Anderton Road	Residential	GF	409402	285026	120
		FF	409402	285026	123
		SF	409402	285026	125
Former Marlborough PH	Residential	GF	409379	285054	120
		FF	409379	285054	123
		SF	409379	285054	125
Gracelands Nursery	School	GF	409326	285074	121
Grace Road	Residential	GF	409288	285068	121
		FF	409288	285068	124
Montgomery Primary School	School	GF	409282	285102	121
White Road	Residential	GF	409200	285133	122
		FF	409200	285133	124

Monitoring Locations	Coordinates (m)		
	X	Y	Z
Sound Level Meter – Location 1	409467	285080	120
Sound Level Meter – Location 2	409197	285262	121
Weather Station	409468	285081	120

FIGURE 3

Weather Conditions





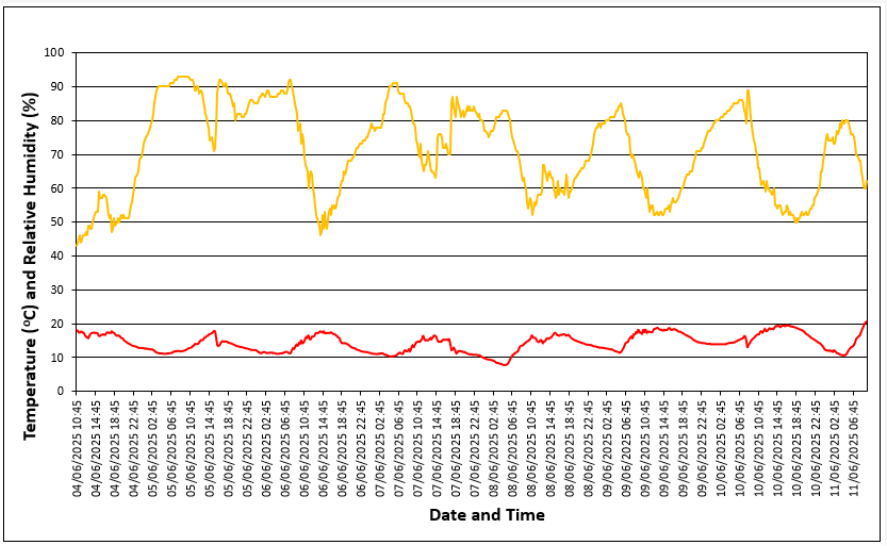
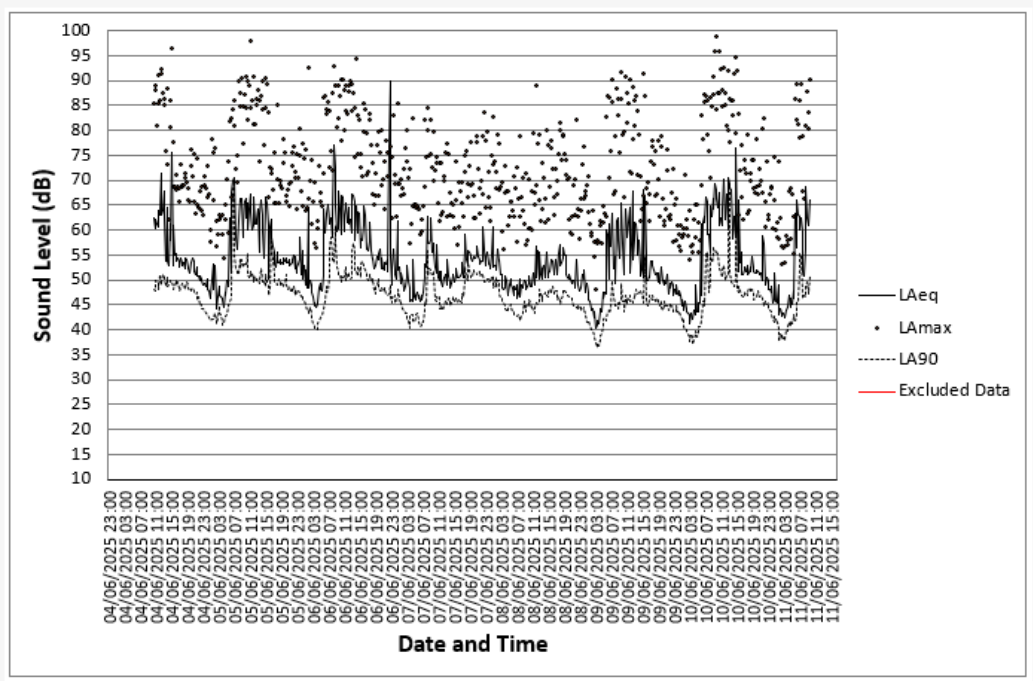


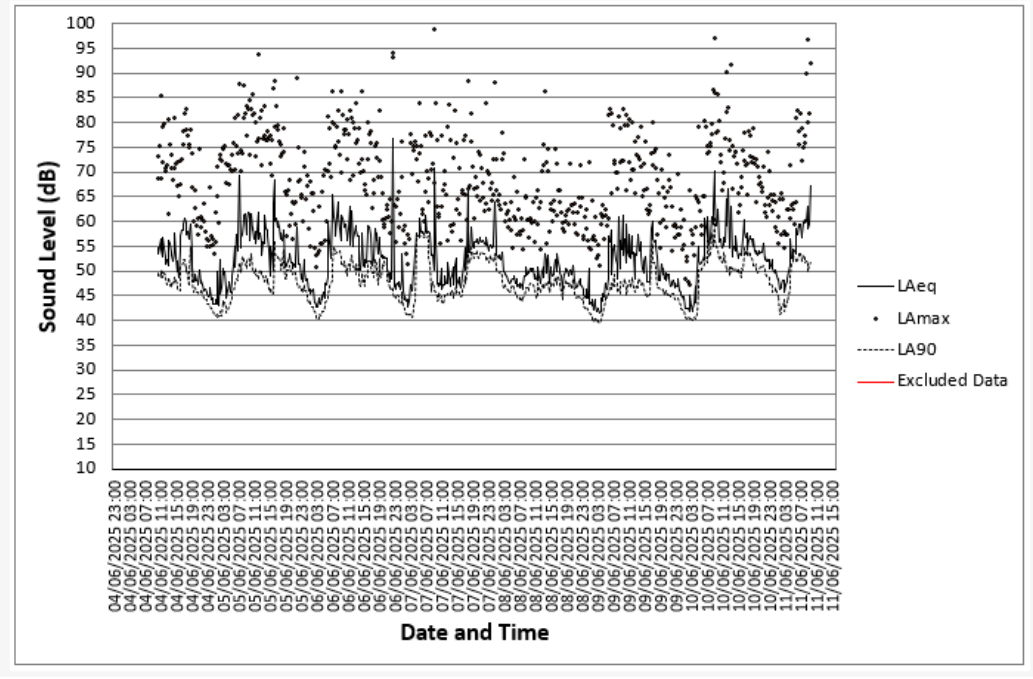
FIGURE 4

Measured Sound Levels

Location 1



Location 2



APPENDIX 1

Terminology and Definitions

Acoustic Environment
Sound from all sound sources as modified by the environment.

Ambient Sound Level $L_{Aeq,T}$
Totally encompassing sound in a given situation at a given time usually composed of sound from many sources near and far.

A-weighting
The human ear is most sensitive to frequencies in the range 1 kHz to 5 kHz. On each side of this range the sensitivity falls off. A-weighting is used in sound level meters to replicate this sensitivity and respond in the same way as the human ear.

Background Sound Level $L_{A90,T}$
The A-weighted sound pressure level of the residual sound at the assessment position that is exceeded for 90% of a given time interval, *T*, measured using time weighting F.

Break-out
Noise transmission from inside a structure to the outside.

Equivalent continuous A-weighted sound pressure level $L_{Aeq,T}$
Value of the A-weighted sound pressure level of a continuous, steady sound that, within a specified time interval *T*, has the same mean square sound pressure as a sound under consideration whose level varies with time.

Free-field Level
The sound pressure level away from reflecting surfaces.
NOTE Measurements made 1.2 - 1.5 metres above the ground and at least 3.5 metres away from other reflecting surfaces are usually regarded as free-field.

Measurement time interval, T_m
Total time over which measurements are taken.

Octave band
Band of frequencies in which the upper limit of the band is twice the frequency of the lower limit.

Rating Level $L_{Ar,Tr}$
The specific sound level plus any adjustment for the characteristic features of the sound.

Reference Time Interval, T_r
The specified interval over which the specific sound level is determined.
NOTE This is 1hr during the day (07:00-23:00) and a shorter period of 15 min at night (23:00-07:00).

Residual Sound Level $L_{Aeq,T}$
Ambient sound remaining at a given position in a given situation when the specific sound source is suppressed to a degree such that it does not contribute to the ambient sound.

Sound Power Level, L_{WA}
The total amount of sound energy per unit of time generated by a particular sound source independent of the acoustic environment that it is in. It is a logarithmic measure of the sound power in comparison to a specified reference level.

Specific Sound Level (also referred to as 'site noise') $L_{Aeq,Tr}$
Sound in the neighbourhood of a site that originates from the site i.e. the sound being assessed. The equivalent continuous A-weighted sound pressure level produced by the specific sound source at the assessment position over a given reference time interval.

Specific sound source
Sound source being assessed.

APPENDIX 2

Noise Monitoring Data

Date and Time	L1			L2	
	$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)		$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)
04/06/2025 10:15	-	-		54.7	49.1
04/06/2025 10:30	62.5	48.0		53.5	49.6
04/06/2025 10:45	60.2	47.9		54.9	49.4
04/06/2025 11:00	62.2	49.8		56.6	48.8
04/06/2025 11:15	61.2	49.6		54.5	50.3
04/06/2025 11:30	60.6	49.3		52.9	49.5
04/06/2025 11:45	63.9	48.2		56.8	48.7
04/06/2025 12:00	63.1	51.2		54.6	49.6
04/06/2025 12:15	71.5	49.0		52.8	48.9
04/06/2025 12:30	63.0	49.5		51.5	48.5
04/06/2025 12:45	64.0	51.2		52.4	47.3
04/06/2025 13:00	67.8	50.7		51.2	48.0
04/06/2025 13:15	62.3	50.1		56.1	48.8
04/06/2025 13:30	53.8	48.7		55.6	47.3
04/06/2025 13:45	64.4	50.5		53.9	46.6
04/06/2025 14:00	53.7	48.6		53.3	47.4
04/06/2025 14:15	53.0	48.9		51.9	47.3
04/06/2025 14:30	61.2	50.0		53.7	48.6
04/06/2025 14:45	58.1	49.6		57.8	47.8
04/06/2025 15:00	75.7	49.6		52.9	48.4
04/06/2025 15:15	52.9	48.8		50.0	46.8
04/06/2025 15:30	60.8	48.1		52.0	46.2
04/06/2025 15:45	55.0	48.8		48.6	46.2
04/06/2025 16:00	55.4	49.8		54.1	46.1
04/06/2025 16:15	53.7	48.9		57.0	50.7
04/06/2025 16:30	54.3	49.7		58.2	51.0
04/06/2025 16:45	53.7	48.0		58.3	51.7
04/06/2025 17:00	52.6	47.8		59.3	52.3
04/06/2025 17:15	54.3	48.3		60.6	52.4
04/06/2025 17:30	53.5	49.3		59.7	49.9
04/06/2025 17:45	52.9	49.2		57.5	50.7
04/06/2025 18:00	53.5	49.1		58.1	48.9
04/06/2025 18:15	52.3	48.2		56.5	47.0
04/06/2025 18:30	54.4	48.3		57.5	49.6
04/06/2025 18:45	54.0	49.5		59.3	54.9
04/06/2025 19:00	52.5	49.0		54.0	47.4
04/06/2025 19:15	52.4	48.5		50.7	47.4
04/06/2025 19:30	51.4	47.8		47.9	45.8
04/06/2025 19:45	53.6	47.9		48.0	46.2

Date and Time	L1			L2	
	$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)		$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)
04/06/2025 20:00	53.5	48.2		49.4	46.5
04/06/2025 20:15	54.4	48.5		48.0	45.8
04/06/2025 20:30	53.7	47.9		47.8	45.8
04/06/2025 20:45	51.8	47.5		47.3	45.3
04/06/2025 21:00	51.0	47.2		50.3	45.5
04/06/2025 21:15	52.5	47.5		47.5	45.8
04/06/2025 21:30	50.9	46.1		48.2	46.2
04/06/2025 21:45	50.9	46.6		47.2	45.5
04/06/2025 22:00	49.8	44.7		46.0	44.4
04/06/2025 22:15	50.8	44.8		46.2	44.3
04/06/2025 22:30	50.3	45.1		46.2	44.1
04/06/2025 22:45	49.8	44.3		45.7	44.1
04/06/2025 23:00	48.9	44.1		45.4	43.3
04/06/2025 23:15	49.4	44.0		44.8	43.3
04/06/2025 23:30	49.2	43.9		45.0	43.0
04/06/2025 23:45	48.8	43.4		46.5	42.8
05/06/2025 00:00	50.1	43.1		44.1	42.4
05/06/2025 00:15	48.0	43.0		44.4	42.2
05/06/2025 00:30	47.8	42.4		43.4	41.7
05/06/2025 00:45	46.2	41.8		43.3	41.2
05/06/2025 01:00	46.8	41.8		43.2	41.3
05/06/2025 01:15	50.0	42.2		44.1	41.0
05/06/2025 01:30	53.1	42.1		43.4	41.1
05/06/2025 01:45	48.1	42.4		50.0	40.6
05/06/2025 02:00	53.0	43.4		43.0	41.0
05/06/2025 02:15	45.6	41.9		52.2	41.7
05/06/2025 02:30	44.3	41.3		45.5	41.0
05/06/2025 02:45	46.5	42.4		46.5	40.9
05/06/2025 03:00	48.6	44.8		50.4	43.9
05/06/2025 03:15	47.0	43.3		49.2	43.0
05/06/2025 03:30	46.7	43.1		50.0	43.6
05/06/2025 03:45	46.2	41.4		46.7	42.6
05/06/2025 04:00	45.9	41.0		44.6	41.6
05/06/2025 04:15	44.6	41.6		46.1	42.1
05/06/2025 04:30	47.5	42.6		47.3	42.7
05/06/2025 04:45	46.9	42.7		47.8	42.8
05/06/2025 05:00	50.0	43.1		45.8	43.6
05/06/2025 05:15	49.5	44.8		47.9	44.5
05/06/2025 05:30	48.8	44.8		49.0	45.9
05/06/2025 05:45	62.3	45.7		51.0	46.1
05/06/2025 06:00	51.4	46.2		55.1	46.8
05/06/2025 06:15	67.4	49.1		50.8	47.4
05/06/2025 06:30	69.8	68.0		57.3	48.5
05/06/2025 06:45	70.6	69.8		54.1	48.1

Date and Time	L1			L2	
	$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)		$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)
05/06/2025 07:00	70.3	54.9		56.5	49.1
05/06/2025 07:15	58.7	52.2		69.3	51.8
05/06/2025 07:30	56.2	51.8		54.8	50.6
05/06/2025 07:45	56.5	51.0		56.8	49.6
05/06/2025 08:00	61.9	51.5		57.3	52.9
05/06/2025 08:15	66.3	54.3		60.0	52.5
05/06/2025 08:30	65.8	52.2		61.1	52.1
05/06/2025 08:45	66.3	54.1		61.6	51.8
05/06/2025 09:00	58.7	52.6		57.3	50.4
05/06/2025 09:15	61.2	52.8		60.0	52.0
05/06/2025 09:30	65.8	53.3		61.7	52.7
05/06/2025 09:45	66.3	53.1		61.5	52.3
05/06/2025 10:00	62.3	52.9		56.1	51.2
05/06/2025 10:15	65.3	55.3		61.6	53.6
05/06/2025 10:30	60.0	51.2		58.2	49.8
05/06/2025 10:45	64.3	50.6		58.9	50.0
05/06/2025 11:00	67.2	51.7		56.6	49.7
05/06/2025 11:15	63.7	50.8		58.0	50.5
05/06/2025 11:30	60.0	51.5		55.5	49.3
05/06/2025 11:45	61.0	49.6		58.1	49.0
05/06/2025 12:00	66.7	50.4		61.9	48.5
05/06/2025 12:15	61.2	50.7		56.5	49.1
05/06/2025 12:30	61.2	49.7		57.8	50.2
05/06/2025 12:45	62.1	50.1		55.8	50.0
05/06/2025 13:00	64.3	50.0		53.3	48.9
05/06/2025 13:15	55.6	49.4		55.9	48.9
05/06/2025 13:30	63.3	49.9		55.7	47.9
05/06/2025 13:45	66.1	52.3		61.2	48.2
05/06/2025 14:00	62.9	50.2		58.5	49.1
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05/06/2025 15:45	50.3	46.9		50.1	45.5
05/06/2025 16:00	60.6	48.4		63.6	45.3
05/06/2025 16:15	62.1	59.8		68.5	56.2
05/06/2025 16:30	58.5	56.4		59.9	53.6
05/06/2025 16:45	56.7	54.1		60.6	53.3
05/06/2025 17:00	55.5	51.1		58.8	52.6
05/06/2025 17:15	53.3	49.6		60.1	53.0
05/06/2025 17:30	52.5	49.2		58.8	52.8
05/06/2025 17:45	55.6	49.0		56.5	51.3

Date and Time	L1			L2	
	$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)		$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)
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05/06/2025 18:15	53.6	50.1		56.2	51.4
05/06/2025 18:30	54.0	49.6		58.0	54.3
05/06/2025 18:45	53.1	48.6		58.2	51.3
05/06/2025 19:00	53.6	49.2		50.8	48.5
05/06/2025 19:15	53.2	48.8		51.2	48.3
05/06/2025 19:30	54.5	49.1		51.5	50.3
05/06/2025 19:45	53.9	49.3		51.9	50.3
05/06/2025 20:00	54.4	51.1		53.0	51.1
05/06/2025 20:15	53.5	49.0		53.5	50.8
05/06/2025 20:30	53.4	48.1		51.6	50.0
05/06/2025 20:45	54.2	48.6		51.6	50.0
05/06/2025 21:00	53.0	48.6		50.6	49.4
05/06/2025 21:15	53.3	47.7		51.3	49.9
05/06/2025 21:30	53.6	47.6		50.9	49.6
05/06/2025 21:45	54.1	48.4		52.4	49.4
05/06/2025 22:00	55.0	48.6		58.9	47.6
05/06/2025 22:15	52.2	46.8		51.3	46.7
05/06/2025 22:30	54.6	48.0		51.3	46.7
05/06/2025 22:45	51.5	47.3		51.3	47.0
05/06/2025 23:00	52.6	47.2		48.5	46.1
05/06/2025 23:15	53.2	47.7		49.3	46.6
05/06/2025 23:30	54.0	47.4		47.8	45.7
05/06/2025 23:45	58.7	47.5		52.2	47.1
06/06/2025 00:00	51.0	46.5		49.9	45.9
06/06/2025 00:15	55.9	46.8		48.1	46.0
06/06/2025 00:30	50.2	46.0		48.4	45.4
06/06/2025 00:45	53.0	45.8		48.0	44.3
06/06/2025 01:00	49.0	45.2		45.9	43.7
06/06/2025 01:15	52.0	44.8		46.3	43.8
06/06/2025 01:30	48.3	43.9		45.3	43.3
06/06/2025 01:45	64.1	43.9		46.0	42.6
06/06/2025 02:00	48.3	43.3		46.0	42.7
06/06/2025 02:15	49.8	44.5		46.3	42.1
06/06/2025 02:30	48.9	43.4		43.5	41.7
06/06/2025 02:45	47.6	42.0		43.2	41.3
06/06/2025 03:00	46.5	41.2		42.8	40.3
06/06/2025 03:15	44.8	40.6		42.7	40.3
06/06/2025 03:30	45.5	40.2		44.6	40.3
06/06/2025 03:45	44.5	39.9		43.6	41.2
06/06/2025 04:00	45.2	40.0		43.3	40.8
06/06/2025 04:15	45.5	41.2		45.1	41.4
06/06/2025 04:30	48.4	41.7		44.1	41.7
06/06/2025 04:45	49.4	42.3		45.7	41.8

Date and Time	L1			L2	
	$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)		$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)
06/06/2025 05:00	48.2	42.5		44.5	42.6
06/06/2025 05:15	47.7	43.0		47.5	43.6
06/06/2025 05:30	50.8	43.8		47.1	44.0
06/06/2025 05:45	64.2	44.3		48.6	44.6
06/06/2025 06:00	59.5	45.7		59.9	45.3
06/06/2025 06:15	63.0	48.7		55.5	46.4
06/06/2025 06:30	63.3	47.5		56.2	46.8
06/06/2025 06:45	65.2	47.8		52.5	47.6
06/06/2025 07:00	61.8	50.8		61.5	48.0
06/06/2025 07:15	61.1	56.6		65.5	51.6
06/06/2025 07:30	62.4	58.5		60.8	54.9
06/06/2025 07:45	58.6	54.3		59.4	53.7
06/06/2025 08:00	63.1	54.1		57.0	53.5
06/06/2025 08:15	77.2	53.4		60.8	53.9
06/06/2025 08:30	72.7	60.9		64.0	54.2
06/06/2025 08:45	64.7	57.8		61.1	54.2
06/06/2025 09:00	59.6	52.6		58.5	54.1
06/06/2025 09:15	60.2	51.7		56.2	52.5
06/06/2025 09:30	67.7	51.0		61.2	51.0
06/06/2025 09:45	64.3	51.0		60.5	51.3
06/06/2025 10:00	59.0	49.7		59.1	51.0
06/06/2025 10:15	66.9	50.7		58.9	52.0
06/06/2025 10:30	66.5	50.3		59.5	50.2
06/06/2025 10:45	59.7	50.7		57.2	49.1
06/06/2025 11:00	62.9	50.8		56.3	50.9
06/06/2025 11:15	64.2	52.5		58.6	51.5
06/06/2025 11:30	65.4	49.8		62.9	50.2
06/06/2025 11:45	61.5	51.0		55.3	51.3
06/06/2025 12:00	64.5	51.3		62.1	53.1
06/06/2025 12:15	61.3	50.9		55.0	51.1
06/06/2025 12:30	62.0	50.3		56.5	50.9
06/06/2025 12:45	59.5	50.4		57.8	51.1
06/06/2025 13:00	67.2	55.7		59.1	49.2
06/06/2025 13:15	66.8	57.4		58.3	51.3
06/06/2025 13:30	65.6	55.8		57.1	50.2
06/06/2025 13:45	57.9	51.6		57.0	51.5
06/06/2025 14:00	64.8	51.6		52.0	47.4
06/06/2025 14:15	59.3	50.9		50.3	46.9
06/06/2025 14:30	63.7	52.7		54.5	48.6
06/06/2025 14:45	63.4	52.7		57.6	49.7
06/06/2025 15:00	56.6	50.6		51.0	47.9
06/06/2025 15:15	58.4	53.3		50.8	47.0
06/06/2025 15:30	58.1	53.7		52.3	49.1
06/06/2025 15:45	60.8	53.0		51.7	49.4

Date and Time	L1			L2	
	$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)		$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)
06/06/2025 16:00	64.9	52.5		57.6	48.8
06/06/2025 16:15	63.1	51.9		59.2	51.9
06/06/2025 16:30	56.2	51.5		58.8	51.9
06/06/2025 16:45	56.5	50.4		57.3	52.3
06/06/2025 17:00	55.9	49.8		57.5	50.9
06/06/2025 17:15	57.6	50.5		51.1	49.6
06/06/2025 17:30	61.6	51.1		52.2	49.6
06/06/2025 17:45	56.0	49.6		52.5	48.8
06/06/2025 18:00	54.0	50.0		58.6	52.4
06/06/2025 18:15	54.3	50.2		56.1	51.5
06/06/2025 18:30	52.3	47.7		57.7	50.3
06/06/2025 18:45	52.9	47.1		53.4	47.2
06/06/2025 19:00	53.0	48.6		56.7	52.7
06/06/2025 19:15	54.8	49.1		54.7	49.1
06/06/2025 19:30	54.0	50.2		53.0	48.6
06/06/2025 19:45	55.2	48.4		53.2	51.5
06/06/2025 20:00	56.3	47.8		52.6	51.1
06/06/2025 20:15	52.3	47.9		52.6	51.2
06/06/2025 20:30	54.4	48.3		53.0	51.9
06/06/2025 20:45	52.4	47.7		52.6	51.5
06/06/2025 21:00	52.0	47.9		52.6	51.4
06/06/2025 21:15	53.5	48.3		50.6	48.0
06/06/2025 21:30	53.1	47.1		49.4	47.8
06/06/2025 21:45	54.1	46.9		47.8	46.3
06/06/2025 22:00	51.8	47.0		49.5	46.7
06/06/2025 22:15	75.6	47.1		48.4	46.2
06/06/2025 22:30	89.9	49.1		76.7	46.7
06/06/2025 22:45	54.7	46.6		72.5	45.5
06/06/2025 23:00	48.9	45.3		46.9	44.4
06/06/2025 23:15	52.6	46.5		46.2	44.9
06/06/2025 23:30	56.2	46.4		47.2	44.5
06/06/2025 23:45	52.1	47.0		47.5	45.1
07/06/2025 00:00	51.0	45.5		46.9	44.9
07/06/2025 00:15	50.1	45.8		47.7	43.9
07/06/2025 00:30	61.7	47.0		46.3	43.2
07/06/2025 00:45	52.0	48.0		48.0	43.7
07/06/2025 01:00	52.5	46.3		53.6	45.8
07/06/2025 01:15	49.4	45.0		45.9	42.8
07/06/2025 01:30	51.4	45.4		44.3	42.5
07/06/2025 01:45	50.1	44.2		44.9	41.9
07/06/2025 02:00	48.5	44.0		43.8	41.3
07/06/2025 02:15	47.8	43.8		44.2	41.3
07/06/2025 02:30	48.6	43.2		42.6	40.9
07/06/2025 02:45	50.5	43.3		43.9	41.1

Date and Time	L1			L2	
	$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)		$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)
07/06/2025 03:00	52.8	42.2		47.1	41.3
07/06/2025 03:15	49.9	41.7		46.8	40.8
07/06/2025 03:30	48.4	40.4		46.0	40.6
07/06/2025 03:45	45.7	43.0		49.9	42.0
07/06/2025 04:00	46.1	43.0		49.2	42.9
07/06/2025 04:15	45.8	43.0		53.4	43.8
07/06/2025 04:30	54.2	41.9		57.8	56.4
07/06/2025 04:45	46.7	41.4		57.0	56.4
07/06/2025 05:00	46.1	42.4		57.1	56.5
07/06/2025 05:15	47.0	43.0		57.4	56.7
07/06/2025 05:30	47.5	43.4		60.6	57.1
07/06/2025 05:45	46.3	41.7		58.1	57.2
07/06/2025 06:00	46.9	41.5		57.8	57.2
07/06/2025 06:15	45.8	40.5		57.9	57.2
07/06/2025 06:30	47.0	40.9		57.5	56.8
07/06/2025 06:45	45.9	41.4		57.9	57.2
07/06/2025 07:00	47.5	41.5		61.3	57.0
07/06/2025 07:15	50.4	44.0		57.6	56.8
07/06/2025 07:30	53.2	45.8		57.9	57.1
07/06/2025 07:45	52.6	45.2		57.9	53.0
07/06/2025 08:00	62.7	56.0		57.8	51.5
07/06/2025 08:15	57.3	50.9		53.1	45.6
07/06/2025 08:30	57.4	52.2		53.4	46.6
07/06/2025 08:45	58.1	52.0		53.1	47.7
07/06/2025 09:00	62.5	51.5		50.1	46.4
07/06/2025 09:15	55.6	51.1		70.9	46.1
07/06/2025 09:30	57.5	51.7		55.9	45.8
07/06/2025 09:45	55.9	51.2		49.7	44.9
07/06/2025 10:00	52.5	45.9		47.5	43.8
07/06/2025 10:15	51.4	45.8		46.9	44.3
07/06/2025 10:30	57.1	46.5		47.4	45.6
07/06/2025 10:45	50.6	46.2		47.2	44.5
07/06/2025 11:00	50.0	46.5		50.6	44.8
07/06/2025 11:15	51.7	44.3		46.3	44.0
07/06/2025 11:30	51.6	44.3		47.2	43.4
07/06/2025 11:45	49.5	44.9		47.3	44.5
07/06/2025 12:00	48.6	43.9		48.9	45.0
07/06/2025 12:15	50.4	44.8		47.5	44.8
07/06/2025 12:30	50.2	44.8		47.4	45.4
07/06/2025 12:45	51.2	45.7		51.7	45.5
07/06/2025 13:00	49.1	45.6		49.4	45.2
07/06/2025 13:15	54.0	45.2		47.0	45.1
07/06/2025 13:30	50.8	46.3		48.4	46.0
07/06/2025 13:45	49.7	46.0		48.9	45.9

Date and Time	L1			L2	
	$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)		$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)
07/06/2025 14:00	48.4	44.7		50.8	44.5
07/06/2025 14:15	49.3	45.5		47.3	45.0
07/06/2025 14:30	50.7	46.4		51.0	45.9
07/06/2025 14:45	51.2	46.6		52.6	47.1
07/06/2025 15:00	49.7	45.7		47.2	45.4
07/06/2025 15:15	50.9	46.0		47.7	45.6
07/06/2025 15:30	52.3	46.2		48.8	45.8
07/06/2025 15:45	50.5	45.5		47.4	45.2
07/06/2025 16:00	50.6	45.9		46.7	44.8
07/06/2025 16:15	50.6	45.7		48.9	45.2
07/06/2025 16:30	50.9	45.6		49.1	46.2
07/06/2025 16:45	51.5	45.5		51.1	46.6
07/06/2025 17:00	53.6	47.2		54.7	49.1
07/06/2025 17:15	50.4	46.5		50.3	47.5
07/06/2025 17:30	55.9	50.0		52.8	48.9
07/06/2025 17:45	59.0	52.5		66.9	54.2
07/06/2025 18:00	54.1	50.6		53.8	52.4
07/06/2025 18:15	53.2	49.8		53.9	51.8
07/06/2025 18:30	55.9	53.5		58.3	53.5
07/06/2025 18:45	55.5	51.9		58.9	54.7
07/06/2025 19:00	54.9	50.4		55.0	52.8
07/06/2025 19:15	54.3	50.8		54.8	52.6
07/06/2025 19:30	53.8	50.9		55.9	53.6
07/06/2025 19:45	54.8	52.1		55.9	53.6
07/06/2025 20:00	54.3	51.8		56.5	54.0
07/06/2025 20:15	54.5	51.5		56.0	53.1
07/06/2025 20:30	55.1	51.4		55.6	52.6
07/06/2025 20:45	56.7	51.1		56.8	53.3
07/06/2025 21:00	54.6	51.6		56.1	53.4
07/06/2025 21:15	54.0	51.6		56.0	53.8
07/06/2025 21:30	53.3	50.9		56.1	53.8
07/06/2025 21:45	53.7	51.1		56.1	53.6
07/06/2025 22:00	53.7	50.8		55.6	53.5
07/06/2025 22:15	60.6	51.1		55.3	53.0
07/06/2025 22:30	56.2	49.7		56.7	51.9
07/06/2025 22:45	52.8	49.7		55.3	52.6
07/06/2025 23:00	54.6	49.5		54.1	51.9
07/06/2025 23:15	55.5	50.2		54.7	51.8
07/06/2025 23:30	53.5	50.3		55.4	53.2
07/06/2025 23:45	53.3	49.6		55.0	52.1
08/06/2025 00:00	52.9	50.0		54.7	52.0
08/06/2025 00:15	52.2	49.5		54.9	52.0
08/06/2025 00:30	55.1	50.5		56.3	52.1
08/06/2025 00:45	60.6	50.9		64.0	53.4

Date and Time	L1			L2	
	$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)		$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)
08/06/2025 01:00	52.6	48.5		56.1	50.8
08/06/2025 01:15	52.8	49.1		53.3	50.3
08/06/2025 01:30	53.0	50.5		53.0	50.0
08/06/2025 01:45	52.0	48.5		52.6	49.5
08/06/2025 02:00	56.3	49.9		53.2	49.6
08/06/2025 02:15	53.9	49.8		52.4	49.8
08/06/2025 02:30	54.1	47.2		53.8	49.1
08/06/2025 02:45	51.2	46.2		53.7	47.9
08/06/2025 03:00	51.2	46.4		50.0	46.6
08/06/2025 03:15	48.5	45.7		49.7	47.1
08/06/2025 03:30	48.2	45.5		49.3	47.0
08/06/2025 03:45	48.3	44.7		49.1	46.6
08/06/2025 04:00	50.7	44.1		48.0	46.0
08/06/2025 04:15	49.9	44.0		48.0	46.3
08/06/2025 04:30	47.0	43.5		47.4	45.8
08/06/2025 04:45	47.2	44.3		47.7	45.9
08/06/2025 05:00	48.9	44.7		48.1	46.5
08/06/2025 05:15	50.1	45.2		48.4	47.1
08/06/2025 05:30	48.9	44.6		48.5	46.6
08/06/2025 05:45	48.5	43.7		48.9	46.2
08/06/2025 06:00	46.9	43.5		47.4	45.4
08/06/2025 06:15	48.6	43.0		48.5	45.3
08/06/2025 06:30	48.2	42.9		46.9	44.7
08/06/2025 06:45	48.9	42.6		47.2	44.3
08/06/2025 07:00	46.4	42.6		46.6	44.3
08/06/2025 07:15	47.3	42.9		47.5	44.7
08/06/2025 07:30	50.3	42.2		47.1	44.2
08/06/2025 07:45	46.6	41.9		46.3	44.0
08/06/2025 08:00	48.9	43.1		47.1	44.5
08/06/2025 08:15	48.3	43.2		48.9	45.0
08/06/2025 08:30	48.6	43.7		48.9	46.0
08/06/2025 08:45	49.9	45.6		50.9	46.7
08/06/2025 09:00	49.7	43.5		49.4	46.6
08/06/2025 09:15	48.0	44.5		49.8	46.0
08/06/2025 09:30	48.7	45.0		49.6	47.0
08/06/2025 09:45	49.2	44.8		50.5	47.4
08/06/2025 10:00	50.9	46.0		50.0	47.2
08/06/2025 10:15	48.8	45.3		50.5	47.1
08/06/2025 10:30	48.8	44.2		50.5	47.1
08/06/2025 10:45	48.9	44.4		48.5	46.4
08/06/2025 11:00	51.5	44.0		49.3	46.2
08/06/2025 11:15	48.9	43.3		48.3	44.5
08/06/2025 11:30	49.4	44.4		48.1	44.7
08/06/2025 11:45	56.9	45.1		50.9	47.5

Date and Time	L1			L2	
	$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)		$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)
08/06/2025 12:00	50.6	45.5		48.6	46.2
08/06/2025 12:15	56.0	45.2		47.4	45.6
08/06/2025 12:30	50.1	45.8		47.9	45.9
08/06/2025 12:45	55.5	48.0		50.0	46.8
08/06/2025 13:00	51.2	47.3		50.9	47.6
08/06/2025 13:15	50.1	45.8		48.7	46.2
08/06/2025 13:30	52.3	46.9		53.4	47.6
08/06/2025 13:45	53.0	47.3		52.3	47.1
08/06/2025 14:00	50.5	47.3		49.6	47.6
08/06/2025 14:15	52.1	47.6		51.7	47.4
08/06/2025 14:30	55.5	46.8		53.3	47.7
08/06/2025 14:45	50.6	46.7		47.5	45.7
08/06/2025 15:00	51.3	47.7		50.9	46.8
08/06/2025 15:15	51.8	48.0		49.9	47.9
08/06/2025 15:30	53.8	47.2		49.0	47.0
08/06/2025 15:45	54.1	47.7		49.3	46.9
08/06/2025 16:00	53.7	48.7		50.3	47.4
08/06/2025 16:15	51.3	47.4		52.3	48.7
08/06/2025 16:30	51.2	47.3		50.0	47.1
08/06/2025 16:45	54.0	47.9		53.4	48.3
08/06/2025 17:00	52.1	47.9		51.8	49.0
08/06/2025 17:15	51.1	45.9		50.6	47.6
08/06/2025 17:30	55.4	46.7		49.6	46.8
08/06/2025 17:45	57.1	45.8		49.1	45.9
08/06/2025 18:00	52.9	45.1		45.9	44.1
08/06/2025 18:15	53.5	46.2		47.5	45.5
08/06/2025 18:30	54.3	47.0		49.4	47.0
08/06/2025 18:45	56.4	48.0		50.0	47.8
08/06/2025 19:00	55.1	47.9		50.6	48.1
08/06/2025 19:15	54.9	47.4		50.1	47.6
08/06/2025 19:30	51.2	47.6		49.4	47.4
08/06/2025 19:45	50.5	47.0		49.1	47.0
08/06/2025 20:00	50.3	46.5		50.1	47.4
08/06/2025 20:15	51.1	46.5		50.0	46.7
08/06/2025 20:30	50.1	46.7		49.4	46.4
08/06/2025 20:45	49.2	46.2		51.0	48.3
08/06/2025 21:00	49.9	45.6		48.0	45.7
08/06/2025 21:15	49.9	44.7		48.1	45.3
08/06/2025 21:30	49.1	44.8		46.7	44.6
08/06/2025 21:45	48.5	44.8		46.8	44.8
08/06/2025 22:00	54.0	44.4		47.0	44.4
08/06/2025 22:15	48.9	44.2		47.9	44.9
08/06/2025 22:30	49.0	44.9		48.3	44.5
08/06/2025 22:45	47.8	44.2		47.3	44.2

Date and Time	L1			L2	
	$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)		$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)
08/06/2025 23:00	48.4	44.5		46.8	44.2
08/06/2025 23:15	48.4	43.9		46.2	44.5
08/06/2025 23:30	51.1	43.9		45.1	42.9
08/06/2025 23:45	50.1	44.5		44.9	42.4
09/06/2025 00:00	52.0	44.0		44.6	42.6
09/06/2025 00:15	47.5	43.2		46.3	42.7
09/06/2025 00:30	48.4	43.0		44.6	42.1
09/06/2025 00:45	49.2	41.6		50.4	41.4
09/06/2025 01:00	47.5	41.4		43.3	41.5
09/06/2025 01:15	46.0	41.7		43.5	41.3
09/06/2025 01:30	45.6	40.9		43.0	40.8
09/06/2025 01:45	44.1	40.1		44.1	40.0
09/06/2025 02:00	44.0	40.1		42.1	39.8
09/06/2025 02:15	44.1	39.6		44.1	40.5
09/06/2025 02:30	42.4	38.8		42.9	40.5
09/06/2025 02:45	43.6	38.7		41.9	39.7
09/06/2025 03:00	40.2	37.5		42.3	40.1
09/06/2025 03:15	40.8	36.4		42.0	39.8
09/06/2025 03:30	41.8	37.5		41.4	39.5
09/06/2025 03:45	41.1	36.7		41.7	40.0
09/06/2025 04:00	43.6	37.9		44.6	40.6
09/06/2025 04:15	44.1	38.9		43.9	41.1
09/06/2025 04:30	43.5	39.2		45.4	41.3
09/06/2025 04:45	47.6	41.0		44.8	42.8
09/06/2025 05:00	46.2	42.2		47.5	43.8
09/06/2025 05:15	47.6	42.5		47.0	45.1
09/06/2025 05:30	47.1	41.8		46.4	44.4
09/06/2025 05:45	60.0	42.5		48.4	45.5
09/06/2025 06:00	59.0	43.7		57.0	45.6
09/06/2025 06:15	50.3	43.9		55.9	46.5
09/06/2025 06:30	61.1	43.2		58.3	47.4
09/06/2025 06:45	56.9	44.2		49.3	46.4
09/06/2025 07:00	63.4	49.8		54.3	47.2
09/06/2025 07:15	63.4	49.1		55.3	49.2
09/06/2025 07:30	52.3	46.5		54.6	46.8
09/06/2025 07:45	54.7	45.0		52.4	47.3
09/06/2025 08:00	49.4	44.7		51.4	47.6
09/06/2025 08:15	61.9	44.8		48.4	45.8
09/06/2025 08:30	62.5	45.4		61.0	46.2
09/06/2025 08:45	58.0	44.3		50.6	45.4
09/06/2025 09:00	54.5	45.5		56.1	47.7
09/06/2025 09:15	62.0	45.9		54.4	47.5
09/06/2025 09:30	65.3	49.3		61.1	46.8
09/06/2025 09:45	57.4	45.7		53.1	47.1

Date and Time	L1			L2	
	$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)		$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)
09/06/2025 10:00	51.1	45.6		56.6	48.3
09/06/2025 10:15	53.8	43.7		51.7	46.2
09/06/2025 10:30	64.2	46.9		59.5	45.2
09/06/2025 10:45	60.1	45.0		53.9	47.0
09/06/2025 11:00	58.7	46.3		52.8	47.9
09/06/2025 11:15	61.5	46.0		57.4	48.2
09/06/2025 11:30	64.5	47.0		52.5	46.6
09/06/2025 11:45	51.5	45.6		57.1	48.3
09/06/2025 12:00	57.2	46.0		53.5	48.6
09/06/2025 12:15	67.7	45.4		53.9	46.7
09/06/2025 12:30	54.0	45.8		48.3	45.7
09/06/2025 12:45	58.0	46.7		53.4	45.6
09/06/2025 13:00	61.4	46.4		53.3	47.3
09/06/2025 13:15	61.3	48.0		56.9	46.7
09/06/2025 13:30	58.0	47.2		57.3	48.4
09/06/2025 13:45	55.1	47.2		54.0	48.2
09/06/2025 14:00	58.0	47.5		56.0	47.4
09/06/2025 14:15	52.8	47.5		53.1	47.3
09/06/2025 14:30	50.7	47.8		50.5	47.8
09/06/2025 14:45	52.1	46.8		49.6	46.5
09/06/2025 15:00	68.2	46.0		51.9	46.5
09/06/2025 15:15	50.5	45.5		52.8	45.1
09/06/2025 15:30	66.7	54.7		49.1	45.5
09/06/2025 15:45	54.9	46.0		47.8	44.8
09/06/2025 16:00	49.9	45.4		47.8	45.0
09/06/2025 16:15	49.9	44.9		47.9	45.4
09/06/2025 16:30	50.9	46.1		48.6	45.1
09/06/2025 16:45	50.6	47.0		58.5	55.0
09/06/2025 17:00	53.8	46.2		60.1	55.7
09/06/2025 17:15	53.7	46.0		56.5	51.8
09/06/2025 17:30	52.9	47.0		55.8	51.8
09/06/2025 17:45	52.0	46.1		56.3	51.0
09/06/2025 18:00	51.1	46.0		54.9	49.9
09/06/2025 18:15	51.1	45.5		52.8	46.7
09/06/2025 18:30	51.4	46.4		48.2	46.6
09/06/2025 18:45	49.7	46.0		49.0	46.7
09/06/2025 19:00	51.4	45.6		48.0	46.4
09/06/2025 19:15	49.2	44.9		48.8	46.4
09/06/2025 19:30	52.5	45.7		51.5	46.3
09/06/2025 19:45	52.4	44.6		49.2	46.0
09/06/2025 20:00	49.9	44.0		50.5	46.2
09/06/2025 20:15	49.1	44.9		48.5	45.2
09/06/2025 20:30	49.8	45.6		49.5	46.1
09/06/2025 20:45	49.3	44.8		48.1	46.0

Date and Time	L1			L2	
	$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)		$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)
09/06/2025 21:00	51.1	44.8		49.2	45.0
09/06/2025 21:15	51.0	44.9		49.2	45.0
09/06/2025 21:30	47.3	44.0		48.4	45.5
09/06/2025 21:45	49.4	45.2		47.0	44.8
09/06/2025 22:00	48.3	44.6		47.1	45.5
09/06/2025 22:15	49.5	44.9		47.8	45.4
09/06/2025 22:30	49.0	44.6		48.1	45.3
09/06/2025 22:45	46.9	43.6		46.7	44.3
09/06/2025 23:00	48.2	43.6		47.4	44.2
09/06/2025 23:15	47.2	43.7		46.8	44.5
09/06/2025 23:30	49.1	44.7		46.9	44.6
09/06/2025 23:45	47.1	43.5		48.4	44.4
10/06/2025 00:00	47.0	43.4		46.0	43.5
10/06/2025 00:15	47.7	43.7		45.7	42.9
10/06/2025 00:30	46.9	42.6		45.2	42.5
10/06/2025 00:45	44.8	42.1		44.7	42.2
10/06/2025 01:00	46.0	41.9		44.1	42.0
10/06/2025 01:15	45.1	42.0		44.7	42.1
10/06/2025 01:30	44.0	40.6		42.5	40.6
10/06/2025 01:45	45.8	39.9		42.3	40.4
10/06/2025 02:00	44.2	40.0		42.3	40.6
10/06/2025 02:15	43.7	39.7		42.3	40.7
10/06/2025 02:30	43.3	39.2		41.9	40.2
10/06/2025 02:45	43.0	38.5		45.2	40.7
10/06/2025 03:00	41.3	37.7		42.9	40.3
10/06/2025 03:15	43.4	39.2		41.9	40.1
10/06/2025 03:30	42.0	38.5		42.4	40.2
10/06/2025 03:45	42.1	37.2		43.4	40.7
10/06/2025 04:00	43.8	37.9		47.0	40.2
10/06/2025 04:15	43.0	39.0		43.5	40.7
10/06/2025 04:30	49.0	39.6		50.0	41.3
10/06/2025 04:45	43.5	38.7		55.1	46.4
10/06/2025 05:00	43.6	39.8		51.9	50.2
10/06/2025 05:15	45.4	40.5		51.5	50.0
10/06/2025 05:30	45.4	40.7		51.7	50.3
10/06/2025 05:45	61.3	41.7		51.8	50.4
10/06/2025 06:00	47.0	41.7		52.4	50.7
10/06/2025 06:15	61.5	45.8		53.2	51.4
10/06/2025 06:30	62.8	45.7		60.5	53.3
10/06/2025 06:45	61.6	44.7		58.9	52.3
10/06/2025 07:00	66.6	55.3		57.2	51.8
10/06/2025 07:15	65.8	54.8		60.8	57.9
10/06/2025 07:30	59.0	55.6		55.4	52.8
10/06/2025 07:45	59.0	47.6		56.6	53.1

Date and Time	L1			L2	
	$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)		$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)
10/06/2025 08:00	55.5	49.6		56.4	53.5
10/06/2025 08:15	64.7	55.3		61.0	57.8
10/06/2025 08:30	62.6	53.4		59.3	56.0
10/06/2025 08:45	66.3	54.7		63.0	54.9
10/06/2025 09:00	64.3	56.5		70.2	60.8
10/06/2025 09:15	69.2	56.3		64.3	56.2
10/06/2025 09:30	68.1	55.3		59.2	55.1
10/06/2025 09:45	66.3	55.7		60.7	54.5
10/06/2025 10:00	64.5	55.4		62.3	54.3
10/06/2025 10:15	67.6	52.2		55.9	52.4
10/06/2025 10:30	60.8	52.2		56.4	52.7
10/06/2025 10:45	62.3	51.7		56.4	52.9
10/06/2025 11:00	61.0	50.6		54.7	51.7
10/06/2025 11:15	64.1	52.0		55.3	51.6
10/06/2025 11:30	70.1	52.9		56.8	53.7
10/06/2025 11:45	62.1	50.3		55.9	52.2
10/06/2025 12:00	62.3	49.8		64.5	50.3
10/06/2025 12:15	67.3	51.0		59.0	50.0
10/06/2025 12:30	60.6	51.0		66.5	50.6
10/06/2025 12:45	70.4	68.7		56.0	50.9
10/06/2025 13:00	69.3	68.6		54.6	48.9
10/06/2025 13:15	68.3	51.6		63.1	50.9
10/06/2025 13:30	68.0	49.5		53.0	50.1
10/06/2025 13:45	60.6	49.4		54.2	50.6
10/06/2025 14:00	58.4	49.4		54.9	50.3
10/06/2025 14:15	62.7	48.6		54.2	50.5
10/06/2025 14:30	58.8	50.1		57.0	50.5
10/06/2025 14:45	76.6	61.0		54.3	49.8
10/06/2025 15:00	59.9	48.0		52.6	49.6
10/06/2025 15:15	51.7	47.4		53.2	50.5
10/06/2025 15:30	66.0	48.7		53.5	49.4
10/06/2025 15:45	53.4	47.7		53.1	48.8
10/06/2025 16:00	55.6	47.0		53.1	50.6
10/06/2025 16:15	51.2	47.0		56.6	50.2
10/06/2025 16:30	51.0	46.6		60.2	53.5
10/06/2025 16:45	52.0	46.7		58.0	54.8
10/06/2025 17:00	52.7	47.5		56.7	53.3
10/06/2025 17:15	51.7	47.4		57.8	54.6
10/06/2025 17:30	53.0	47.0		54.7	53.0
10/06/2025 17:45	51.1	47.5		56.2	53.7
10/06/2025 18:00	51.4	48.3		57.1	53.8
10/06/2025 18:15	52.5	48.1		56.4	53.0
10/06/2025 18:30	51.7	47.5		56.4	52.5
10/06/2025 18:45	54.7	48.1		54.9	51.8

Date and Time	L1			L2	
	$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)		$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)
10/06/2025 19:00	52.5	47.4		56.5	51.2
10/06/2025 19:15	51.6	46.1		54.0	50.9
10/06/2025 19:30	51.5	46.2		53.4	51.5
10/06/2025 19:45	51.5	46.6		54.0	49.9
10/06/2025 20:00	52.0	46.5		53.2	49.7
10/06/2025 20:15	51.6	47.7		54.1	50.4
10/06/2025 20:30	51.4	46.5		53.4	50.5
10/06/2025 20:45	51.0	46.7		53.8	50.8
10/06/2025 21:00	51.5	46.8		53.9	51.0
10/06/2025 21:15	50.0	46.3		53.7	50.9
10/06/2025 21:30	58.9	46.2		55.5	51.2
10/06/2025 21:45	57.3	44.9		52.3	50.2
10/06/2025 22:00	49.4	45.8		53.0	49.7
10/06/2025 22:15	48.9	45.2		51.9	49.0
10/06/2025 22:30	50.4	45.0		52.3	48.6
10/06/2025 22:45	49.8	45.3		52.1	48.8
10/06/2025 23:00	48.1	44.3		52.3	48.7
10/06/2025 23:15	48.0	43.8		50.6	47.2
10/06/2025 23:30	47.4	43.6		51.0	47.6
10/06/2025 23:45	48.6	43.1		52.2	47.0
11/06/2025 00:00	45.3	42.1		50.5	45.8
11/06/2025 00:15	46.0	41.4		50.0	46.0
11/06/2025 00:30	51.4	42.6		49.5	46.1
11/06/2025 00:45	45.8	42.0		50.1	46.5
11/06/2025 01:00	45.5	41.2		49.0	45.6
11/06/2025 01:15	45.9	41.4		48.1	44.8
11/06/2025 01:30	49.0	40.2		48.5	45.1
11/06/2025 01:45	43.0	37.7		46.4	41.2
11/06/2025 02:00	44.2	39.1		46.6	41.6
11/06/2025 02:15	43.2	38.2		47.2	42.8
11/06/2025 02:30	42.8	39.2		48.2	42.8
11/06/2025 02:45	43.2	37.9		48.1	44.2
11/06/2025 03:00	42.8	38.7		45.8	41.7
11/06/2025 03:15	42.3	38.1		47.3	42.6
11/06/2025 03:30	43.9	40.0		47.7	44.0
11/06/2025 03:45	44.4	39.8		48.5	43.7
11/06/2025 04:00	44.5	40.7		49.8	45.0
11/06/2025 04:15	46.8	41.4		51.0	46.3
11/06/2025 04:30	44.5	40.7		56.5	49.2
11/06/2025 04:45	46.2	41.8		52.7	51.5
11/06/2025 05:00	45.0	41.3		52.7	51.6
11/06/2025 05:15	47.8	42.4		54.5	53.1
11/06/2025 05:30	46.3	43.1		54.1	52.6
11/06/2025 05:45	63.4	41.8		53.6	52.2

Date and Time	L1			L2	
	$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)		$L_{Aeq,T}$ (dB)	$L_{A90,T}$ (dB)
11/06/2025 06:00	56.6	42.8		58.6	51.6
11/06/2025 06:15	65.9	45.8		57.4	52.2
11/06/2025 06:30	62.9	45.6		59.4	53.1
11/06/2025 06:45	62.6	52.3		58.9	53.7
11/06/2025 07:00	60.0	55.2		59.4	53.4
11/06/2025 07:15	62.5	54.7		56.9	52.1
11/06/2025 07:30	59.6	46.8		57.3	51.9
11/06/2025 07:45	51.6	46.4		59.6	53.2
11/06/2025 08:00	50.7	46.9		60.4	53.0
11/06/2025 08:15	56.3	46.5		59.7	51.6
11/06/2025 08:30	68.6	48.6		60.0	52.1
11/06/2025 08:45	62.5	49.6		63.1	52.0
11/06/2025 09:00	60.9	47.2		58.6	50.0
11/06/2025 09:15	61.0	47.6		59.4	51.4
11/06/2025 09:30	66.4	51.2		67.6	51.6

APPENDIX 3

Noise Source Model Inputs

Plant/ Activity	Octave band sound power levels (dB)								Sound Power Level dB(A)	Source Height relative to ground (m)	Co-ordinates (m)			On-time Assumptions (relative to reference time interval)
	63	125	250	500	1k	2k	4k	8k			X	Y	Z	
Processing (Crushing/Screening)	106.5	105.9	103.2	104.8	104.1	100.5	96.4	89.2	108	2.0	409293	285221	120	100%
Wheeled Shovel Stockpiles+Loading HGV	107.0	103.9	101.1	98.2	99.6	97.4	94.0	84.3	104	2.0	409380	285169	120	25%
Wheeled Shovel Stockpiles+Loading HGV	107.0	103.9	101.1	98.2	99.6	97.4	94.0	84.3	104	2.0	409419	285148	120	20%
Grab Unloading Train	106.4	101.9	100.2	98.4	96.4	94.0	90.5	85.0	102	2.0	409397	285179	120	75%
Grab Unloading Train	106.4	101.9	100.2	98.4	96.4	94.0	90.5	85.0	102	2.0	409440	285153	120	75%
Diesel Locomotive (Idle)	96.6	95.0	93.6	96.3	91.8	88.0	84.1	68.8	97	2.5	409328	285231	121	100%
HGV Idling on Weighbridge	95.7	91.3	87.4	89.0	87.7	85.9	78.9	72.5	92	2.0	409482	285101	121	10%
Train Movements	106.2	100.1	101.8	98.5	95.8	94.2	91.1	89.3	102	2.5	Line source			1 movement per hour Speed 5 mph
HGV Movements	94.8	93.3	89.9	87.2	88.9	90.3	90.7	77.3	96	1.5	Line source			6 in 6 out per hour Speed 10 mph