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Noise Impact Assessment
For In-Vessel Composting (IVC) Facility

at

Former Befesa Salt Slags Site
Fenns Bank
Near Whitchurch

For

Veolia ES (UK) Ltd

Report No.: R25.0506/1/DRK
Date: 23rd September 2025

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Date: 23rd September 2025

Summary

1. Veolia ES (UK) Limited (`Veolia') are proposing to construct and operate an In-Vessel Composting (`IVC') Facility at the former Befesa Salt Slags Site, Fenns Bank, near Whitchurch.

2. At the request of Veolia, Noise & Vibration Consultants Ltd (`NVC') were commissioned to undertake a noise assessment to assess the impact and advise (where appropriate) on noise mitigation measures to meet planning guidance and noise standards.

3. Following a study of the local area the nearest sensitive receptors (`NSR') were determined.

4. Baseline sound monitoring was carried out over a typical weekday and weekend period to determine the representative background and residual sound levels at NSR.

5. Typical site operating noise levels have been established from noise data obtained from Technology Providers or library empirical data for similar sites operating in the UK to provide input data for the noise model. Where appropriate plant design noise levels have been mitigated to ensure compliance with noise guidance and standards to protect amenity.

6. Site operational noise has been calculated using empirical noise data for the IVC fans obtained from Technology Providers and library data from similar facilities.

7. The assessment has used ISO9613-2:2024 prediction methodology and CadnaA noise modelling software for producing noise contours of the highest likely generated noise with all relevant plant operating.

8. An assessment of the resultant impacts has been undertaken by applying noise limits established from appropriate and relevant guidance and standards.

Conclusions

9. Following analysis of noise survey results our conclusions are as follows:

(i) The results of baseline sound monitoring show that between 0700-1800 hours, the representative L_{A90} level is 30dB to 33dB. During the evening period, the established representative background sound level was 26dB to 28dB L_{A90}. During night-time periods (between 2300 to 0700 hours) the representative background level was shown to be 26dB L_{A90}.

(ii) The predicted rating noise level contribution from the application site using ISO9613-2 methodology and CadnaA noise modelling software shows noise levels at NSR from the Site to range between 25dB and 34dB L_{Aeq1hr} during maximum daytime site operations including vehicle and mobile plant movements. During evening and night-time period, the predicted site generated noise level would range between 10dB and 22dB $L_{Aeq1hr/15mins}$.

(iii) The results show that the noise contribution from maximum site rating noise levels (when allowing for a +3dB noise character penalty, which is not deemed to be required by the author this assessment) at NSR would be no higher than the established representative background sound level +4dB during daytime operating periods. According to BS4142: 2014+A1:2019 the resultant assessment would conclude that noise from the site would result in a **low impact** to **below adverse impact**.

(iv) During the evening and night-time operating periods, when the pre-treatment and processing activities have stopped, the highest likely rating noise level during evening and night-time periods (when allowing for a +3dB noise character penalty, which is not deemed to be required by the author this assessment) show no exceedance of representative background sound level and would result in a **low impact** according to BS4142:2014+A1:2019.

(v) The predicted noise levels generated by the Proposed Development at NSR in terms of context with typical baseline residual sound levels would produce a **negligible impact** in terms of any increase (i.e. when comparing $L_{Aeq's}$).

(vi) The Local Authority are able to condition the site in terms of noise to ensure noise levels and mitigation measures avoid any significant impacts..

(vii) Predictions of construction noise would indicate no significant impacts and `best practicable means' would be applied in accordance with BS5228-1:2009+A1:2014.

(viii) Maximum levels of vibration during the construction or operational phase (i.e. during the use of vibratory plant during construction) would result in a **negligible impact**.

(ix) The impact from additional vehicle movements on the local roads during construction or operational periods to and from Site during weekdays or Saturdays would result in a **negligible** impact and therefore **not significant**.

10. The assessment concludes that the site can be designed to operate such that it complies with all appropriate and relevant noise standards, guidance and development plan policy. There is, therefore, no reason to refuse the Proposed Development on the grounds of noise or vibration.

CONTENTS

Section			Page Number
1.	Introduction		1
2.	Site Description		4
3.	Noise Policy, Standards and Criteria		9
4.	Baseline Survey Methodology & Results		21
5	Construction Noise		25
6.	Plant Noise Level Predictions		31
7.	Conclusions & Mitigation		40
References			42
Figures	1 - 4		
Appendix	1	Basic Acoustic Terminology	
Appendix	2	Baseline Sound Survey Results	
Appendix	3	Noise Mapping Results	
Appendix	4	Vibration Terminology	
Appendix	5	Vibration Levels from a Range of Construction Activities	
Appendix	6	Plant Noise Levels	
Appendix	7	Consultant's Experience & Qualifications	

1.0 INTRODUCTION

1.1 Veolia ES (UK) Limited (`Veolia') are proposing to construct and operate an In-Vessel Composting (`IVC') Facility at the former Befesa Salt Slags Site, Fenns Bank, near Whitchurch.

1.2 At the request of Veolia, Noise & Vibration Consultants Ltd (`NVC') were commissioned to undertake a noise assessment to assess the impact and advise (where appropriate) on noise mitigation measures to meet planning guidance and noise standards.

1.3 The study benefits from a baseline sound survey to determine typical background sound levels in the vicinity of nearest sensitive receptors (`NSR') to the proposed development. Monitoring was carried out over a weekday and weekend period (i.e. Friday to Monday) to determine representative background sound levels.

1.4 Following a study of the local area, the NSR were determined.

1.5 Site operational noise has been calculated using empirical noise data for the IVC obtained from Technology Providers and library data from similar facilities.

1.6 The assessment has used ISO9613-2 prediction methodology and CadnaA noise modelling software for producing noise contours of the highest likely generated noise with all relevant plant operating.

Sources of Information

1.7 Information used in this assessment has been obtained from the following sources:

- Ordnance Survey maps of the local area;
- Information relating to the site layout was provided by Veolia;
- BS 7445: 2003 Description and measurement of environmental noise;
- BS4142: 2014+A1:2019 `Methods for rating and assessing industrial and commercial sound';
- Guidelines for Community Noise – World Health Organisation: April 1999;
- Night Noise Guidelines for Europe: 2009 – World Health Organisation

- BS8233: 2014 `Guidance on sound insulation and noise reduction for buildings';
- Technical Advice Note ("TAN") 11, `Noise' – 1997;
- Natural Resources Wales – H3 Guidance: Noise and Vibration Management: Environmental Permits (January 2022);
- Wrexham County Borough Local Development Plan 2013 – 2028 – Policy DM1: Development Management Considerations;
- National Development Framework – Future Wales: the national plan 2040;
- Design Manual for Roads and Bridges, LA 111 Noise and Vibration (Rev2) May 2020 (formerly HD 213/11);
- ISO 9613-2: 2024 Acoustics – Attenuation of Sound During Propagation Outdoors;
- The Institute of Acoustics (IOA) and the Institute of Environmental Management and Assessment (IEMA) 'Guidelines for Noise Impact Assessment' 2014; and
- Planning Consent Decision BRN P/2004/0128 dated 5th April 2004.

Assessment Methodology

1.8 The aim of the survey was to provide information and advice on the following:

- provide information on typical operating noise levels from the associated IVC plant;
- provide information on background and residual sound levels at the NSR during the most sensitive periods of proposed operation; and
- advise on any operations that are shown to exceed appropriate and relevant noise criteria and where appropriate provide recommendations for further mitigation based on the application of Best Available Technology (BAT).

1.9 Appendix 1 provides details of technical terms within the report, for ease of reference. There is also a chart showing typical everyday noise levels to assist in understanding the subjective level of noise in terms of decibels.

2.0 SITE DESCRIPTION

2.1 Location & Site Description

2.1.1 The Proposed Development site (hereafter referred to as the `Site') is illustrated in Figure 1. The Site currently comprises the former vacant Befesa Salt Slag building, which included a hazardous waste management facility located to the west of the hamlet of Fenn's Bank and south of Fenn's Bank Lane.

2.1.2 Following closure of the facility, some elements were demolished, however, the main industrial building, several other external structures, the vehicle access, office/admin building, hard standing yard and car parking areas remain.

2.1.3 The Site is located approximately 3.5km to the south-west of Whitchurch. The Site lies circa 500m to the west of the England/Wales border. The surrounding area is predominantly open countryside, largely utilised for agricultural purposes.

2.1.4 The nearest residential property is some 100m to the south-east of the Site. The Site is outside of the settlement boundaries, as defined by the Wrexham Local Development Plan and has no specific policy designation. It is also located within a Mineral Safeguarding Area. The Grade II Listed Barn at Fenns Old Hall, is some 350m from the site. A detailed description of the Site and the Context in which it is located is provided within the Planning Statement supporting the planning application.

2.2 Proposed Development

2.2.1 The existing former Befesa building would be utilised in the development of the proposed IVC facility. The building would contain the fully enclosed reception and feedstock preparation area, linked to state of the art in-vessel composting tunnels which would provide full sanitisation and high temperature treatment of the waste. Externally, the proposal comprises an open-air maturation area, biofilters, refining plant and ancillary minor development. The proposed site layout is shown on the enclosed drawing VES_TD_WREXIVC_100_001 RevB.

2.2.2 The reception, preparation area and tunnel building would be fully enclosed, operating under negative pressure with gas emissions captured and treated by the air extraction system consisting of wet scrubber and biofilters with wood media. Treated exhaust gases would be expelled via vent/stack. Fully sanitised feedstock complying with ABPR requirements would be offloaded from tunnels onto an open-air maturation pad and treated for minimum 6 weeks with regular turning and moisture addition if necessary. Mature compost would be screened on-site and supplied to local compost markets. Leachate from the IVC process would be recirculated in the composting process and any excess tankered off the site for management and/or disposal.

2.2.3 It is proposed that the facility would accept up to 50k tpa of green and food waste from across the Shropshire Council areas as part of long-term contractual arrangements and third party food and green waste would be accepted from the wider region. Veolia operates a fully integrated 32-year PFI contract with Shropshire Council which commenced in 2007, so controls all municipal collection operations and processing. Waste would be delivered in refuse collection vehicles or articulated lorries pre-bulked at existing transfer stations within the local area.

2.2.4 The IVC facility would basically consist of the following components:

- The main composting facility:
  - o Reception and Pre-Treatment Bays - contained within the existing industrial building on site.
  - o Linked Composting Tunnels
    - contained within the existing industrial building on site.
  - o Open-air Maturation Area.
- Ancillary equipment which is essential to the efficient operation of the composting plant consists of:
  - o Refining Plant
  - o Bio-scrubbers.
  - o Bio-filters.
  - o Process Water Tanks
  - o Drainage

- General existing site infrastructure comprises:
  - o Access Road
  - o Separate administration / office building
  - o Boundary fencing.
  - o Lighting.
  - o Weighbridge
  - o Weighbridge Office
  - o Landscape works
  - o Staff Car Parking

2.3 Site Operation Noise Sources

2.3.1 In terms of noise generated by this type of development, the assessment has considered the following noise sources:

- Temporary noise from the construction phase works.
- Noise from the operation of the IVC plant.
- Noise from the movement of associated site traffic on the local roads.

2.4 Site Operation Hours

2.4.1 The IVC Facility would operate 6 days per week between 0700 to 1800 Monday to Saturday which includes HGV movements to and from Site. The biofilter, composting and maturation pad fans would be operating 24hrs/day and 7 days per week.

2.5 Access to Site

2.5.1 Access to the site is via the A495 Long Lane and Fenn's Bank Lane. It is anticipated that the facility would be operational 6 days per week for 52 weeks per year. Given the anticipated volume of waste material which the facility would be designed to manage and export resultant compost product and byproducts, it is estimated that there would be circa 232 HGV vehicle movements per week (circa 4 HGVs movements per hour).

2.6 Nearest Receptors

Residential Receptors

2.6.1 Based on distance relative to the Proposed Development, the existing NSR at the closest approach are generally located towards the east of Site off Fenn's Bank Lane.

2.6.2 Table 2.1 and Figure 2.1 provides details of the NSR locations and grid references.

Table 2.1: NSR Locations

NSR	Location	Grid reference		Approx. Distance to Site boundary (m)
		x (m)	y (m)	
R1	Park Farm Cottages	350891	339166	160
R2	Fenn's Bank Lane	350922	339100	200
R3	Fenn's Bank Lane	350928	339018	200
R4	Residence nr Mereside Ind. Park	350821	338955	100
R5	The Conery, Conery Lane	349892	338730	670
R6	Woodlands Farm, Conery Lane	350026	339207	480
R7	Conery Lane Farm, Conery Lane	349879	339573	760
R8	Pinfold Cottage, Long Lane	350115	339862	810
R9	The View, Fenn's Bank Lane	350572	339584	320

Figure 2.1: NSR Location on Aerial View



2.6.3 There are other receptors located at greater distance than the above and would be subject to a lower impact.

2.6.4 We are not aware of any future receptors proposed within existing planning developments that are closer than those considered in this assessment.

2.6.5 Figure 1 attached at the end of the report shows the location of the NSR and Figure 2 the layout of the Site.

3.0 NOISE POLICY, STANDARDS AND CRITERIA

3.1 Introduction

3.1 Noise has been defined as sound that is unwanted by the recipient. The effects of noise on the neighbourhood are varied and complicated, including such things as interference with speech communication, disturbance of work, leisure or sleep. A further complicating factor is that in any one neighbourhood some individuals will be more sensitive to noise than others.

3.2 Planning Policy, Guidance and Standards

General

3.2.1 Within the introduction of Technical Advice Note (Wales) 11: 1997 'Noise' it states:

"This note provides advice on how the planning system can be used to minimise the adverse impact of noise without placing unreasonable restrictions on development or adding unduly to the costs and administrative burdens of business."

3.2.2 Technical Advice Note 11 (TAN 11) provides the following information:

- indicates how noise issues should be handled in development plans and development control;
- outlines ways of mitigating the adverse impact of noise;
- provides specific guidance on noisy and noise-sensitive development;
- introduces the use of noise exposure categories; and
- gives guidance on the use of planning conditions relating to noise.

3.2.3 For noisy industrial development, the guidance refers to BS 4142 - `Method for Rating Industrial Noise Affecting Mixed Residential and Industrial Areas' (updated in 2019).

3.2.4 To establish the impact of the Proposed Development in respect of noise on existing or proposed residential receptors it is necessary to consider the relevant noise guidance, standards and policy for an industrial development. The following

section examines the guidance and establishes the methodology to be adopted for assessing noise impacts.

BS4142: 2014+A1:2019 'Methods for Rating and Assessing industrial and Commercial Sound'

3.2.5 BS4142: 2014+A1:2019 'Methods for rating and assessing industrial and commercial sound' is based on the measurement of background sound using L_{A90} noise measurements, compared to source noise levels measured in L_{Aeq} units. Once any corrections have been applied for source noise tonality, distinct impulses etc., the difference between these two measurements (i.e. known as the 'rating' level) determines the impact magnitude.

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

3.2.6 To establish the rating level, corrections for the noise character need to be taken into consideration.

3.2.7 The standard states that when considering the perceptibility:

"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."

3.2.8 The subjective method adopted includes the following character corrections:

Table 3.1: BS4142 Character Corrections

Level of perceptibility	Correction for tonal character dB	Correction for impulsivity dB	Correction for intermittency dB	Correction for `other character' dB
Not perceptible	0	0	0	0
Just perceptible	+2	+3	0	0
Clearly perceptible	+4	+6	+3*	+3*
Highly perceptible	+6	+9	+3*	+3*

*Standard defines this should be readily distinctive against the residual acoustic environment, it is interpreted therefore to be either clearly or highly perceptible as a character.

BS8233: 2014 'Guidance on Sound Insulation and Noise Reduction for Buildings'

3.2.9 The British Standard BS8233 provides additional guidance on noise levels within buildings. These are based on the WHO recommendations and the criteria given in BS8233 for unoccupied spaces within residential properties.

3.2.10 The guidance in Section 7.7 of BS8233 provides recommended internal ambient noise levels for resting, dining and sleeping within residential dwellings.

3.2.11 Table 3.2 provides detail of the levels given in the standard.

Table 3.2: BS8233: 2014 Indoor Ambient Noise Levels for Dwellings

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting Dining Sleeping (daytime resting)	Living Room Dining room/area Bedroom	35dB LAeq 40dB LAeq 35dB LAeq	 30dB LAeq
Study and work requiring concentration	Staff/Meeting Room Training Room/ Executive Office	35-45dB LAeq 35-45dB LAeq	

3.2.12 This standard would be appropriate to apply to existing or proposed residential development. The Site noise contribution should be within the proposed internal noise levels, which would include the following noise limits:

- Living room areas: <=35dB $L_{Aeq,16hours}$ (0700-2300 hours) [equivalent to an external level of approximately 65dB $L_{Aeq,16hours}$ based on typical standard double-glazed units in the closed position and approximately 50dB $L_{Aeq,16hours}$ in the open position].
- Bedrooms: <=30dB $L_{Aeq,8\ hours}$ (2300-0700 hours) [equivalent to an external level of approximately 60dB $L_{Aeq,8hours}$ based on typical standard double-

glazed units in the closed position and approximately 45dB $L_{Aeq,8hours}$ in the open position]

- Offices: 35dB to 45dB $L_{Aeq,8hours}$ [equivalent to an external level of approximately 65dB to 75dB $L_{Aeq,8hours}$ based on typical standard double-glazed units in the closed position].

3.2.13 The above internal bedroom limits would comply with sleep disturbance criteria defined by World Health Organisation guidelines (WHO). The WHO night noise guidelines for Europe refers to sleep disturbance limit of 42dB-45dB L_{Amax} for regular peak events within bedrooms [which is approximately 57dB-60dB L_{Amax} external to the bedroom window in the open position].

World Health Organisation (WHO) Guidelines for Community Noise: April 1999

3.2.14 This document provides further updated information on noise and its effects on the community. Within the document for noise '*In Dwellings'* it states that:

'To enable casual conversation indoors during daytime, the sound level of interfering noise should not exceed 35dB L_{Aeq}. To protect the majority of people from being seriously annoyed during the daytime, the outdoor sound level from steady, continuous noise should not exceed 55dB L_{Aeq} on balconies, terraces and in outdoor living areas. To protect the majority of people from being moderately annoyed during the daytime, the outdoor sound level should not exceed 50dB L_{Aeq}. Where it is practical and feasible, the lower outdoor sound level should be considered the maximum desirable sound level for new development."

World Health Organisation (2009) – Night Noise Guidelines for Europe

3.2.15 The WHO regional office for Europe set up a working group of experts to provide scientific advice to the Member States for the development of future legislation and policy action in the area of assessment and control of night noise exposure. Considering the scientific evidence on the thresholds of night noise exposure indicated by $L_{night,outside}$ as defined in the Environmental Noise Directive (2002/49/EC), an $L_{night,outside}$ of 40dB should be the target of the night noise guidance (NNG) to protect the public, including the most vulnerable groups such

as children, the chronically ill and the elderly. $L_{night,outside}$ value of 55dB is recommended as an interim target for the countries where the NNG cannot be achieved in the short term for various reasons, and where policy-makers choose to adopt a stepwise approach.

NRW – Guidance: Noise and Vibration Management: Environmental Permits (January 2022)

3.2.16 This guidance relates to Environmental Permits (`EP') for certain industrial processes and for EP applicants or Operators it explains how Natural Resources Wales (`NRW') will assess noise; what the law says you must do to manage noise and vibration and provides advice on how to manage noise. The guidance also covers how to carry out a noise impact assessment and what operators should include in a noise management plan.

3.2.17 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; and
- to comply with specific permit conditions.

3.2.18 The guidance advises on 4 steps that are required when carrying out a noise impact assessment, these are:

- Desktop risk assessment – identification of any audible noise plant or operations, identification of NSRs, description and ranking of noise sources in terms of potential off-site impact, description of land between site and NSRs.
- Off-site monitoring survey – for new development this would relate to a study of the existing baseline sound conditions.
- Source assessment – noise modelling of plant or operations and if industrial source using BS4142 and ISO 9613 for prediction.
- Best Available Techniques (BAT) or appropriate measures justification – measures to be adopted to avoid unacceptable noise pollution and

demonstrate that BAT or appropriate measures would be introduced to prevent, or where that is not practicable, to minimise noise impact.

Institute of Environmental Management and Assessment (IEMA)

3.2.19 The Institute of Environmental Management and Assessment (IEMA) has provided 'Guidelines for Environmental Noise Impact Assessment'. The guidelines set out an example of how changes in noise level may be assessed in terms of residual LAeq. This assists in determining the impact of noise relative to the context of the noise climate, which is detailed in Table 3.3.

Table 3.3: Impact Magnitude Scale – General Site Noise

Change in sound levels LAeq dB	Description of Effect	Impact Magnitude	PPG Effect Level
< +2.9	No discernible effect on the receptor	Negligible	NOEL
+3.0 to +4.9 (residential: receptor of high sensitivity)	Non-intrusive - Noise impact can be heard but does not cause any change in behaviour or attitude. Can slightly affect the character of the area but not such that there is a perceived change in the quality of life.	Slight	NOAEL
+5.0 to +9.9 (residential: receptor of some sensitivity)	Intrusive - Noise impact can be heard and causes small changes in behaviour and/or attitude. Affects the character of the area such that there is a perceived change in the quality of life. Potential for non-awakening sleep disturbance.	Moderate	LOAEL
10 or greater (residential: receptor of high sensitivity)	Disruptive – Causes a material change in behaviour and/or attitude e.g. avoiding certain activities during periods of intrusion. Potential for sleep disturbance resulting in difficulty getting to sleep. Quality of life diminished due to change in character of the area.	Substantial	SOAEL
Undefined*	Physically Harmful – Significant changes in behaviour and/or 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.	Severe	UOAEL

*The level at which physical harm occurs will be dependent upon a number of site-specific factors, which may include type and character of noise source, location, human sensitivities, duration and receptor expectations, effect on health etc.

Assessing the Change in Residual Sound Levels Due to a Development

3.2.20 In order to provide some context of the predicted noise levels from the Proposed Development (provided in terms of the L_{Aeq} assessment index) relative to the existing residual L_{Aeq} at NSR (i.e. ambient level without the Site in operation), we have provided a semantic table taken from the Institute of Environmental Management and Assessment (IEMA) 'Guidelines for Environmental Noise Impact Assessment'.

3.2.21 The guidelines set out an example of how changes in noise level may be assessed in terms of residual L_{Aeq}. This assists in determining the impact of Site operational noise relative to the context of the noise climate, which is detailed in Table 3.4.

Table 3.4: Impact Magnitude Scale – General Site Noise

Change in sound levels LAeq dB	Description of Effect	Impact Magnitude
< +2.9	No discernible effect on the receptor	Negligible
+3.0 to +4.9 (some receptor sensitivity)	Non-intrusive – Noise impact can be heard but does not cause any change in behaviour or attitude. Can slightly affect the character of the area but not such that there is a perceived change in the quality of life.	Slight
+3.0 to +4.9 (high receptor sensitivity) +5 to +9.9 (some receptor sensitivity)	Intrusive – Noise impact can be heard and causes small changes in behaviour and/or attitude. Affects the character of the area such that there is a perceived change in the quality of life. Potential for non-awakening sleep disturbance.	Moderate
+5 to +9.9 (high receptor sensitivity)	Disruptive – Causes a material change in behaviour and/or attitude e.g. avoiding certain activities during periods of intrusion. Potential for sleep disturbance resulting in difficulty getting to sleep. Quality of life diminished due to change in character of the area.	Substantial
+10 and above (high receptor sensitivity)	Physically Harmful – Significant changes in behaviour and/or 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	Severe

. ***Noise Assessment Criteria***

Noise Assessment Methodology

3.2.21 The results of the noise model will assist in determining any increase or decrease in the noise level contribution at the sensitive receptors following the application

of BAT. The noise contribution would also be assessed against BS4142: 2014+A1:2019 and the IEMA guidelines for further impact analysis.

3.2.22 The calculation method used in this study is based upon ISO 9613: 2:2024 noise propagation model, which takes into account source position, screening effects, distance and direction in relation to the nearest receptor. Noise predictions have been undertaken using CadnaA noise modelling software.

3.2.22 The noise control measures are intended to reduce noise impacts as far as is practicable by applying BAT.

3.3 Survey Techniques

3.3.1 The background sound survey monitoring has been carried out in accordance with appropriate measurement conditions as defined in BS4142: 2014+A1:2019.

3.4 Guidance on Construction Noise

BS 5228-1:2009+A1:2014 `Code of practice for noise and vibration control on construction and open sites'

3.4.1 BS 5228 refers to *"the need for the protection against noise and vibration of persons living and working in the vicinity of, and those working on, construction and open sites. It recommends procedures for noise and vibration control in respect of construction operations and aims to assist architects, contractors and site operatives, designers, developers, engineers, local authority environmental health officers and planners."*

3.4.2 Part 1 deals with noise in terms of background legislation and gives recommendations for basic methods of noise control relating to construction and open sites where significant noise levels may be generated. The guidance is aimed at giving advice on achieving `best practice' in controlling noise and vibration from construction and open sites. There is an example of noise limits given in Annex E, which sets out cut-off limits between 65dB(A) and 75dB(A) or 5dB(A) above the ambient noise, whichever is the greater. Part 2 of BS 5228 deals specifically with vibration control and provides the legislative background

to the control of vibration and recommendations for controlling vibration at source and management controls (e.g. liaison with communities, supervision, preparation and choice of plant etc.)

Table 3.5: Construction Noise Limits – LOAEL and SOAEL

Time Period	LOAEL	SOAEL	Threshold Level $LAeq_{1hr}$ dB
Day (0700-1900 hours. Weekday and 0700-1200 Saturdays)	Baseline noise levels $L_{Aeq,T}$	Threshold level determined as per BS5228-1:2009+A1:2014 Section E3.2 and Table E.1 BS 5228-1:2009+A1:2014	65-75
Night (2300-0700 hours)	Baseline noise levels $L_{Aeq,T}$	Threshold level determined as per BS5228-1:2009+A1:2014 Section E3.2 and Table E.1 BS 5228-1:2009+A1:2014	45-55
Evening and weekends (time periods not covered above)	Baseline noise levels $L_{Aeq,T}$	Threshold level determined as per BS5228-1:2009+A1:2014 Section E3.2 and Table E.1 BS 5228-1:2009+A1:2014	55-65

3.4.3 The magnitude of impact for construction noise is outlined in Table 3.6 (as defined in DMRB LA 111).

Table 3.6: Magnitude of Impact for Construction Noise

Time Period	LOAEL
Negligible	Below LOAEL
Minor (Slight)	Above or equal to LOAEL and below SOAEL
Moderate	Above or equal to SOAEL and below SOAEL +5dB
Major (Substantial/Severe)	Above or equal to SOAEL +5dB

Construction and Operational Phase Road Traffic Impacts

3.4.4 Section 5.0 of this report includes an assessment of road traffic impacts relating to the construction phase of the Proposed Development on existing receptors.

3.4.5 According the DMRB LA 111 guidelines, the magnitude of impact at noise sensitive receptors of construction traffic shall be determined in accordance with Table 3.7.

Table 3.7: Magnitude of impact at receptors

Magnitude of impact	Increase in basic noise level of closest public road used for construction & operation traffic (dB)
Negligible	Less than 1.0
Minor (Slight)	Greater than or equal to 1.0 and less than 3.0
Moderate	Greater than or equal to 3.0 and less than 5.0
Major	Greater than or equal to 5.0

Note: Construction noise and construction traffic noise shall constitute a significant effect where it is determined that a major or moderate magnitude of impact will occur for a duration exceeding:
1) 10 or more days or nights in any 15 consecutive days or nights;
2) a total number of days exceeding 40 in any 6 consecutive months.

Construction Phase – Vibration Impacts

3.4.6 For construction phase vibration, the LOAEL and SOAEL for construction vibration is set out in DMRB LA 111 and is provided in Table 3.8 below. (Appendix 4 provides an explanation of technical terms associated with the vibration assessment).

Table 3.8: Construction vibration LOAELs and SOAELs for all receptors

Time Period	LOAEL	SOAEL
All time periods	0.3mm/sec PPV	1.0mm PPV

3.4.7 The magnitude of impact for construction vibration, shall be determined in accordance with Table 3.9 (as defined in DMRB LA 111).

Table 3.9: Magnitude of impact at receptors

Magnitude of impact	Vibration Level
Negligible	Below LOAEL
Minor (Slight)	Above or equal to LOAEL and below SOAEL
Moderate	Above or equal to SOAEL and below 10mm/s PPV
Major	Above or equal to 10mm/s PPV

Note: Construction vibration shall constitute a likely significant effect where it is determined that a major or moderate magnitude of impact will occur for a duration exceeding:
1) 10 or more days or nights in any 15 consecutive days or nights; or
2) a total number of days exceeding 40 in any 6 consecutive months.

3.5 Relevant Noise Criteria

3.5.1 The relevant guidance would be BS4142:2014+A1:2019. This is appropriate to apply in general terms to any plant operational noise generated by the Site. To achieve a **low** impact the site rating level would not exceed the established

representative background sound level. Where rating levels exceed representative background sound levels by around 5dB(A) then this would indicate an **adverse impact**. Where site rating levels exceed the representative background sound level by around 10dB(A) this would indicate a **significant adverse** impact.

4.0 BASELINE SURVEY METHODOLOGY & RESULTS

4.1 Baseline Sound Monitoring (See Appendix 2 & Figure 1)

Instrumentation and Fieldwork Details

4.1.1 A detailed environmental baseline sound survey was carried out in the vicinity of the NSR to determine details of the noise climate.

4.1.2 The three fixed proxy monitoring positions for establishing representative background sound levels are provided in Figure 1. The noise monitoring positions are representative of NSR adjacent to the Proposed Development and provide broadband data of the existing sound climate at these locations . Details of the instrumentation used for the survey are detailed below.

4.1.3 The existing baseline sound survey was undertaken over a weekday and weekend period, which was set up on Friday 28th February until Monday 3rd March 2025 at three fixed locations in proximity to NSR to the Site and is therefore considered to provide representative baseline sound levels.

4.1.4 The existing background sound survey was carried out in accordance with the advice given in BS4142: 2014+A1:2019.

4.1.5 The monitoring positions were as follows:

Position P1 (North of Site) – West of Fenn's Bank Lane (northwest of The View and north of Fenn's Hall Cottage) Grid reference: 350461 339705

4.1.6 Position P1 was chosen as a suitable monitoring position to represent typical baseline levels in the vicinity of NSR located north of Site (Receptor R9). Noise levels at this location are formed in general by intermittent local and distant road traffic noise and birdsong. The monitoring position was in the field to the north of Fenn's Hall Cottage off Fenn's Bank Lane. Figure 1 shows the location.

Position P2 (East of Site) Adjacent to Fenn's Bank Lane (opposite to Peak Farm Cottages) Grid reference: 350877 339139

4.1.7 Monitoring position P2 is representative of the nearest receptors located east of the Site at circa 150m from the Site boundary. Noise levels at this location are generally affected by local and distant road traffic noise and birdsong. The

monitoring position was chosen in the field to the west of Fenn's Bank Lane opposite to Peak Farm Cottages (Receptor R1). Refer to Figure 1 for location.

Position P3 (West of Site) – South of Woodlands Farm off Conery Lane
Grid reference: 349948 339125

4.1.8 This monitoring position is representative of the NSR located west of the overall Site in proximity to Woodland Farm (Receptor R6) in the field south of Woodland Farm adjacent to Conery Lane. Noise levels at this location are generally formed by distant road traffic noise and occasional local road traffic noise and birdsong. Figure 1 shows the location.

4.1.9 It is considered that the results represent a good indication of existing background and ambient sound levels.

4.1.10 For noise measurements at the nearest sensitive receptor positions the following noise meters were used:

Table 4.1: Instrumentation

Manufacturer	Description	Type	Calibration Due	Serial No.
Cirrus	Real Time Sound Analyser	171A	July 2025	G061253
Cirrus	Real Time Sound Analyser	1710	May 2025	G063350
Cirrus	Real Time Sound Analyser	171B	April 2025	G056142
Cirrus	Electronic Calibrator	CR: 513A	May 2025	031523

4.1.11 The following set-up parameters were used on the sound level meters during measurements:

Static Sound Monitoring:

Time Weighting: Fast
Frequency Weighting: `A'
Measurement Period: 15 minutes

Monitoring Period and Test Details

4.1.12 Measurements were recorded over a period of approximately 72 hours. Data logging of L_{Aeq}, L_{A10}, L_{A90} and L_{Amax} were recorded at 15-minute contiguous intervals for information on the variation of sound levels (see Appendix 2 for details).

4.1.13 The noise meters were mounted on a tripod at a height of between 1.2 to 1.5 metres above ground level and fitted with a wind and rain shield.

Calibration

Calibration setting: 94dB

4.1.14 The noise meters were calibrated with the electronic calibrator prior to commencement and on completion of the survey. No significant drift in calibration was observed.

Survey Dates and Personnel

4.1.15 Static sound measurement positions (shown on Figure 1) were chosen to establish typical and representative background and ambient sound data in vicinity of NSR (see Appendix 2 for detailed information). The NVC Consultant set up the sound monitoring on the Friday 28th February until Monday 3rd March 2025.

Meteorological Conditions

4.1.16 Weather details have been established from the use of a portable Davis Vantage Vue weather station, which was set up by the NVC consultant for the duration of the survey and the recorded data is detailed in Appendix 2.

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4.1.17 There were no high wind speeds or rain during the survey, and therefore all data was included in the data set. The climatic conditions were therefore suitable for monitoring environmental noise levels in accordance with advice given in BS4142:2014+A1:2019.

4.2 Results

Background Sound

4.2.1 Background sound measurements taken adjacent to the nearest residential sensitive receptors.

4.2.2 The results of measurements taken at the fixed monitoring positions at site are presented in Table 4.1 with detailed measurements in Appendix 2.

Table 4.1: Summary of Background & Residual Sound Levels

Position/Location	Time	Average $LAeq_{,T}$ dB	Average $LA90_{,T}$ dB	Representative LA90 dB
P1: North of Site (north of Fenn's Hall Cottage)	0700-1800	60	39	**33**
	1900-2300	53	28	**28**
	2300-0700	49	32	**26**
P2: East of Site (opposite to Peak Farm Cottages)	0700-1800	55	37	**33**
	1900-2300	49	27	**26**
	2300-0700	45	32	**26**
P3: West of Site (south of Woodlands Farm)	0700-1800	51	35	**30**
	1900-2300	36	29	**26**
	2300-0700	44	30	**26**

[1]Representative taken as most commonplace, median or average. whichever is the lower.

4.2.3 The methodology detailed in the latest version of BS4142: 2014+A1:2019 provides an example of statistical analysis to determine the background sound level (i.e. most common place). Further detail of the measured background sound levels and analysis of representative background sound levels is provided in Appendix 2.

4.2.4 The above table shows the most common place, median or average value (whichever is lowest) for determining background sound levels. The results show that between 0700-1800 hours at the monitoring positions, the representative L_{A90} level is 30dB to 33dB. During the evening period, the established representative background sound level was 26dB to 28dB L_{A90}. During night-time periods (between 2300 to 0700 hours) the representative background level was shown to be 26dB L_{A90}.

4.3 Source Noise Levels

4.3.1 Refer to section 6.0 for details of noise levels for the IVC facility assumed for the noise prediction calculations. This has been based on noise levels from Technology Providers and empirical data from similar facilities in the UK and where appropriate reduced further by the use of additional mitigation measures to comply with a BS4142:2014+A1:2019 low impact.

5.0 CONSTRUCTION NOISE

5.1 Introduction

5.1.1 Typical planning consent conditions relating to construction noise will be based on the application of `best practicable means' (`BPM') in accordance with BS5228-1:2009+A1:2014 and restriction on operating hours.

5.2 Construction Activities

5.2.1 Initial site preparation works is likely to involve the movement of soil, construction of infrastructure, construction of buildings and installation of plant and equipment. It is considered that excavators, telehandlers, front loaders, vehicles, MEWPS, cranes, generators, compressors, concrete mixers and power tools etc. would be required to construct the site.

5.2.2 The above noise sources and their associated activities will vary from day to day and may be in use at different stages of the development for relatively short durations.

5.3 Construction Noise Prediction

5.3.1 Below the assessment indicates the expected highest noise levels at the nearest receptors based on site preparation, general site activities, infrastructure, building works and plant installation at the closest approach to NSR.

5.3.2 The calculations use the methodology given in BS 5228: Part 1, 2009. For this method the sound power level of the noise source is defined, and the attenuation is calculated between its location and the selected receiver, taking account of distance, ground attenuation and the time that a noise source will be operating.

5.3.3 The results of calculations are shown below in Table 5.1.

Table 5.1: Noise Predictions for Worst Case Construction Noise

NSR Position (Refer to Figure 1)	Approx. Distance to receptor (m)	Works	Residual Noise Levels LAeq dB	Noise Level Range at receptor, $LAeq_{1hr}$ dB	BS5228 Threshold Value LAeq dB Daytime
R1 to R4: East of Site Fenn's Bank Lane	180-300	Site Preparation	55	49-54	65
	200-280	General site activities	55	49-52	65
	180-300	Infrastructure	55	48-59	65
	200-280	Building Works	55	52-56	65
	200-290	Plant Installation	55	50-53	65
R5 to R6: Southwest to West of Site Connery Lane	460-650	Site Preparation	47	42-45	65
	500-650	General site activities	47	41-44	65
	490-650	Infrastructure	47	41-49	65
	530-650	Building Works	47	43-45	65
	500-650	Plant Installation	47	43-44	65
R7 to R8: Northwest of Site	750-900	Site Preparation	59	39-40	65
	800-900	General site activities	59	38-40	65
	780-900	Infrastructure	59	38-45	65
	820-900	Building Works	59	40-41	65
	790-900	Plant Installation	59	39-40	65
R9: North of Site	360-500	Site Preparation	59	44-47	65
	380-500	General site activities	59	44-46	65
	360-500	Infrastructure	59	43-52	65
	380-500	Building Works	59	45-48	65
	380-500	Plant Installation	59	45-46	65

5.3.4 The noise of activities during the construction of the site would vary throughout the day and would depend on the particular work being undertaken. The highest noise levels are likely to be created during site preparation, infrastructure activities and the building works. This would be within the level of noise normally found to be acceptable for an activity of this type and duration.

5.3.5 In accordance with BS5228, BPM would be employed to control the noise generation and an example of BPM measures are set out below.

5.3.6 On the basis of the above predictions, the level of noise, as a result of construction, s **not significant** although some short-term periods may exceed the residual sound levels they are highly unlikely to exceed the guidance threshold level.

5.3.7 The application of applying best practicable means in accordance with BS5228-1:2009+A1:2014 will assist in minimising impact from construction noise. A Construction Environmental Management Plan (CEMP) would be provided to the LPA prior to commencement of works for agreement. This could be controlled by an appropriately worded planning condition.

5.3.8 Construction hours for noise generating activity proposed are as follows:

Monday to Friday: 0730 to 1800 hours.
Saturday: 0730 to 1300 hours
Sundays: No deliveries except for on-off abnormal loads or large vehicles such as cranes.

Mitigation Measures

5.3.9 In accordance with BS5228-1:2009+A1:2014, best practical means (BPM) would be employed to control the noise generation (e.g. using equipment that is regularly maintained, where practicable using equipment fitted with silencers or acoustic hoods).

5.3.10 In consideration of the likely highest levels of construction noise, the following approach would be considered as part of any CEMP:

- Restriction of construction hours to non-sensitive times of day would normally form part of the planning consent conditions.
- Avoid un-necessary plant operation and revving of plant or vehicles.
- Where practicable locate plant away from nearest sensitive receptors or in locations which provide optimum screening in the direction of sensitive receptors.
- Use of broadband noise reversing alarms (where practicable) on mobile plant (i.e. avoid tonal `beeper' type reversing alarms).
- Plant will be serviced regularly to minimise adverse noise impacts.
- All vehicles and mechanical plant used for the purpose of the works will be fitted with effective exhaust silencers and where practicable acoustic enclosures/hoods and maintained in good efficient working order.
- Machines in intermittent use will be shut down in the intervening periods between work or throttled down to a minimum.
- Materials will be handled with care and be placed (e.g. not dropped into skips or lorries or dropped onto metal surfaces).
- Any ancillary plant if required, such as generators, compressors and pumps will be positioned so as to cause minimum noise disturbance, i.e.

furthest from receptors or behind close boarded noise barriers. If necessary, acoustic enclosures and /or shielding will be provided.

- Implementation of site rules related to considerate construction practices.
- Consider using a one-way system/turning circle and/or use of a banksman to avoid/reduce the need for reverse alarms.
- Battery operated tools would be used rather than compressed air tools, wherever practicable.

Community Liaison

Community Relations – this is one of the most important aspects of mitigation as providing the local residents with clear information of the activities that would be taking place and the length of time that any peak noise levels may occur will assist in allaying people's fears. BS5228 states *"It is suggested that good relations can be developed by keeping people informed of progress and by treating complaints fairly and expeditiously. The person, company or organisation carrying out the work on site should appoint a responsible person to liaise with the public."*

In accordance with the Planning (Wales) Act 2015, the applicant is required to undertake statutory pre-application consultation. From this the level of community liaison during construction and operation would be determined and agreed with the LPA.

Construction Road Traffic Noise onto Local Roads

5.3.12 The construction of the proposed IVC facility is expected to last around 28 weeks. During this period, there will be journeys associated with the arrival and departure of site staff and the delivery of equipment and construction materials.

5.3.13 The number of expected vehicle movements to and from Site during the construction phase would be no higher than that predicted for the operational phase. Refer to sections 6.2.14 to 6.2.18 for `worst case' traffic impacts.

Construction Vibration Levels

5.3.14 The separation distance between the construction works and NSR is circa 180m to 360m at the closest approach and the levels of vibration from compaction works would be zero at NSR, and consequently no impact would occur.

6.0 OPERATIONAL NOISE PREDICTIONS

6.1 Mitigation Strategy

6.1.1 The predicted noise levels from the Proposed Development have been calculated using the noise levels provided within Appendix 6. The noise levels are based on plant noise data provided by Technology Providers and as measured on other similar projects in the UK with the proposed mitigation measures. The noise mitigation strategy includes the following control measures:

Design Layout

(i) The design layout has taken into account the most significant noise sources and positioned these to have minimum impact on the NSR. This includes:

a) Having the Biofilter and external processing area on the northern side of the main building, which provides some local screening of the closest NSR to the southeast and east.
b) Having fast acting doors on the southern and western facades of the Reception & Pre-Treatment Building to minimise door opening periods and consequently escape of noise from operations within the building.
c) Avoiding the need for vehicles to reverse into buildings.

Noise Control Measures

(ii) Sound pressure levels of plant as detailed in Appendix 6.
(iii) Reception and Pre-Treatment Bays & Composting Tunnels contained within a building with acoustic treatment to walls and roof to achieve a weighted sound reduction index (Rw) 24dB.
(iv) Biofilter system contained within a building formed by walls having a Rw 52dB rating and a roof with Rw 48dB rating.
(v) Maturation Pad Technical Room fitted with cladding to walls and roof to Rw 24dB.
(vi) The dividing wall between the Reception/Pre-treatment and Composting Tunnel Area within the main building would be formed from cladding or blockwork to a rating of Rw 24dB or greater.

(vii) Lower wall areas within the Reception and Pre-treatment building (behind the wall cladding) would be fitted with concrete bulking bay block walls toheight of 3m to 4m (typically).

(viii) Vehicle access door into the Composting Tunnel wall at the southwest and northwest facade formed by a fast-acting door (Rw typically 10dB). Remaining door into the SE Composting Tunnel wall to be formed by an insulated roller shutter door (Rw typically 18dB).

(ix) Vehicle access doors into the Reception building wall at the southeast facade formed by a fast-acting door (Rw typically 10dB).

(x) Access doors into the Biofilter Plantroom (central section) to be an electric roller shutter door or fast acting roller door (Rw typically 10dB).

(xi) The fan stack at the Biofilter building fitted with an attenuator to reduce the noise level at 1m/90deg to the stack exit to a level not exceeding 65dB L_{Aeq} at 1m. Tonal noise to be controlled by design.

(xii) Fans located in the Biofilter Plantroom (central section) to be enclosed to reduce the reverberant noise level inside the room. Assumed internal reverberant sound pressure levels are detailed in Appendix 6.

(xiii) Design to ensure no noise character is perceptible at NSR in accordance with BS4142: 2014+A1:2019.

(xiv) External refiner/screening fitted with a 3-sided acoustic screen (formed by close-boarded fencing (15kg/m^2) or a solid wall) to a height of 5m. See attached Figure 3 for location. Refiner/screen operations would only operate between 0700 to 1800 hours Monday to Saturday.

(xv) Fans in the composting tunnel, pre-treatment building, biofilter room and maturation pad technical room to be reduced at night-time to lower fan speed to reduce noise levels (refer to Appendix 6 for fan noise levels & Figure 4 for fan locations).

(xvi) Mobile plant and site-controlled vehicles fitted with non-tonal reversing alarms (i.e. broadband noise, `white noise' or SMART type reversing alarms).

(xvii) Any proposed ventilation openings will need to be suitably attenuated and therefore technical advice would be required to ensure the noise `break-out' is suitably controlled.

6.1.2 For the purpose of the noise model we have referred to the layout plans and elevations of the IVC submitted in support of the application .

6.1.3 The assumed sound reduction index (Rw) for associated cladding and doors (relative to the main buildings) are provided in section 6.1.1. and Appendix 6.

6.1.4 The information assumed for noise emission levels for the plant provides noise data for input into the noise model and is provided in Appendix 2 and below for ease of reference.

Estimated grid references for the main building include the following:

	X	Y
● Northern corner of Composting Tunnel building:	350620	339141
● Southern corner of Composting Tunnel building:	350607	339066
● Eastern corner of Composting Tunnel building:	350651	339097
● Western corner of Composting Tunnel building:	350577	339110

6.1.5 For noise source levels refer to Appendix 6.

6.1.6 For daytime periods, the Site is assumed to have HGVs moving to and from the Installation and the door into the Pre-treatment would be opened as the HGV approaches and closed as soon as inside. For calculation purposes the number of HGVs over the daytime period on an hourly basis is assumed to be 5 (i.e. 10 movements per hour) as a worst-case scenario.

6.2 Noise Prediction Modelling

6.2.1 Noise prediction modelling of the Proposed Development is based on the information detailed in section 6.1.1 using CadnaA noise prediction modelling software. The results of the noise mapping are provided in Tables 6.3 to Table 6.5 and Appendix 3 (noise maps 1 to 3).

6.2.2 The model utilises ISO9613-2:2024 as the method of calculation for propagation from the building to the receptor. Settings for the noise model include the following, which is based on industry accepted standards:

Ground effect (Agr) = 1 (hard ground within the site boundary) & 0 (soft ground absorption due to intervening topography between site boundary and NSR)
Temperature = 10°C
Humidity = 70%
Height above ground for receiver = 4m (night-time) 1.5m (daytime and evening).

6.2.3 Drawings of the layout of the Installation and building elevations have been provided and the main building assumed heights within the noise model would indicate the following:

(i) Reception & Pre-treatment Building: 10.2m to 11.6m
(ii) Composting Tunnel Building: 11.9m to 12.8m
(iii) Biofilter Building: 5.5m to 7.6m
(iv) Odour Control Stack: 20m

Assessment of Noise Character

6.2.4 The assessment of noise from the fixed and mobile plant at the NSR is considered and our expert opinion on the aspect of noise character is provided below:

a) In terms of tonality, the likely sources which generate tonal character would include ventilation fans and tonal reversing alarms. Mobile plant would be fitted with non-tonal reversing alarms and HGVs would not need to reverse into the Reception Building. Fans would be fitted with silencers to reduce noise levels and control tonal noise character. We therefore do not expect tonal noise character to be perceptible at NSR.

b) In terms of impulsivity, the likely impulse noise sources would include the movement of material outside the buildings via a front loader. This would only occur during the daytime and would be of limited operation. In consideration of the type of material being processed, the residual sound levels measured at NSR, proposed application of BAT and resultant Site contributory noise levels, we do not expect impulsivity character to be perceptible.

c) In terms of intermittency the IVC plant operates consistently on a 24-hour basis with the only intermittent activity relating to HGV and mobile plant movement. This type of noise source is highly unlikely to be distinctive as local traffic movements already occur regularly along the local road network during this operating period.

6.2.5 In conclusion, in view of the noise contribution from the site, residual sound levels and design approach to provide suitable mitigation measures, we would advise that a noise character penalty is not appropriate to add to the calculated noise contribution from the Site activities. However, to be robust and in accordance with NRW Environmental Permit guidance, the application of a +3dB noise character penalty for new installations would be included within the assessment.

6.2.6 The results of the daytime noise predictions are provided below in Table 6.3, which includes the assumed noise mitigation measures

Table 6.3: Daytime Noise Prediction Results at NSR with noise mitigation

Noise Receptor	Predicted Rating[1] Noise Level L_{Aeq} dB with mitigation	Representative[2] Background Sound Level L_{A90} dB	Level Difference [predicted with L_{A90}] dB
Daytime (0700-1800 hours) L_{Aeq} $dB_{1\ hour}$			
R1: Park Farm Cottages	34 [37]	33	+1 [+4]
R2: Fenn's Bank Lane	34 [37]	33	+1 [+4]
R3: Fenn's Bank Lane	30 [33]	33	-3 [0]
R4: Residence nr Mereside Ind. Park	34 [37]	33	+1 [+4]
R5: The Conery, Conery Lane	23 [26]	30	-7 [-4]
R6: Woodlands Farm, Conery Lane	28 [31]	30	-2 [+1]
R7: Conery Lane Farm, Conery Lane	26 [29]	33	-7 [-4]
R8: Pinfold Cottage, Long Lane	25 [28]	33	-8 [-5]
R9: The View, Fenn's Bank Lane	30 [33]	33	-3 [0]

Note 1: Perceptible noise characteristics at NSR locations is not expected due to proposed mitigation measures. For robustness we have however included a +3dB noise character penalty in brackets [ ] for NRW H3 guidance. The daytime period includes for HGV movement and mobile plant on Site.
Note 2: Based on a 3-day & 3-night weekend period of baseline sound monitoring at NSR.

6.2.7 The above table shows the impact relative to the likely noise contribution and shows that this to be between 8dB lower and 1dB higher than the representative daytime background sound levels at NSR showing a **low** to **below an adverse impact** according to BS4142:2014+A1:2019 guidance. The inclusion of a +3dB noise character correction (which we do not expect to be required) would show the rating noise level to be between 5dB lower and 4dB higher than the representative background noise level. This would show a **low** to **below an adverse impact**.

6.2.8 It is important in low background sound environments to establish the context of the predicted noise levels relative to the existing ambient sound levels (i.e. comparing L_{Aeq} levels). Table 6.6 shows the comparison and change in residual noise levels due to the Proposed Development during daytime, evening and night-time periods.

6.2.9 The noise level associated with evening and night-time periods when the pre-treatment and processing activities have ceased (i.e. after 1800 hours and before 0700 hours) are provided in Table 6.4 and 6.5.

Table 6.4: Evening Noise Prediction Results at NSR with proposed noise mitigation

Noise Receptor	Predicted Rating[1] Noise Level L_{Aeq} dB with mitigation	Representative[2] Background Sound Level L_{A90} dB	Level Difference [predicted with L_{A90}] dB
Evening (1800-2300 hours) L_{Aeq} $dB_{1\ hour}$			
R1: Park Farm Cottages	18 [21]	26	-8 [-5]
R2: Fenn's Bank Lane	17 [20]	26	-9 [-6]
R3: Fenn's Bank Lane	15-17 [18-20]	26	-9 [-6]
R4: Residence nr Mereside Ind. Park	18 [21]	26	-8 [-5]
R5: The Conery, Conery Lane	6 [9]	26	-20 [-17]
R6: Woodlands Farm, Conery Lane	13 [16]	26	-13 [-10]
R7: Conery Lane Farm, Conery Lane	10 [13]	26	-16 [-13]
R8: Pinfold Cottage, Long Lane	10 [13]	26	-16 [-13]
R9: The View, Fenn's Bank Lane	15 [18]	28	-13 [-10]

Note 1: Perceptible noise characteristics at NSR locations is not expected due to proposed mitigation measures. For robustness we have however included a +3dB noise character penalty in brackets [ ] for NRW H3 guidance.
Note 2: Based on a 3-day & 3-night weekend period of baseline sound monitoring at NSR.

6.2.10 Table 6.4 shows the impact relative to evening operating periods and shows that when comparing the rating level (including a +3dB noise character penalty, which is not deemed to be required) with the representative background sound level would result in a level between 17dB lower and 5dB lower than the background at NSR showing a **low impact** according to BS4142:2014+A1:2019 guidance.

Table 6.5: Night-time Noise Prediction Results at NSR with proposed noise mitigation

Noise Receptor	Predicted Rating[1] Noise Level L_{Aeq} dB with mitigation	Representative[2] Background Sound Level L_{A90} dB	Level Difference [predicted with L_{A90}] dB
Night-time (2300-0700 hours) L_{Aeq} $dB_{15\ mins}$			
R1: Park Farm Cottages	18 [21]	26	-8 [-5]
R2: Fenn's Bank Lane	17 [20]	26	-9 [-6]
R3: Fenn's Bank Lane	15-17 [18-20]	26	-9 [-6]
R4: Residence nr Mereside Ind. Park	19 [22]	26	-7 [-4]
R5: The Conery, Conery Lane	7 [10]	26	-19 [-16]
R6: Woodlands Farm, Conery Lane	13 [16]	26	-13 [-10]
R7: Conery Lane Farm, Conery Lane	10 [13]	26	-16 [-13]
R8: Pinfold Cottage, Long Lane	10 [13]	26	-16[-13]
R9: The View, Fenn's Bank Lane	16 [19]	26	-10 [-7]

Note 1: Perceptible noise characteristics at NSR locations is not expected due to proposed mitigation measures. For robustness we have however included a +3dB noise character penalty in brackets [ ] for NRW H3 guidance.
Note 2: Based on a 3-day & 3-night weekend period of baseline sound monitoring at NSR.

6.2.11 Table 6.5 shows the impact relative to night-time operating periods and shows that when comparing the rating level (including a +3dB noise character penalty, which is not deemed to be required) with the representative background sound level would result in a level between 16dB lower and 4dB lower than the background at NSR showing a **low impact** according to BS4142:2014+A1:2019 guidance.

6.2.12 Table 6.6 shows the effect of the Site operational noise on existing residual sound levels at NSR for context.

Table 6.6: Increase in Residual Sound Level at NSR due to the introduction of the Proposed Development (with mitigation measures)

Noise Receptor	Site Operating Time Period	Predicted Noise Contributory Level L_{Aeq} dB	Existing Ambient (Residual) Sound Levels L_{Aeq} dB	Change In Levels L_{Aeq} dB	Impact (IEMA)
R1: Park Farm Cottages	Daytime Evening Night-time	34 18 18	55 49 45	0 0 0	Negligible Negligible Negligible
R2: Fenn's Bank Lane	Daytime Evening Night-time	34 17 17	55 49 45	0 0 0	Negligible Negligible Negligible
R3: Fenn's Bank Lane	Daytime Evening Night-time	30 15-17 15-17	55 49 45	0 0 0	Negligible Negligible Negligible
R4: Residence nr Mereside Ind. Park	Daytime Evening Night-time	34 18 19	55 49 45	0 0 0	Negligible Negligible Negligible
R5: The Conery, Conery Lane	Daytime Evening Night-time	23 6 7	51 36 44	0 0 0	Negligible Negligible Negligible
R6: Woodlands Farm, Conery Lane	Daytime Evening Night-time	28 13 13	51 36 44	0 0 0	Negligible Negligible Negligible
R7: Conery Lane Farm, Conery Lane	Daytime Evening Night-time	26 10 10	60 53 49	0 0 0	Negligible Negligible Negligible
R8: Pinfold Cottage, Long Lane	Daytime Evening Night-time	25 10 10	60 53 49	0 0 0	Negligible Negligible Negligible
R9: The View, Fenn's Bank Lane	Daytime Evening Night-time	30 15 16	60 53 49	0 0 0	Negligible Negligible Negligible

6.2.13 The above analysis of predicted noise levels generated by the Proposed Development at NSR in terms of context with typical baseline residual sound levels would produce a **negligible impact** in terms of any increase (i.e. when comparing $L_{Aeq's}$).

Operational Road Traffic Noise

6.2.14 The delivery and collection at Site from HGVs would occur 6-days per week during the Site operation. The average HGVs equates to approximately 4 HGV movements per hour (i.e. 4 in and 4 out). The vehicles travelling to and from Site would travel via the north via Fenn's Bank Lane where the vehicles would turn right in and left out of Site.

6.2.15 The effect of operational traffic onto Fenn's Bank Lane has been assessed and Table 6.7 provides the results of noise predictions in accordance with the DMRB LA 111 guidance.

Table 6.7: Predicted Road Traffic Noise Increase at Existing Residential Properties During Peak Traffic Flow Period for the Operational Phase

Receptor Road	Time Period	Measured Baseline noise (`do nothing') $LA10_{,T}$ (dB)	Predicted Noise from Development $LA10_{,T}$ (dB)	Baseline + Site noise (`do something') $LA10_{,T}$ (dB)	Change[1] compared to baseline $LA10_{,T}$ (dB)
	Weekday				
Fenn's Bank Lane	0700-1800 hours	56.8	51-52	57.8 to 58.0.	+1.0 to +1.2
	Saturday				
Fenn's Bank Lane	0700-1800 hours	55.9	49-50	56.7 to 56.9	+0.8 to +1.0

6.2.16 The impact due to the Proposed Development during weekday and Saturday periods with vehicle movement along Fenn's Bank Lane has been calculated using Calculation of Road Traffic Noise (CRTN) methodology and impact methodology using DMRB LA 111.

6.2.17 According to Table 3.7, which relates to the DMRB LA 111, during weekdays or Saturdays along the local road network, the impact assessment shows impacts to be **negligible to slight** on Fenn's Bank Lane and therefore **not significant**.

Operational Vibration Levels

6.2.18 There is no likely significant vibration expected from this type of plant and therefore magnitude impacts would be **negligible** and **not significant**.

7.0 CONCLUSIONS

7.1 The proposed IVC facility, has been assessed in terms of noise impact during construction and maximum operational conditions. This report has been undertaken to provide technical support to the planning application and Environmental Permit application for the development.

7.2 The results of baseline sound monitoring show that between 0700-1800 hours, the representative L_{A90} level is 30dB to 33dB. During the evening period, the established representative background sound level was 26dB to 28dB L_{A90}. During night-time periods (between 2300 to 0700 hours) the representative background level was shown to be 26dB L_{A90}.

7.3 Typical site operating noise levels have been established from noise data obtained from Technology Providers or library empirical data for similar sites operating in the UK to provide input data for the noise model. Where appropriate plant design noise levels have been mitigated to ensure compliance with noise guidance and standards to protect amenity.

7.4 The predicted rating noise level contribution from the application site using ISO9613-2 methodology and CadnaA noise modelling software shows noise levels at NSR from the Site to range between 25dB and 34dB L_{Aeq1hr} during maximum daytime site operations including vehicle and mobile plant movements. During evening and night-time periods the predicted rating noise level would range between 10dB and 22dB $L_{Aeq1hr/15mins}$.

7.5 The results show that the noise contribution from maximum site rating noise levels (when allowing for a +3dB noise character penalty, which is not deemed to be required by the author this assessment) at NSR would be no higher than the established representative background sound level +4dB during daytime operating periods. According to BS4142: 2014+A1:2019 the resultant assessment would conclude that noise from the site would result in a **low impact** to **below adverse impact**.

7.6 During the evening and night-time operating periods, when the pre-treatment and processing activities have stopped, the highest likely rating noise level during evening and night-time periods (when allowing for a +3dB noise character penalty, which is not deemed to be required by the author this assessment) show no exceedance of representative background sound level and would result in a **low impact** according to BS4142:2014+A1:2019.

7.7 The predicted noise levels generated by the Proposed Development at NSR in terms of context with typical baseline residual sound levels would produce a **negligible impact** in terms of any increase (i.e. when comparing $L_{Aeq's}$).

7.8 The Local Authority are able to condition the site in terms of noise to ensure noise levels and mitigation measures achieve a reasonable level of amenity in accordance with relevant guidance and standards.

7.9 Predictions of construction noise would indicate no significant impacts and `best practicable means' would be applied in accordance with BS5228-1:2009+A1:2014.

7.10 Maximum levels of vibration during the construction or operational phase (i.e. during the use of vibratory plant during construction) would result in a **negligible impact**.

7.11 The impact from additional vehicle movements on the local roads during construction or operational periods to and from Site during weekdays or Saturdays would result in a **negligible** impact and therefore **not significant**.

7.12 The assessment concludes that the site can be designed to operate such that it complies with all appropriate and relevant noise standards, guidance and development plan policy. There is, therefore, no reason to refuse the Proposed Development on the grounds of noise or vibration.

REFERENCES

BS7445:2003 Description and measurement of environmental noise.

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

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

Guidelines for Community Noise – World Health Organisation: April 1999

Night Noise Guidelines for Europe: 2009 – World Health Organisation

Technical Advice Note ("TAN") 11, `Noise' – 1997

Natural Resources Wales – H3 Guidance: Noise and Vibration Management: Environmental Permits (January 2022)

Wrexham County Borough Local Development Plan 2013 – 2028 – Policy DM1: Development Management Considerations

National Development Framework – Future Wales: the national plan 2040

Design Manual for Roads and Bridges, LA 111 Noise and Vibration: Version 2 (May 2020)

ISO 9613-2: 2024 Acoustics – Attenuation of Sound During Propagation Outdoors

FIGURES

Figure 1: Noise Measurement Locations, Receptors & Site Position

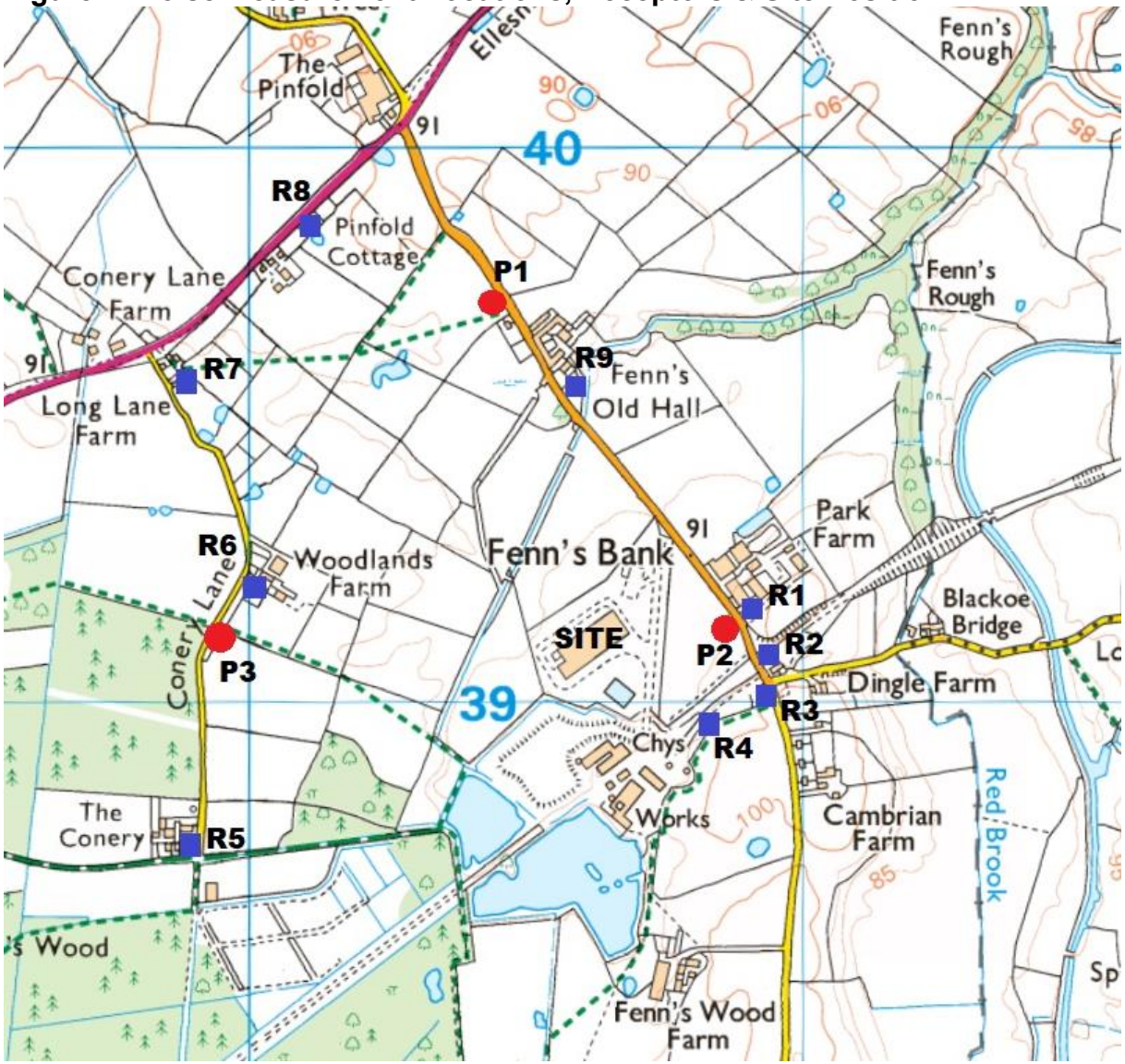


Figure 2: Draft Site Layout

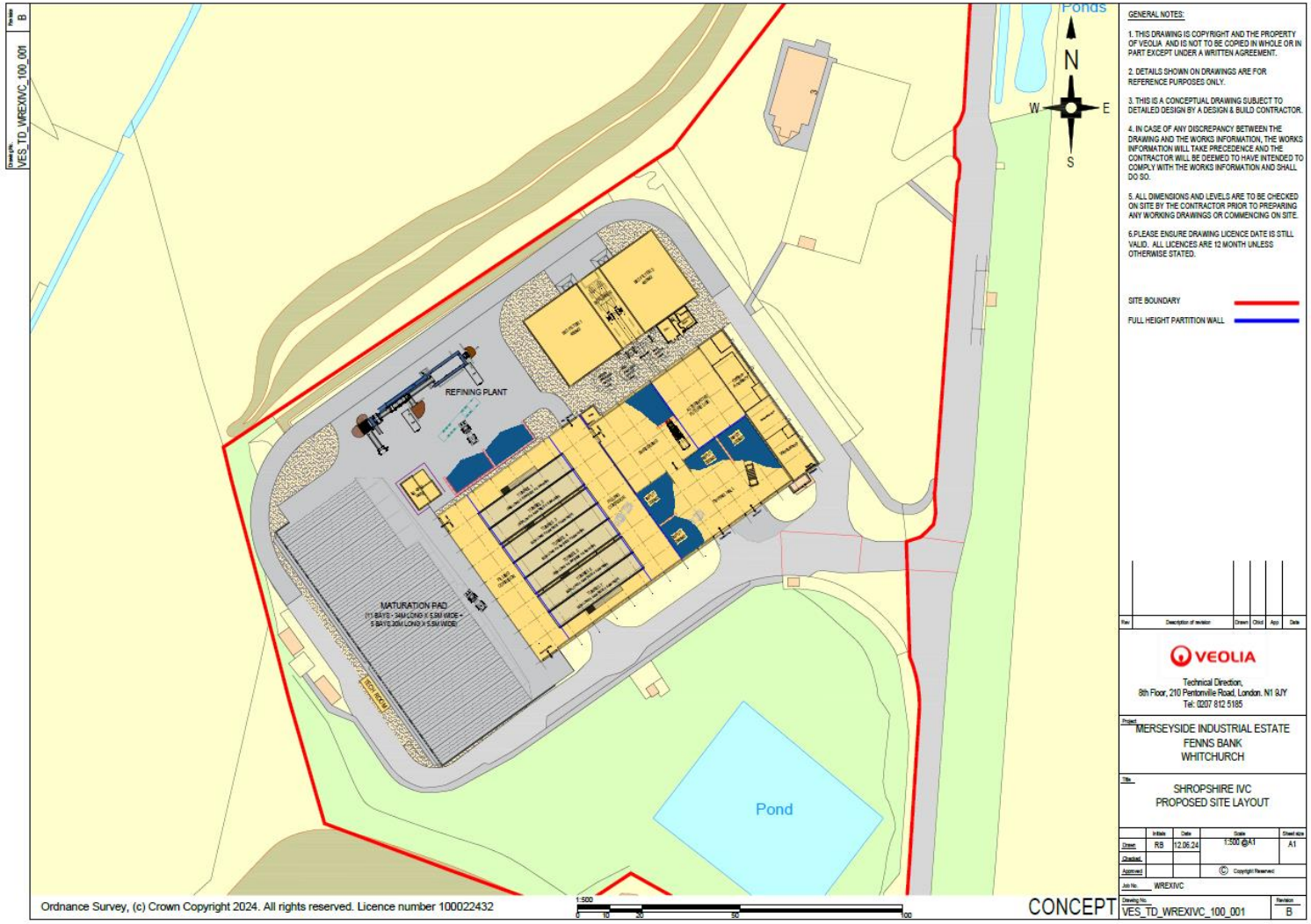


Figure 3: Refiner Screen Location

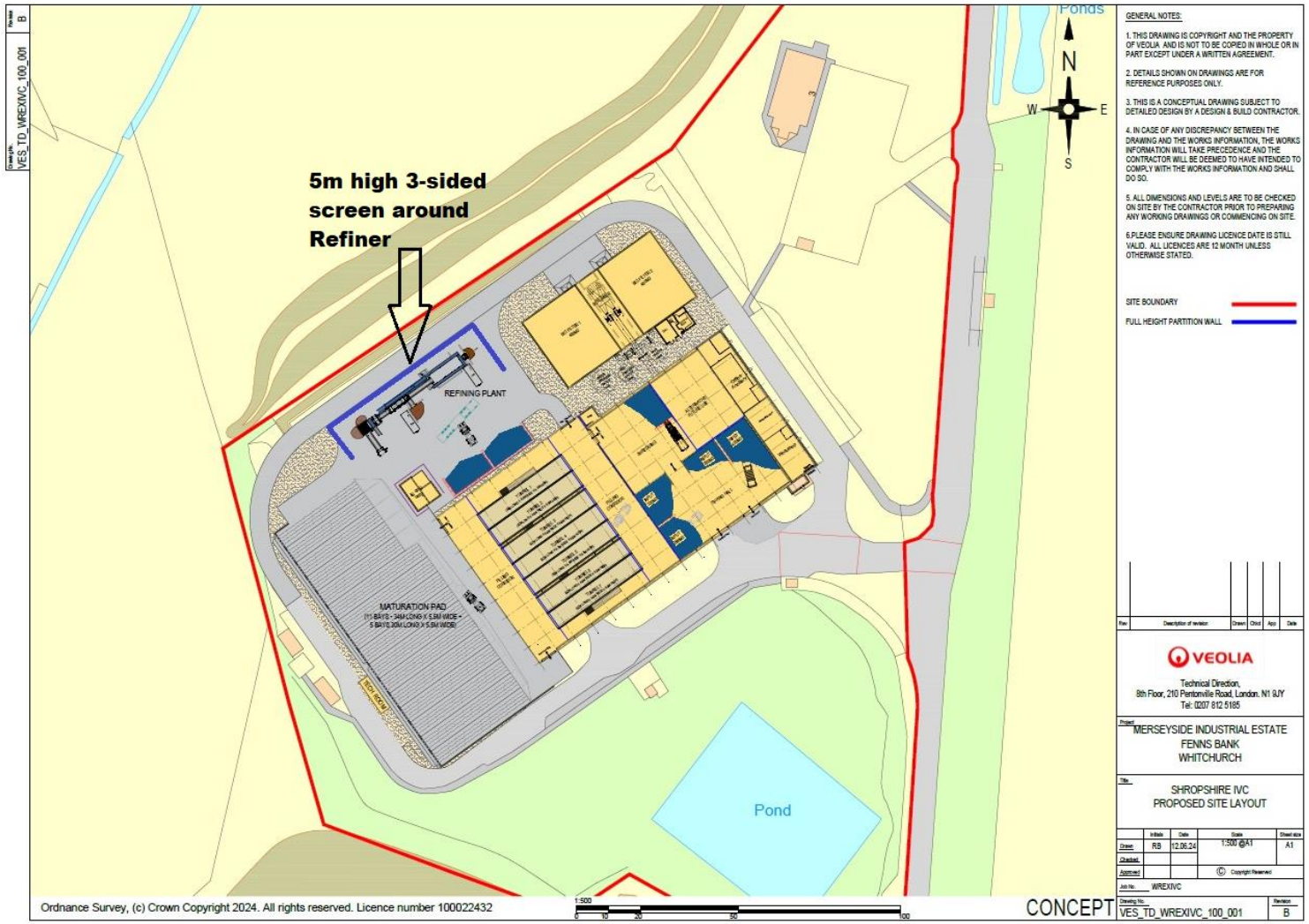


Figure 4: Draft Fan Location



FAN	LABEL	OPERATING POINT DAY	NIGHT
T43-000902	1A	2/2	3/3
	1B	3/3	4/4
T43-000901	2A	3/3	3/3
	2B	3/3	4/4
TS2-000563	3	2/2	3/3
TS2-000666	4	3/3	3/3
TS2-000670	5	3/3	4/4

PROJECT INFORMATION	
Project name	Shropshire IVC
Client	Veolia
Project number	24080
Revision	1
Author	I. Vroom
Date	13/05/2025

Appendix 1

BASIC ACOUSTIC TERMINOLOGY

Sound is produced by mechanical vibration of a surface, which sets up rapid pressure fluctuations in the surrounding air.

Sound Pressure Level is a measurement of the size of these pressure fluctuations. It is expressed in decibels (dB) on a logarithmic scale. Each 3 dB increase in sound pressure level represents a doubling of the sound energy. The threshold of hearing is approximately 0 dB.

The rate at which the pressure fluctuations occur determines the pitch or frequency of the sound. The frequency is expressed in Hertz (Hz), that is, cycles per second. The human ear is sensitive to sounds from about 20 Hz to 20,000 Hz. Although sound can be of one discrete frequency - a 'pure tone' - most noises are made up of many different frequencies.

The human ear is more sensitive to some frequencies than others, and modern instruments can measure sound in the same 'subjective' way. This is the basis of the A-weighted sound level dB(A), normally used to assess the effect of noise on people. The dB(A) weighting emphasises or reduces the importance of certain frequencies within the audible range.

Noise Measurement

The measurement of sound pressure level is only really meaningful where the level of noise is constant. In the typical industrial environment noise levels can vary widely and sometimes short duration high levels of noise are interspersed with periods of relative quiet. The most widely used means of 'averaging' the noise over a period of time is the Equivalent Continuous Sound Level. Normally written as L_{Aeq} this value takes into account both the level of noise and the length of time over which it occurs. There are many meters available which are capable of measuring L_{Aeq} by electronic integration over the measurement period.

The L_{Aeq} or A-weighted equivalent continuous noise level is a measure of the total noise energy over a stated time period and includes all the varying noise levels and re-expresses as an 'average', allowing for the length of time for which each noise level was presented.

The L_{An} parameters are defined as the noise levels which are exceeded for n% of the monitoring period, thus, for example, the L_{A90} parameter is the noise level exceeded for 90% of the 15-minute period, i.e. 13.5 minutes. The L_{A50} parameter is the noise level exceeded for 50% of the hourly period, i.e. 30 minutes, etc. The L_{max} parameter is the maximum RMS A-weighted noise level occurring during the measurement period.

The definition in layman's terms is given below for terminology used in the measurement and results obtained during the survey work.

A-weighting: Normal hearing covers the frequency (pitch) range from about 20Hz to 20,000 Hz but sensitivity of the ear is greatest between about 500Hz and 5000Hz. The "A-weighting" is an electrical circuit built into noise meters to mimic this characteristic of the human ear.

Ambient noise: The totally encompassing sound in a given situation at a given time usually composed of sound from many sources near and far.

Attenuation: Noise reduction

Background noise: The general quiet periods of ambient noise when the noise source under investigation is not there.

Decibel (dB): The unit of measurement for sound based on a logarithmic scale. 0dB is the threshold of normal hearing; 140dB is the threshold of pain. A change of 1dB is only detectable under controlled laboratory conditions.

dB(A) [decibel A weighted]: Decibels measured on a sound level meter incorporating a frequency weighting (A weighting) serves to distinguish sounds of different frequency (or pitch) in a similar way to how the human ear responds. Measurements in dB(A) broadly agrees with an individual's assessment of loudness. A change of 3dB(A) is the minimum perceptible under normal everyday conditions, and a change of 10dB(A) corresponds roughly to doubling or halving the loudness of sound.

dB(C): [decibel C weighted]: Frequency weighting which does not alter low frequency octave band levels by very much compared to `A' weighting. Similar to linear reading (i.e. linear does not alter frequency spectra at all)

Frequency (Hz): The number of sound waves to pass a point in one second.

L_{Aeq}: This is a noise index used to describe the "average" level of a noise that varies with time (T). It allows for the different sensitivities of the human ear to different frequencies (pitch), and averages fluctuating noise levels in a manner which correlates well with human perceptions of loudness.

$L_{A10,T}$: This noise index gives an indication of the upper limit or peak levels of the fluctuating noise. It is the "A weighted" noise level exceeded for 10 per cent of the specified measurement period (T). e.g. If the measurement period was over 10 hours and the L_{A10} reading was say 60dB, then this means that for 1 hour out of 10 the level went above 60dB.

$L_{A90,T}$: This noise index gives an indication of the lower limit or levels of the fluctuating noise. It is the "A weighted" noise level exceeded for 90 per cent of the specified measurement period (T). e.g. If the measurement period was over 10 hours and the L_{A90} reading was say 50dB, then this means that for 9 hours out of 10 the level went above 50dB.

L_{Amax}: This is the highest `A' weighted noise level recorded during a noise measurement period.

Residual noise: The ambient noise remaining at a given position in a given situation when the noise source under investigation is not there.

Specific noise: The noise source under investigation for assessing the likelihood of complaints

Examples of typical noise levels

Source/Activity	Indicative noise level [dB(A)]
Threshold of hearing	0
Rural night-time background	20-40
Quiet bedroom	35
Wind farm at 350m	35-45
Busy road at 5km	35-45
Car at 65km/h at 100m	55
Busy general office	60
Conversation	60
Truck at 50km/h at 100m	65
City Traffic at 5m	75-85
Pneumatic drill at 7m	95
Jet aircraft at 250m	105
Threshold of pain	140

Appendix 2

Baseline Sound Survey Results

Baseline Sound Survey Results

Noise Survey Results

Date: Friday 28th February 2025 **TABLE 1**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P1 (NE from Site)**
Instrumentation: Cirrus 171B Real Time Analyser (G056142)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
07:00	15:00	60.5	60.7	46.9	80.6	Local & distant road traffic noise
07:15	15:00	59.8	55.8	46.5	83.3	
07:30	15:00	61.0	57.9	48.2	82.8	
07:45	15:00	62.5	60.6	47.7	82.2	
08:00	15:00	60.4	56.9	46.9	82.3	
08:15	15:00	62.6	60.0	46.7	81.0	
08:30	15:00	61.9	60.2	45.6	79.9	
08:45	15:00	61.9	59.7	44.5	81.7	
09:00	15:00	61.3	59.8	42.5	80.6	
09:15	15:00	59.6	56.6	42.4	82.0	
09:30	15:00	58.4	53.0	40.9	78.6	
09:45	15:00	55.2	53.0	37.4	79.2	
10:00	15:00	56.0	48.6	35.2	76.3	
10:15	15:00	58.1	53.0	35.0	80.1	
10:30	15:00	56.9	52.2	33.1	81.5	
10:45	15:00	60.5	52.5	31.6	83.9	
11:00	15:00	60.5	55.9	32.4	81.6	
11:15	15:00	58.6	51.6	33.5	79.7	
11:30	15:00	57.8	51.1	34.8	81.0	
11:45	15:00	60.7	56.2	35.0	82.4	
12:00	15:00	56.9	49.2	30.9	79.1	
12:15	15:00	57.1	51.9	31.8	77.3	
12:30	15:00	61.2	62.1	34.3	81.3	
12:45	15:00	52.9	50.7	33.2	74.3	
13:00	15:00	59.6	53.5	30.0	82.4	
13:15	15:00	59.8	52.9	30.2	85.0	
13:30	15:00	59.3	52.9	30.4	81.2	
13:45	15:00	58.0	55.0	32.0	77.9	
14:00	15:00	58.9	55.6	33.0	81.8	
14:15	15:00	61.6	58.1	33.9	84.5	
14:30	15:00	59.2	58.5	33.4	79.9	
14:45	15:00	59.5	55.7	38.0	80.1	
Average 0700-1500		59.7	56.7	41.7	74-85	

Noise Survey Results

Date: Friday 28th February 2025 **TABLE 2**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P1 (NE from Site)**
Instrumentation: Cirrus 171B Real Time Analyser (G056142)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
15:00	15:00	59.7	56.8	38.3	77.6	
15:15	15:00	61.8	59.7	31.0	78.9	
15:30	15:00	58.4	56.0	30.4	78.9	
15:45	15:00	57.5	51.9	31.2	77.2	
16:00	15:00	60.4	59.4	33.8	79.9	
16:15	15:00	61.5	58.4	34.8	80.4	
16:30	15:00	58.4	55.5	33.2	80.4	
16:45	15:00	59.7	55.0	40.2	81.5	
17:00	15:00	61.2	59.5	33.9	81.5	
17:15	15:00	59.5	55.3	33.2	78.3	
17:30	15:00	60.7	57.2	33.3	80.6	
17:45	15:00	58.2	53.1	33.3	77.5	
18:00	15:00	57.8	52.6	30.2	78.1	
18:15	15:00	53.7	48.9	30.7	75.6	
18:30	15:00	58.9	53.4	28.5	79.7	
18:45	15:00	58.7	54.2	28.4	79.9	
19:00	15:00	58.7	52.4	27.3	78.7	
19:15	15:00	55.1	47.7	28.8	76.8	
19:30	15:00	57.7	49.5	27.7	82.0	
19:45	15:00	54.3	45.1	26.0	75.6	
20:00	15:00	53.4	37.9	27.0	78.4	
20:15	15:00	54.0	35.6	27.8	78.7	
20:30	15:00	53.8	37.1	28.2	79.9	
20:45	15:00	52.7	38.9	28.4	76.7	
21:00	15:00	55.8	49.1	27.8	76.8	
21:15	15:00	52.6	37.6	28.4	76.1	
21:30	15:00	50.3	36.4	27.5	74.0	
21:45	15:00	46.5	32.9	26.9	72.0	
22:00	15:00	56.4	47.4	27.5	80.0	
22:15	15:00	52.3	37.0	27.2	76.0	
22:30	15:00	46.0	30.7	26.0	73.0	
22:45	15:00	51.7	30.9	26.2	76.8	
Average 1500-2300		57.6	53.6	31.9	72-82	

Noise Survey Results

Date: Friday 28th - Saturday 1st February 2025 **TABLE 3**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P1 (NE from Site)**
Instrumentation: Cirrus 171B Real Time Analyser (G056142)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
23:00	15:00	32.5	33.7	27.6	43.0	
23:15	15:00	29.8	30.0	26.0	48.0	
23:30	15:00	48.5	34.4	27.2	75.7	
23:45	15:00	33.4	34.6	26.0	44.4	
00:00	15:00	30.7	29.6	26.0	47.4	
00:15	15:00	32.4	32.9	27.3	43.7	
00:30	15:00	33.4	34.2	26.6	49.9	
00:45	15:00	54.4	38.5	26.1	80.9	
01:00	15:00	24.8	22.9	26.0	40.6	
01:15	15:00	28.4	28.1	26.0	47.0	
01:30	15:00	28.8	28.2	26.0	43.8	
01:45	15:00	26.4	25.9	26.0	37.5	
02:00	15:00	28.4	26.8	26.0	47.7	
02:15	15:00	32.0	30.9	26.8	47.7	
02:30	15:00	33.3	33.1	26.2	49.3	
02:45	15:00	32.4	33.1	26.0	47.5	
03:00	15:00	30.1	30.7	26.0	43.2	
03:15	15:00	33.8	31.2	26.0	49.6	
03:30	15:00	46.3	32.6	26.0	72.0	
03:45	15:00	45.0	35.5	26.0	70.8	
04:00	15:00	29.6	27.7	26.1	51.0	
04:15	15:00	50.6	37.5	26.3	77.8	
04:30	15:00	51.0	37.4	26.1	78.0	
04:45	15:00	55.4	41.3	26.0	81.3	
05:00	15:00	55.2	41.7	27.9	78.2	
05:15	15:00	49.0	38.7	29.4	75.0	
05:30	15:00	36.9	36.4	29.5	53.2	
05:45	15:00	40.4	40.1	30.5	57.5	
06:00	15:00	50.9	52.0	35.1	63.3	
06:15	15:00	55.7	50.0	40.2	78.2	
06:30	15:00	54.7	51.9	38.3	79.4	
06:45	15:00	57.4	48.7	39.0	82.3	
Average 2300-0700		49.4	42.6	31.1	38-82	
Average 0700-2300		59.0	55.0	31.5	72-85	

Noise Survey Results

Date: Saturday 1st March 2025 **TABLE 4**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P1 (NE from Site)**
Instrumentation: Cirrus 171B Real Time Analyser (G056142)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
07:00	15:00	56.1	50.8	39.3	79.6	
07:15	15:00	53.3	48.0	40.1	76.1	
07:30	15:00	56.5	51.8	40.7	82.1	
07:45	15:00	55.3	49.9	40.5	78.1	
08:00	15:00	59.3	52.7	39.4	82.7	
08:15	15:00	59.7	55.3	38.5	79.7	
08:30	15:00	56.4	51.6	39.0	76.5	
08:45	15:00	57.2	51.8	38.8	79.9	
09:00	15:00	53.7	50.2	36.9	77.7	
09:15	15:00	58.8	54.7	38.3	84.0	
09:30	15:00	58.0	53.0	37.7	77.3	
09:45	15:00	58.2	54.2	37.0	77.3	
10:00	15:00	59.1	53.7	34.7	79.0	
10:15	15:00	59.4	53.2	32.8	80.4	
10:30	15:00	59.7	56.1	30.7	79.5	
10:45	15:00	57.9	50.6	30.7	79.5	
11:00	15:00	59.9	57.1	37.9	78.2	
11:15	15:00	58.6	52.9	34.9	76.9	
11:30	15:00	59.4	54.7	34.1	77.7	
11:45	15:00	60.2	55.7	35.6	80.3	
12:00	15:00	66.2	57.6	33.9	86.5	
12:15	15:00	61.6	57.9	34.7	80.3	
12:30	15:00	59.8	54.5	35.8	79.8	
12:45	15:00	60.9	58.1	34.5	78.0	
13:00	15:00	57.8	51.4	38.2	77.7	
13:15	15:00	57.8	51.8	33.8	79.0	
13:30	15:00	59.0	50.3	36.4	80.2	
13:45	15:00	60.5	54.6	34.7	84.2	
14:00	15:00	60.2	57.1	38.5	79.9	
14:15	15:00	58.6	54.9	35.9	77.6	
14:30	15:00	59.6	53.2	34.8	83.0	
14:45	15:00	61.0	61.0	39.1	78.4	
Average 0700-1500		59.4	54.7	37.2	76-87	

Noise Survey Results

Date: Saturday 1st March 2025 **TABLE 5**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P1 (NE from Site)**
Instrumentation: Cirrus 171B Real Time Analyser (G056142)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
15:00	15:00	59.0	53.3	35.2	80.6	
15:15	15:00	61.2	56.8	31.2	83.9	
15:30	15:00	56.5	52.0	34.1	77.6	
15:45	15:00	58.7	53.6	33.3	79.2	
16:00	15:00	59.5	56.1	30.5	78.3	
16:15	15:00	55.9	51.7	32.5	76.9	
16:30	15:00	58.8	53.7	32.7	80.5	
16:45	15:00	56.5	52.3	32.0	77.8	
17:00	15:00	59.9	54.8	34.5	81.0	
17:15	15:00	66.4	58.2	33.2	90.3	
17:30	15:00	57.5	51.2	34.0	77.9	
17:45	15:00	58.5	53.6	33.0	81.6	
18:00	15:00	56.9	50.3	35.1	78.7	
18:15	15:00	57.9	52.2	32.7	80.2	
18:30	15:00	60.2	53.5	35.2	83.7	
18:45	15:00	57.9	48.1	34.0	79.9	
19:00	15:00	55.3	47.2	34.2	78.1	
19:15	15:00	49.2	37.1	31.2	74.0	
19:30	15:00	55.4	43.0	28.5	77.9	
19:45	15:00	49.7	36.8	28.7	75.2	
20:00	15:00	55.6	48.1	30.0	77.9	
20:15	15:00	56.3	48.7	27.3	78.3	
20:30	15:00	52.5	34.1	26.2	77.0	
20:45	15:00	56.0	44.9	26.7	78.4	
21:00	15:00	53.0	41.8	29.5	76.6	
21:15	15:00	48.6	36.3	29.3	72.6	
21:30	15:00	51.3	39.1	28.6	77.4	
21:45	15:00	51.2	39.6	29.1	76.8	
22:00	15:00	48.4	32.1	29.3	76.5	
22:15	15:00	51.3	34.8	25.1	78.6	
22:30	15:00	33.3	33.1	26.6	44.6	
22:45	15:00	34.3	34.1	25.2	45.1	
Average 1500-2300		57.5	51.2	31.8	45-90	

Noise Survey Results

Date: Saturday 1st - Sunday 2nd March 2025 **TABLE 6**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P1 (NE from Site)**
Instrumentation: Cirrus 171B Real Time Analyser (G056142)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
23:00	15:00	49.5	38.5	28.5	75.3	
23:15	15:00	47.9	35.0	26.1	73.4	
23:30	15:00	37.8	35.0	27.7	46.5	
23:45	15:00	35.3	32.8	26.2	43.0	
00:00	15:00	47.0	34.5	25.4	73.8	
00:15	15:00	51.0	41.2	27.6	75.3	
00:30	15:00	32.6	32.7	26.4	44.3	
00:45	15:00	35.8	33.7	26.3	49.3	
01:00	15:00	47.5	32.9	23.0	73.5	
01:15	15:00	35.7	33.6	25.0	44.5	
01:30	15:00	33.2	31.0	26.2	43.8	
01:45	15:00	33.7	33.6	25.1	43.6	
02:00	15:00	33.2	31.7	25.3	42.2	
02:15	15:00	35.6	34.6	25.1	53.9	
02:30	15:00	34.6	33.3	25.6	46.6	
02:45	15:00	35.8	33.9	25.4	44.4	
03:00	15:00	36.3	33.7	25.6	46.9	
03:15	15:00	50.9	38.9	25.8	73.5	
03:30	15:00	53.9	38.3	25.7	78.1	
03:45	15:00	34.9	32.8	25.9	41.1	
04:00	15:00	35.2	32.7	25.4	49.7	
04:15	15:00	50.2	37.4	25.8	76.2	
04:30	15:00	53.1	37.7	25.8	77.6	
04:45	15:00	49.8	34.7	24.1	77.4	
05:00	15:00	53.8	40.2	24.0	78.1	
05:15	15:00	54.7	37.5	26.1	81.7	
05:30	15:00	36.6	37.2	26.8	49.7	
05:45	15:00	37.4	37.3	27.0	53.9	
06:00	15:00	51.7	50.0	36.6	74.6	
06:15	15:00	52.9	50.3	38.2	77.2	
06:30	15:00	49.2	47.7	35.7	71.1	
06:45	15:00	57.4	48.8	37.2	82.4	
Average 2300-0700		49.2	41.5	29.8	55-84	
Average 0700-2300		58.5	53.3	35.3	45-90	

Noise Survey Results

Date: Sunday 2nd March 2025 **TABLE 7**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P1 (NE from Site)**
Instrumentation: Cirrus 171B Real Time Analyser (G056142)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
07:00	15:00	53.3	49.2	40.5	76.4	
07:15	15:00	49.6	49.3	39.1	68.0	
07:30	15:00	59.5	51.5	40.9	83.9	
07:45	15:00	52.7	50.6	39.3	73.2	
08:00	15:00	54.8	51.2	40.1	76.2	
08:15	15:00	55.0	53.2	39.1	77.0	
08:30	15:00	53.2	48.6	37.2	75.9	
08:45	15:00	55.0	52.2	35.3	75.0	
09:00	15:00	61.6	51.4	35.8	84.6	
09:15	15:00	59.4	50.6	37.1	83.1	
09:30	15:00	61.9	55.8	37.7	89.8	
09:45	15:00	55.9	49.8	36.9	79.1	
10:00	15:00	57.4	55.9	38.6	77.2	
10:15	15:00	58.4	55.9	40.6	78.5	
10:30	15:00	60.4	58.1	36.9	77.7	
10:45	15:00	54.5	50.7	33.2	76.8	
11:00	15:00	57.1	51.7	31.4	77.7	
11:15	15:00	59.1	55.7	36.9	78.1	
11:30	15:00	58.7	56.1	36.3	79.4	
11:45	15:00	57.8	52.7	34.0	77.2	
12:00	15:00	58.4	57.0	32.2	79.2	
12:15	15:00	56.8	52.7	30.8	77.4	
12:30	15:00	59.4	54.6	31.1	84.8	
12:45	15:00	57.8	56.1	32.0	76.6	
13:00	15:00	54.5	43.8	28.5	79.1	
13:15	15:00	60.1	56.5	31.3	84.4	
13:30	15:00	58.0	53.5	31.6	79.0	
13:45	15:00	54.7	51.2	33.8	79.6	
14:00	15:00	56.8	53.0	32.5	78.6	
14:15	15:00	54.8	51.8	32.6	77.5	
14:30	15:00	61.3	55.8	33.8	84.0	
14:45	15:00	52.5	47.5	31.9	75.9	
Average 0700-1500		57.7	53.6	36.5	68-90	

Noise Survey Results

Date: Sunday 2nd March 2025 **TABLE 8**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P1 (NE from Site)**
Instrumentation: Cirrus 171B Real Time Analyser (G056142)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
15:00	15:00	56.2	52.9	34.0	80.6	
15:15	15:00	55.3	52.1	31.8	77.2	
15:30	15:00	57.7	55.6	32.2	78.3	
15:45	15:00	55.8	51.0	33.0	84.4	
16:00	15:00	53.7	51.2	31.5	75.9	
16:15	15:00	63.6	62.9	36.4	83.3	
16:30	15:00	56.6	55.5	34.2	79.2	
16:45	15:00	57.9	48.2	31.8	85.9	
17:00	15:00	58.0	56.3	31.3	76.4	
17:15	15:00	59.4	54.6	30.0	82.4	
17:30	15:00	54.7	50.2	30.9	77.1	
17:45	15:00	56.4	50.6	28.9	78.0	
18:00	15:00	55.3	51.6	32.0	77.6	
18:15	15:00	55.9	53.1	32.4	76.7	
18:30	15:00	59.3	49.4	32.0	86.1	
18:45	15:00	53.5	45.1	31.4	76.0	
19:00	15:00	44.3	37.4	30.1	70.1	
19:15	15:00	49.6	40.2	30.9	75.4	
19:30	15:00	53.0	43.9	30.3	78.6	
19:45	15:00	54.3	43.8	28.0	79.4	
20:00	15:00	54.9	44.7	29.0	77.1	
20:15	15:00	56.4	50.5	28.3	77.3	
20:30	15:00	34.6	34.0	28.1	46.7	
20:45	15:00	54.1	43.3	27.7	77.6	
21:00	15:00	35.8	35.6	27.6	47.7	
21:15	15:00	55.6	39.4	27.8	80.5	
21:30	15:00	56.0	43.6	24.9	78.4	
21:45	15:00	44.0	37.0	25.6	67.2	
22:00	15:00	50.0	38.3	26.5	75.5	
22:15	15:00	34.3	33.3	25.3	48.8	
22:30	15:00	34.7	33.1	25.3	47.9	
22:45	15:00	33.8	32.8	22.9	54.4	
Average 1500-2300		55.6	51.9	30.7	47-86	

Noise Survey Results

Date: Sunday 2nd - Monday 3rd March 2025 **TABLE 9**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P1 (NE from Site)**
Instrumentation: Cirrus 171B Real Time Analyser (G056142)
Calibration: 94dB

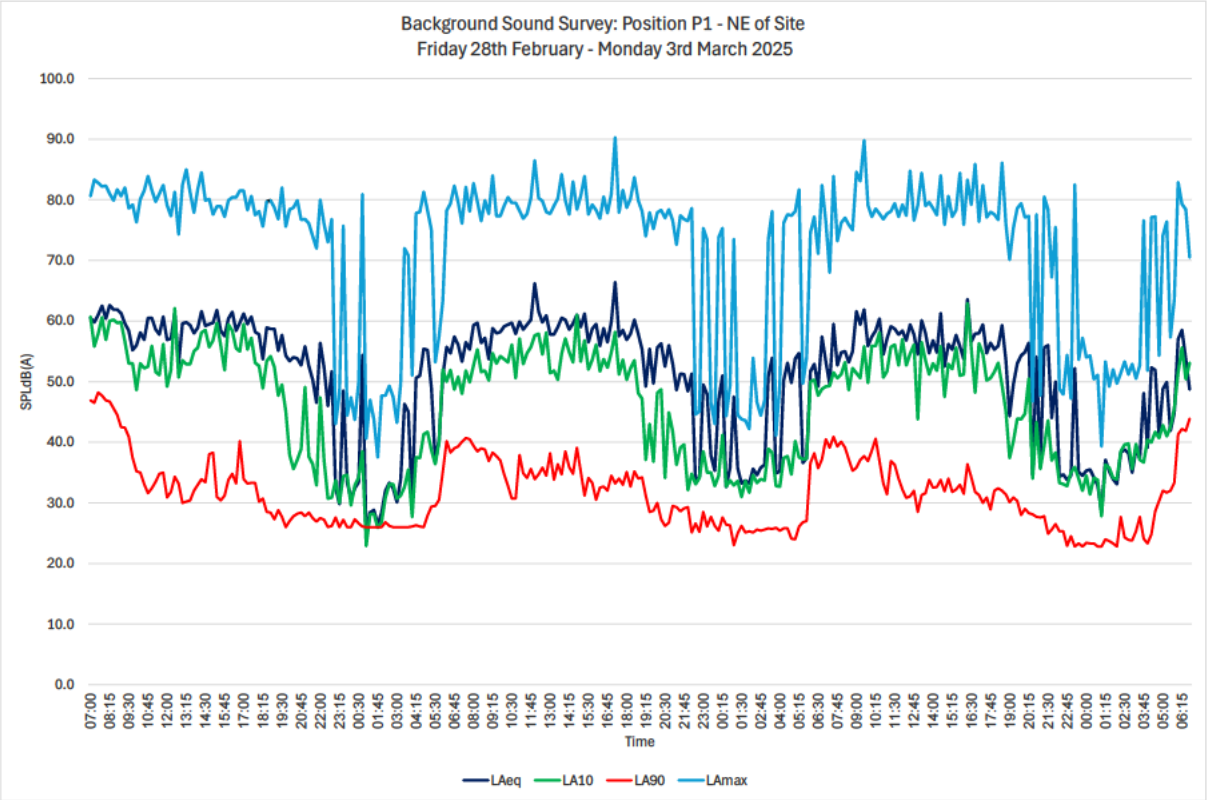
Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
23:00	15:00	34.5	35.0	24.5	47.2	
23:15	15:00	52.2	35.9	22.8	82.5	
23:30	15:00	35.1	34.0	23.3	53.6	
23:45	15:00	34.5	32.0	22.8	57.2	
00:00	15:00	35.3	34.5	23.4	54.0	
00:15	15:00	35.5	31.4	23.3	54.3	
00:30	15:00	34.2	34.1	23.3	50.4	
00:45	15:00	32.9	33.8	22.8	51.1	
01:00	15:00	28.5	27.8	22.8	39.3	
01:15	15:00	37.1	36.3	24.0	53.3	
01:30	15:00	35.2	35.8	23.7	49.2	
01:45	15:00	33.9	34.1	23.3	52.0	
02:00	15:00	33.1	33.9	22.8	49.7	
02:15	15:00	38.3	38.5	27.7	51.4	
02:30	15:00	38.8	39.6	24.3	53.3	
02:45	15:00	38.2	39.8	23.9	51.2	
03:00	15:00	35.0	35.6	23.8	52.9	
03:15	15:00	38.8	39.7	25.3	50.5	
03:30	15:00	37.4	37.1	27.7	52.7	
03:45	15:00	48.1	36.7	24.1	76.6	
04:00	15:00	39.1	40.4	23.3	51.8	
04:15	15:00	52.3	40.0	24.8	77.1	
04:30	15:00	51.9	41.7	28.6	77.2	
04:45	15:00	41.0	40.7	30.3	54.3	
05:00	15:00	48.8	42.8	32.0	74.1	
05:15	15:00	49.9	41.0	31.7	76.4	
05:30	15:00	41.9	42.5	32.0	57.3	
05:45	15:00	44.8	45.5	33.3	63.5	
06:00	15:00	57.0	51.5	41.3	82.9	
06:15	15:00	58.5	55.6	42.2	79.3	
06:30	15:00	53.7	50.4	41.9	78.4	
06:45	15:00	48.7	53.1	43.9	70.5	
Average 2300-0700		48.7	45.0	34.2	39-83	
Average 0700-2300		56.8	52.8	34.5	47-90	

Overall Average	**49.1**	**43.3**	**32.1**	**38-83**	
Overall Average	**58.1**	**54.0**	**36.8**	**45-90**	

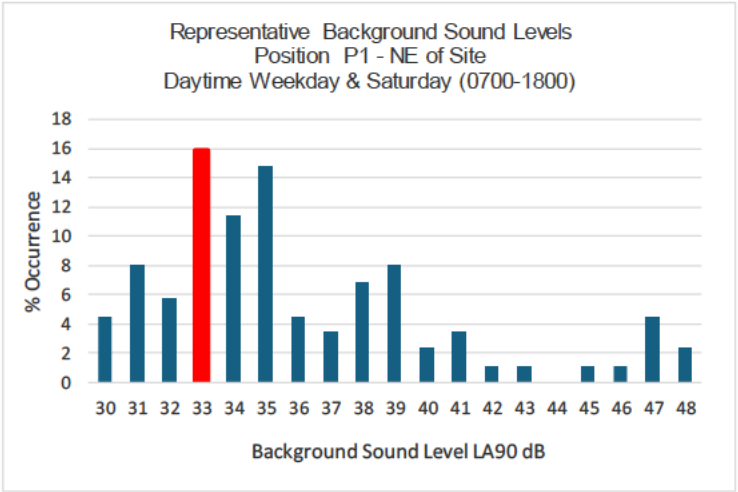
Average 1900-2300	**53.0**	**43.6**	**28.2**	**45-82**	

Average 2300-0700	**49.1**	**43.3**	**32.1**	**38-83**	

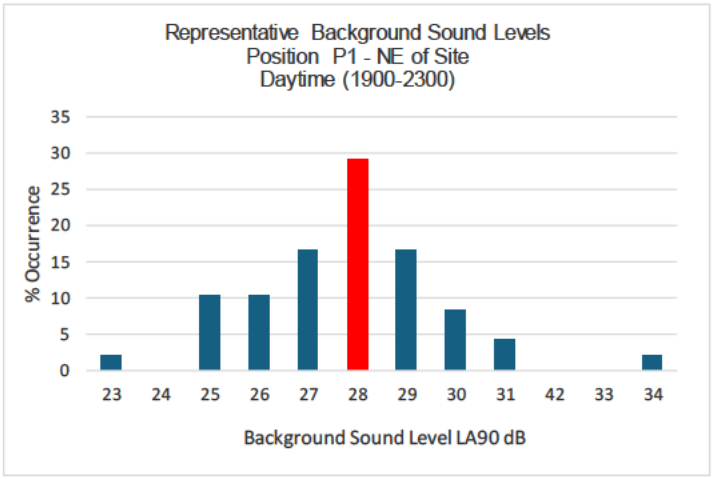
Weekday Av. 0700-1800	**59.8**	**56.8**	**40.6**	**74-85**	
Weekday/Sat 0700-1800	**59.7**	**55.9**	**39.0**	**74-90**	
Saturday Av. 0700-1800	**59.6**	**54.6**	**36.4**	**76-90**	
Sunday Av. 0700-1200	**57.8**	**53.4**	**37.9**	**68-90**	



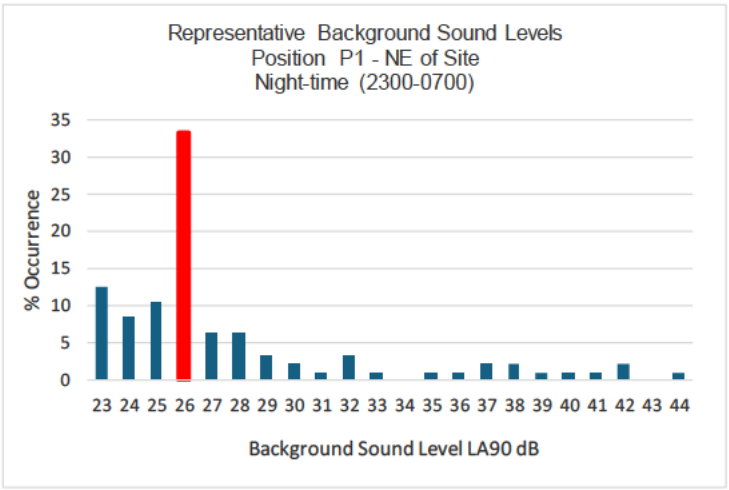
LA90	% Occurrence	
30	4.5	
31	8.0	
32	5.7	
33	15.9	Mode
34	11.4	
35	14.8	Median
36	4.5	
37	3.4	
38	6.8	
39	8.0	Average
40	2.3	
41	3.4	
42	1.1	
43	1.1	
44	0.0	
45	1.1	
46	1.1	
47	4.5	
48	2.3	



LA90	% Occurrence	
23	2.1	
24	0.0	
25	10.4	
26	10.4	
27	16.7	
28	29.2	Median/Mode/Av.
29	16.7	
30	8.3	
31	4.2	
42	0.0	
33	0.0	
34	2.1	



LA90	% Occurrence	
23	12.5	
24	8.3	
25	10.4	
26	33.3	Mode/Median
27	6.3	
28	6.3	
29	3.1	
30	2.1	
31	1.0	
32	3.1	Average
33	1.0	
34	0.0	
35	1.0	
36	1.0	
37	2.1	
38	2.1	
39	1.0	
40	1	
41	1	
42	2.1	
43	0	
44	1	



Noise Survey Results

Date: Friday 28th February 2025 **TABLE 10**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P2 (East of Site)**
Instrumentation: Cirrus 171BA Real Time Analyser (G066350)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
07:00	15:00	54.6	55.2	42.4	74.7	Intermittent road traffic noise, distant road traffic and birdsong
07:15	15:00	55.5	56.4	42.6	75.2	
07:30	15:00	55.2	54.9	42.7	75.5	
07:45	15:00	57.8	57.9	42.9	75.4	
08:00	15:00	54.8	52.3	42.5	76.3	
08:15	15:00	58.2	59.0	42.6	75.7	
08:30	15:00	57.4	60.0	41.9	74.2	
08:45	15:00	56.0	55.8	41.1	75.8	
09:00	15:00	57.7	60.0	39.8	75.0	
09:15	15:00	54.2	49.9	38.7	75.9	
09:30	15:00	52.7	49.0	37.1	73.5	
09:45	15:00	52.7	51.9	35.0	74.2	
10:00	15:00	52.1	49.9	36.4	71.6	
10:15	15:00	53.2	49.9	32.5	73.6	
10:30	15:00	54.3	46.8	32.1	80.2	
10:45	15:00	55.5	49.5	29.7	78.3	
11:00	15:00	55.5	55.6	35.5	74.1	
11:15	15:00	54.0	54.3	43.7	76.6	
11:30	15:00	57.0	53.4	34.9	81.0	
11:45	15:00	57.4	60.0	33.2	78.4	
12:00	15:00	50.8	51.5	32.6	74.6	
12:15	15:00	54.2	54.2	34.0	72.3	
12:30	15:00	54.2	53.3	35.5	74.2	
12:45	15:00	54.3	50.9	32.9	78.7	
13:00	15:00	53.9	53.5	34.7	75.1	
13:15	15:00	52.9	52.0	35.9	73.7	
13:30	15:00	53.2	52.8	35.1	72.2	
13:45	15:00	52.5	53.2	33.2	73.8	
14:00	15:00	56.6	55.5	33.4	81.5	
14:15	15:00	57.0	56.4	34.6	78.9	
14:30	15:00	53.4	54.2	33.4	73.0	
14:45	15:00	56.0	56.3	34.6	76.3	
Average 0700-1500		55.2	55.1	38.6	72-82	

Noise Survey Results

Date: Friday 28th February 2025 **TABLE 11**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P2 (East of Site)**
Instrumentation: Cirrus 171BA Real Time Analyser (G066350)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
15:00	15:00	55.2	53.4	33.4	73.7	
15:15	15:00	57.3	58.2	32.8	74.7	
15:30	15:00	53.9	54.5	32.7	74.7	
15:45	15:00	53.0	50.4	33.2	73.0	
16:00	15:00	55.9	57.9	32.8	75.7	
16:15	15:00	57.0	56.9	33.8	76.2	
16:30	15:00	53.9	54.0	33.4	76.2	
16:45	15:00	55.2	53.5	39.2	77.3	
17:00	15:00	56.7	58.0	32.9	77.3	
17:15	15:00	55.0	53.8	32.6	74.1	
17:30	15:00	56.2	55.7	32.7	76.4	
17:45	15:00	53.7	51.6	32.3	73.3	
18:00	15:00	53.3	51.1	32.2	73.9	
18:15	15:00	49.2	47.4	31.5	71.4	
18:30	15:00	54.4	51.9	27.5	75.5	
18:45	15:00	54.2	52.7	27.4	75.7	
19:00	15:00	54.2	50.9	27.3	74.5	
19:15	15:00	50.6	46.2	28.8	72.6	
19:30	15:00	53.2	48.0	27.7	77.8	
19:45	15:00	49.8	43.6	26.0	71.4	
20:00	15:00	48.9	36.4	27.0	74.2	
20:15	15:00	49.5	34.1	26.2	74.5	
20:30	15:00	49.3	35.6	26.0	75.7	
20:45	15:00	48.2	37.4	26.4	72.5	
21:00	15:00	51.3	47.6	26.0	72.6	
21:15	15:00	48.1	36.1	26.0	71.9	
21:30	15:00	45.8	34.9	26.0	69.8	
21:45	15:00	42.0	31.4	26.9	67.8	
22:00	15:00	51.9	45.9	27.5	75.8	
22:15	15:00	47.8	35.5	27.2	71.8	
22:30	15:00	41.5	29.2	26.0	68.8	
22:45	15:00	47.2	29.4	26.2	72.6	
Average 1500-2300		53.1	52.0	31.1	68-78	

Noise Survey Results

Date: Friday 28th - Saturday 1st February 2025 **TABLE 12**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P2 (East of Site)**
Instrumentation: Cirrus 171BA Real Time Analyser (G066350)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
23:00	15:00	28.0	32.2	26.6	38.8	
23:15	15:00	30.2	30.5	26.1	43.8	
23:30	15:00	44.0	32.9	26.2	71.5	
23:45	15:00	30.4	33.1	26.0	40.2	
00:00	15:00	29.1	28.1	26.4	43.2	
00:15	15:00	29.1	31.4	26.3	39.5	
00:30	15:00	28.9	32.7	25.6	45.7	
00:45	15:00	49.9	37.0	26.4	76.7	
01:00	15:00	30.2	31.4	26.4	36.4	
01:15	15:00	33.9	36.6	26.7	42.8	
01:30	15:00	29.9	30.2	26.3	39.6	
01:45	15:00	31.9	34.4	26.3	33.3	
02:00	15:00	33.5	34.2	26.0	43.5	
02:15	15:00	29.7	29.4	26.7	43.5	
02:30	15:00	30.8	31.6	26.7	45.1	
02:45	15:00	31.3	31.6	26.5	43.3	
03:00	15:00	30.3	31.2	26.8	44.4	
03:15	15:00	29.3	29.7	26.0	45.4	
03:30	15:00	41.8	31.1	27.2	67.8	
03:45	15:00	40.5	34.0	27.4	66.6	
04:00	15:00	35.1	36.2	27.6	46.8	
04:15	15:00	46.1	36.0	25.3	73.6	
04:30	15:00	46.5	35.9	27.3	73.8	
04:45	15:00	50.9	39.8	27.0	77.1	
05:00	15:00	50.7	40.2	26.9	74.0	
05:15	15:00	44.5	37.2	28.4	70.8	
05:30	15:00	32.4	34.9	28.5	49.0	
05:45	15:00	35.9	38.6	29.5	53.3	
06:00	15:00	46.4	50.5	34.1	59.1	
06:15	15:00	51.2	48.5	39.2	74.0	
06:30	15:00	50.2	50.4	37.3	75.2	
06:45	15:00	52.9	47.2	38.0	78.1	
Average 2300-0700		44.9	41.2	30.5	39-78	
Average 0700-2300		54.4	53.3	32.1	68-78	

Noise Survey Results

Date: Saturday 1st March 2025 **TABLE 13**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P2 (East of Site)**
Instrumentation: Cirrus 171BA Real Time Analyser (G066350)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
07:00	15:00	51.6	49.3	38.3	75.4	
07:15	15:00	48.8	46.5	39.1	71.9	
07:30	15:00	52.0	50.3	39.7	77.9	
07:45	15:00	50.8	48.4	39.5	73.9	
08:00	15:00	54.8	51.2	38.4	78.5	
08:15	15:00	55.2	53.8	37.5	75.5	
08:30	15:00	51.9	50.1	38.0	72.3	
08:45	15:00	52.7	50.3	37.8	75.7	
09:00	15:00	49.2	48.7	35.9	73.5	
09:15	15:00	54.3	53.2	37.3	79.8	
09:30	15:00	53.5	51.5	36.7	73.1	
09:45	15:00	53.7	52.7	36.0	73.1	
10:00	15:00	54.6	52.2	33.7	74.8	
10:15	15:00	54.9	51.7	31.8	76.2	
10:30	15:00	55.2	54.6	29.7	75.3	
10:45	15:00	53.4	49.1	29.7	75.3	
11:00	15:00	55.4	55.6	36.9	74.0	
11:15	15:00	54.1	51.4	33.9	72.7	
11:30	15:00	54.9	53.2	33.1	73.5	
11:45	15:00	55.7	54.2	34.6	76.1	
12:00	15:00	61.7	56.1	32.9	82.3	
12:15	15:00	57.1	56.4	33.7	76.1	
12:30	15:00	55.3	53.0	34.8	75.6	
12:45	15:00	56.4	56.6	33.5	73.8	
13:00	15:00	53.3	49.9	37.2	73.5	
13:15	15:00	53.3	50.3	32.8	74.8	
13:30	15:00	54.5	48.8	35.4	76.0	
13:45	15:00	56.0	53.1	33.7	80.0	
14:00	15:00	55.7	55.6	37.5	75.7	
14:15	15:00	54.1	53.4	34.9	73.4	
14:30	15:00	55.1	51.7	33.8	78.8	
14:45	15:00	56.5	59.5	38.1	74.2	
Average 0700-1500		54.9	53.2	36.2	72-82	

Noise Survey Results

Date: Saturday 1st March 2025 **TABLE 14**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P2 (East of Site)**
Instrumentation: Cirrus 171BA Real Time Analyser (G066350)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
15:00	15:00	54.5	51.8	34.2	76.4	
15:15	15:00	56.7	55.3	30.2	79.7	
15:30	15:00	52.0	50.5	33.1	73.4	
15:45	15:00	54.2	52.1	32.3	75.0	
16:00	15:00	55.0	54.6	29.5	74.1	
16:15	15:00	51.4	50.2	31.5	72.7	
16:30	15:00	54.3	52.2	31.7	76.3	
16:45	15:00	52.0	50.8	31.0	73.6	
17:00	15:00	55.4	53.3	33.5	76.8	
17:15	15:00	61.9	56.7	32.2	86.1	
17:30	15:00	53.0	49.7	33.0	73.7	
17:45	15:00	54.0	52.1	32.0	77.4	
18:00	15:00	52.4	48.8	34.1	74.5	
18:15	15:00	53.4	50.7	31.7	76.0	
18:30	15:00	55.7	52.0	34.2	79.5	
18:45	15:00	53.4	46.6	33.0	75.7	
19:00	15:00	50.8	45.7	33.2	73.9	
19:15	15:00	44.7	35.6	30.2	69.8	
19:30	15:00	50.9	41.5	27.5	73.7	
19:45	15:00	45.2	35.3	27.7	71.0	
20:00	15:00	51.1	46.6	29.0	73.7	
20:15	15:00	51.8	47.2	26.3	74.1	
20:30	15:00	48.0	32.6	25.2	72.8	
20:45	15:00	51.5	43.4	25.7	74.2	
21:00	15:00	48.5	40.3	28.5	72.4	
21:15	15:00	44.1	34.8	28.3	68.4	
21:30	15:00	46.8	37.6	27.6	73.2	
21:45	15:00	46.7	38.1	28.1	72.6	
22:00	15:00	43.9	30.6	28.3	72.3	
22:15	15:00	46.8	33.3	24.1	74.4	
22:30	15:00	28.8	31.6	25.6	40.4	
22:45	15:00	29.8	32.6	24.2	40.9	
Average 1500-2300		53.0	49.7	30.8	40-86	

Noise Survey Results

Date: Saturday 1st - Sunday 2nd March 2025 **TABLE 15**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P2 (East of Site)**
Instrumentation: Cirrus 171BA Real Time Analyser (G066350)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
23:00	15:00	45.0	37.0	27.5	71.1	
23:15	15:00	43.4	33.5	25.1	69.2	
23:30	15:00	33.3	33.5	26.7	42.3	
23:45	15:00	30.8	31.3	25.2	38.8	
00:00	15:00	42.5	33.0	26.4	69.6	
00:15	15:00	46.5	39.7	28.6	71.1	
00:30	15:00	30.1	31.2	27.4	40.1	
00:45	15:00	31.3	32.2	27.3	45.1	
01:00	15:00	43.0	31.4	24.0	69.3	
01:15	15:00	31.2	32.1	26.0	40.3	
01:30	15:00	30.7	29.5	27.2	39.6	
01:45	15:00	29.2	32.1	26.1	39.4	
02:00	15:00	28.7	30.2	26.3	38.0	
02:15	15:00	31.1	33.1	26.1	49.7	
02:30	15:00	30.1	31.8	26.6	42.4	
02:45	15:00	31.3	32.4	26.4	40.2	
03:00	15:00	31.8	32.2	26.6	42.7	
03:15	15:00	46.4	37.4	26.8	69.3	
03:30	15:00	49.4	36.8	26.7	73.9	
03:45	15:00	30.4	31.3	26.9	36.9	
04:00	15:00	30.7	31.2	26.4	45.5	
04:15	15:00	45.7	35.9	26.8	72.0	
04:30	15:00	48.6	36.2	26.8	73.4	
04:45	15:00	45.3	33.2	25.1	73.2	
05:00	15:00	49.3	38.7	25.0	73.9	
05:15	15:00	50.2	36.0	27.1	77.5	
05:30	15:00	32.1	35.7	27.8	45.5	
05:45	15:00	32.9	35.8	28.0	49.7	
06:00	15:00	47.2	48.5	35.6	70.4	
06:15	15:00	48.4	48.8	37.2	73.0	
06:30	15:00	44.7	46.2	34.7	66.9	
06:45	15:00	52.9	47.3	36.2	78.2	
Average 2300-0700		44.8	40.0	29.5	37-78	
Average 0700-2300		54.0	51.8	34.3	40-86	

Noise Survey Results

Date: Sunday 2nd March 2025 **TABLE 16**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P2 (East of Site)**
Instrumentation: Cirrus 171BA Real Time Analyser (G066350)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
07:00	15:00	48.8	47.7	39.5	72.2	
07:15	15:00	45.1	47.8	38.1	63.8	
07:30	15:00	55.0	50.0	39.9	79.7	
07:45	15:00	48.2	49.1	38.3	69.0	
08:00	15:00	50.3	49.7	39.1	72.0	
08:15	15:00	50.5	51.7	38.1	72.8	
08:30	15:00	48.7	47.1	36.2	71.7	
08:45	15:00	50.5	50.7	34.3	70.8	
09:00	15:00	57.1	49.9	34.8	80.4	
09:15	15:00	54.9	49.1	36.1	78.9	
09:30	15:00	57.4	54.3	36.7	85.6	
09:45	15:00	51.4	48.3	35.9	74.9	
10:00	15:00	52.9	54.4	37.6	73.0	
10:15	15:00	53.9	54.4	39.6	74.3	
10:30	15:00	55.9	56.6	35.9	73.5	
10:45	15:00	50.0	49.2	32.2	72.6	
11:00	15:00	52.6	50.2	30.4	73.5	
11:15	15:00	54.6	54.2	35.9	73.9	
11:30	15:00	54.2	54.6	35.3	75.2	
11:45	15:00	53.3	51.2	33.0	73.0	
12:00	15:00	54.9	55.5	31.2	75.0	
12:15	15:00	53.3	51.2	29.8	73.2	
12:30	15:00	55.9	53.1	30.1	80.6	
12:45	15:00	54.3	54.6	31.0	72.4	
13:00	15:00	51.0	42.3	27.5	74.9	
13:15	15:00	56.6	55.0	30.3	80.2	
13:30	15:00	54.5	52.0	30.6	74.8	
13:45	15:00	51.2	49.7	32.8	75.4	
14:00	15:00	53.3	51.5	31.5	74.4	
14:15	15:00	51.3	50.3	31.6	73.3	
14:30	15:00	57.8	54.3	32.8	79.8	
14:45	15:00	49.0	46.0	30.9	71.7	
Average 0700-1500		53.6	52.1	35.5	64-86	

Noise Survey Results

Date: Sunday 2nd March 2025 **TABLE 17**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P2 (East of Site)**
Instrumentation: Cirrus 171BA Real Time Analyser (G066350)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
15:00	15:00	52.7	51.4	33.0	76.4	
15:15	15:00	51.8	50.6	30.8	73.0	
15:30	15:00	54.2	54.1	31.2	74.1	
15:45	15:00	52.3	49.5	32.0	80.2	
16:00	15:00	50.2	49.7	30.5	71.7	
16:15	15:00	60.1	61.4	35.4	79.1	
16:30	15:00	52.5	54.0	33.2	75.0	
16:45	15:00	53.8	46.7	30.8	81.7	
17:00	15:00	53.9	54.8	30.3	72.2	
17:15	15:00	55.3	53.1	29.0	78.2	
17:30	15:00	50.6	48.7	29.9	72.9	
17:45	15:00	52.3	49.1	27.9	73.8	
18:00	15:00	51.2	50.1	31.0	73.4	
18:15	15:00	51.8	51.6	31.4	72.5	
18:30	15:00	55.2	47.9	31.0	81.9	
18:45	15:00	49.4	43.6	30.6	71.8	
19:00	15:00	40.2	35.9	29.3	65.9	
19:15	15:00	45.5	38.7	30.1	71.2	
19:30	15:00	48.9	42.7	29.5	74.4	
19:45	15:00	50.2	42.6	27.2	75.2	
20:00	15:00	50.8	43.5	28.2	72.9	
20:15	15:00	52.3	49.3	27.5	73.1	
20:30	15:00	30.5	32.8	27.3	42.5	
20:45	15:00	50.0	42.1	26.9	73.4	
21:00	15:00	31.7	34.4	26.8	43.5	
21:15	15:00	51.5	38.2	27.0	76.3	
21:30	15:00	51.9	42.4	24.1	74.2	
21:45	15:00	39.9	35.8	24.8	63.0	
22:00	15:00	45.9	37.1	25.7	71.3	
22:15	15:00	30.2	32.1	24.5	44.6	
22:30	15:00	30.6	31.9	24.5	43.7	
22:45	15:00	29.7	31.6	22.1	50.2	
Average 1500-2300		51.8	50.4	29.8	43-82	

Noise Survey Results

Date: Sunday 2nd - Monday 3rd March 2025 **TABLE 18**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P2 (East of Site)**
Instrumentation: Cirrus 171BA Real Time Analyser (G066350)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
23:00	15:00	30.4	33.8	23.7	43.0	
23:15	15:00	48.1	34.7	24.0	78.3	
23:30	15:00	31.0	32.8	24.5	49.4	
23:45	15:00	30.4	30.8	24.0	53.0	
00:00	15:00	31.2	33.3	24.6	49.8	
00:15	15:00	31.4	30.2	24.5	50.1	
00:30	15:00	30.1	32.9	24.5	46.2	
00:45	15:00	28.8	32.6	24.0	46.9	
01:00	15:00	29.8	30.2	24.0	35.1	
01:15	15:00	33.0	35.1	25.2	49.1	
01:30	15:00	31.1	34.6	24.9	45.0	
01:45	15:00	29.8	32.9	24.5	47.8	
02:00	15:00	29.0	32.7	24.0	45.5	
02:15	15:00	34.2	37.3	28.9	47.2	
02:30	15:00	34.7	38.4	25.5	49.1	
02:45	15:00	34.1	38.6	25.1	47.0	
03:00	15:00	30.9	34.4	25.0	48.7	
03:15	15:00	34.7	38.5	26.5	46.3	
03:30	15:00	33.3	35.9	28.9	48.5	
03:45	15:00	44.0	35.5	25.3	72.4	
04:00	15:00	35.0	39.2	24.5	47.6	
04:15	15:00	48.2	38.8	26.0	72.9	
04:30	15:00	47.8	40.5	27.8	73.0	
04:45	15:00	36.9	39.5	29.5	50.1	
05:00	15:00	44.7	41.3	31.2	69.9	
05:15	15:00	45.8	39.5	30.9	72.2	
05:30	15:00	37.8	41.0	31.2	53.1	
05:45	15:00	40.7	44.0	32.5	59.3	
06:00	15:00	52.9	50.0	40.5	78.7	
06:15	15:00	54.4	54.1	41.2	75.1	
06:30	15:00	49.6	48.9	40.9	74.2	
06:45	15:00	44.6	45.5	42.9	46.2	
Average 2300-0700		44.6	42.9	33.4	35-79	
Average 0700-2300		52.8	51.3	33.5	43-86	

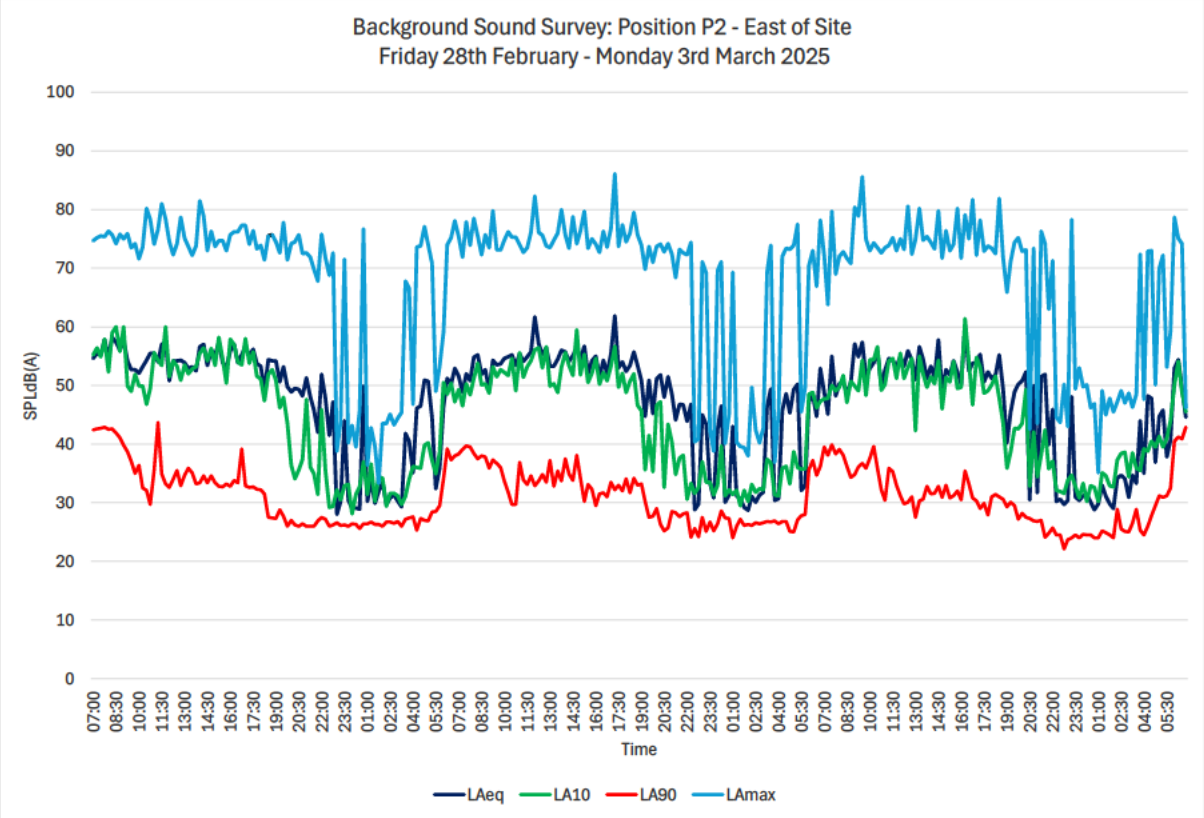
Overall Average	**44.8**	**41.5**	**31.5**	**33-79**	
Overall Average	**53.7**	**52.5**	**34.9**	**40-86**	

Average 1900-2300	**48.7**	**42.2**	**27.3**	**40-78**	

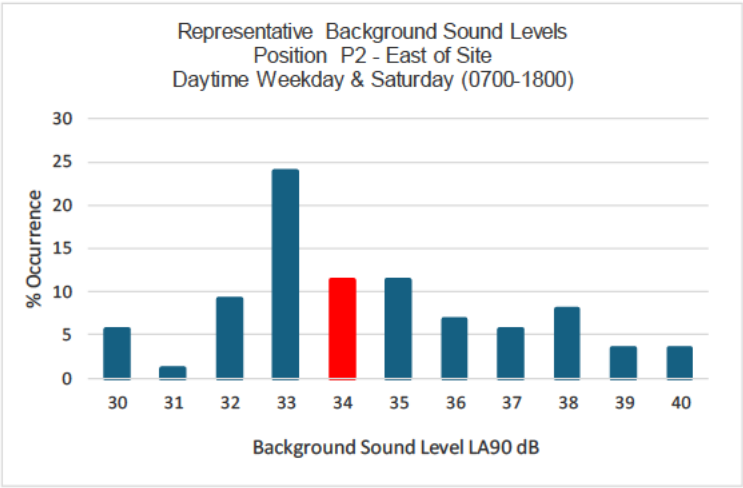
Average 0800-1800	**54.9**	**53.9**	**35.3**	**71-86**	

Average 2300-0700	**44.8**	**41.5**	**31.5**	**33-79**	

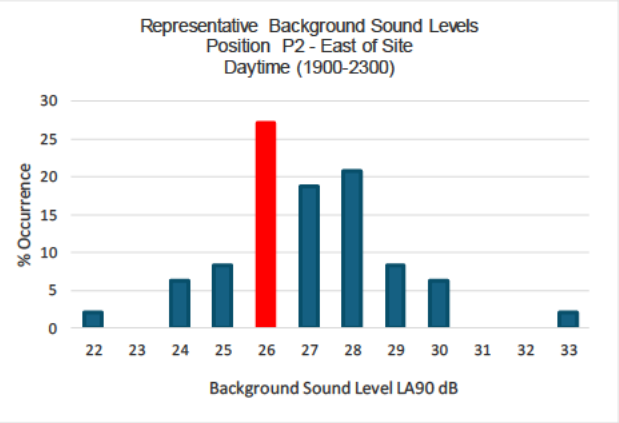
Weekday Av. 0700-1800	**55.2**	**55.2**	**37.8**	**72-82**	
Weekday/Sat 0700-1800	**55.2**	**54.3**	**36.7**	**72-86**	
Saturday Av. 0700-1800	**55.1**	**53.1**	**35.4**	**72-86**	
Sunday Av. 0700-1200	**53.3**	**51.9**	**36.9**	**64-86**	



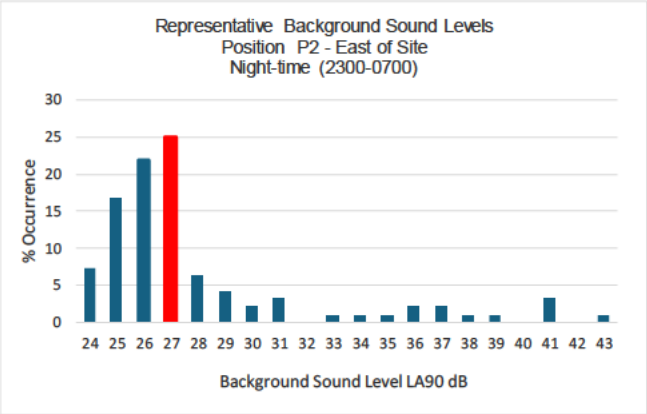
LA90	% Occurrence	
30	5.7	
31	1.1	
32	9.1	
33	23.9	Mode
34	11.4	Median
35	11.4	
36	6.8	
37	5.7	Average
38	8.0	
39	3.4	
40	3.4	
41	1.1	
42	2.3	
43	5.7	
44	1.1	



LA90	% Occurrence	
22	2.1	
23	0.0	
24	6.3	
25	8.3	
26	27.1	Mode
27	18.8	Median/Av.
28	20.8	
29	8.3	
30	6.3	
31	0.0	
32	0.0	
33	2.1	



LA90	% Occurrence	
24	7.3	
25	16.7	
26	21.9	
27	25.0	Mode/Median
28	6.3	
29	4.2	
30	2.1	
31	3.1	
32	0.0	Average
33	1.0	
34	1.0	
35	1.0	
36	2.1	
37	2.1	
38	1.0	
39	1.0	
40	0	
41	3.1	
42	0	
43	1	



Noise Survey Results

Date: Friday 28th February 2025 **TABLE 19**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P3 (West of Site)**
Instrumentation: Cirrus 171A Real Time Analyser (G061253)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
07:00	15:00	43.4	45.3	39.8	59.2	
07:15	15:00	52.4	53.6	42.2	75.8	
07:30	15:00	52.1	53.9	39.2	70.2	
07:45	15:00	68.8	65.0	42.5	96.5	
08:00	15:00	52.8	49.0	43.1	79.7	
08:15	15:00	45.7	47.2	41.6	65.7	
08:30	15:00	49.4	49.9	42.9	64.2	
08:45	15:00	49.2	48.8	40.4	69.2	
09:00	15:00	44.3	44.8	39.5	65.7	
09:15	15:00	44.9	46.9	40.5	60.1	
09:30	15:00	55.6	55.6	39.3	76.5	
09:45	15:00	47.3	50.4	37.0	67.9	
10:00	15:00	44.0	48.4	34.6	63.3	
10:15	15:00	52.2	43.2	29.3	79.8	
10:30	15:00	39.5	43.8	29.2	55.4	
10:45	15:00	41.8	39.1	26.4	65.1	
11:00	15:00	37.5	36.7	26.8	60.8	
11:15	15:00	36.7	38.5	28.3	57.2	
11:30	15:00	42.7	45.9	29.5	62.5	
11:45	15:00	39.0	40.2	27.7	62.1	
12:00	15:00	37.2	40.0	26.7	58.6	
12:15	15:00	36.6	37.7	26.2	58.5	
12:30	15:00	38.2	39.7	26.2	59.2	
12:45	15:00	45.6	48.3	28.3	70.1	
13:00	15:00	42.0	43.3	27.0	62.2	
13:15	15:00	37.5	36.4	27.2	60.5	
13:30	15:00	36.0	35.8	26.3	58.7	
13:45	15:00	39.1	41.6	25.9	62.2	
14:00	15:00	44.0	44.5	27.1	63.8	
14:15	15:00	41.3	39.5	28.8	65.5	
14:30	15:00	45.0	44.3	29.0	68.2	
14:45	15:00	45.2	47.9	34.2	67.2	
Average 0700-1500		54.6	51.9	37.1	55-97	

Noise Survey Results

Date: Friday 28th February 2025 **TABLE 20**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P3 (West of Site)**
Instrumentation: Cirrus 171A Real Time Analyser (G061253)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
15:00	15:00	41.6	43.5	27.8	59.8	
15:15	15:00	35.4	36.4	27.1	61.1	
15:30	15:00	42.4	43.6	27.9	62.7	
15:45	15:00	37.3	38.0	29.2	58.5	
16:00	15:00	38.8	40.1	29.4	57.6	
16:15	15:00	37.0	38.1	30.3	59.5	
16:30	15:00	42.6	39.3	30.3	66.9	
16:45	15:00	40.8	37.1	30.2	70.9	
17:00	15:00	44.7	48.0	31.2	62.8	
17:15	15:00	36.0	36.0	30.1	55.6	
17:30	15:00	39.1	40.1	31.8	60.7	
17:45	15:00	39.1	37.8	30.7	67.2	
18:00	15:00	41.5	40.9	29.4	68.1	
18:15	15:00	41.5	39.6	30.1	69.0	
18:30	15:00	40.4	35.9	29.3	66.0	
18:45	15:00	33.2	35.8	29.0	45.6	
19:00	15:00	34.3	37.6	28.5	42.1	
19:15	15:00	41.7	41.8	29.7	62.0	
19:30	15:00	34.9	38.0	28.0	47.8	
19:45	15:00	47.5	38.9	29.8	72.4	
20:00	15:00	38.0	37.7	29.7	58.0	
20:15	15:00	30.4	33.6	29.2	37.7	
20:30	15:00	30.0	33.7	29.4	38.5	
20:45	15:00	34.8	36.4	30.3	51.0	
21:00	15:00	41.3	38.1	30.3	58.7	
21:15	15:00	32.8	33.2	30.2	58.6	
21:30	15:00	30.0	33.0	29.7	41.4	
21:45	15:00	36.0	34.6	28.6	56.2	
22:00	15:00	30.3	33.7	28.3	40.8	
22:15	15:00	29.7	33.2	28.4	40.1	
22:30	15:00	28.3	31.5	28.3	38.7	
22:45	15:00	37.8	34.6	27.6	64.5	
Average 1500-2300		39.6	39.2	29.5	38-72	

Noise Survey Results

Date: Friday 28th - Saturday 1st February 2025 **TABLE 21**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P3 (West of Site)**
Instrumentation: Cirrus 171A Real Time Analyser (G061253)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
23:00	15:00	33.2	35.1	27.9	43.2	
23:15	15:00	33.1	35.0	28.6	40.8	
23:30	15:00	31.9	34.5	27.3	45.3	
23:45	15:00	32.5	35.7	26.3	48.3	
00:00	15:00	33.4	34.2	27.7	43.2	
00:15	15:00	32.4	35.0	26.5	51.0	
00:30	15:00	33.1	34.1	25.3	40.1	
00:45	15:00	33.4	33.9	27.1	46.9	
01:00	15:00	32.9	33.3	26.8	34.4	
01:15	15:00	31.1	33.3	26.4	40.2	
01:30	15:00	30.8	31.6	26.4	42.3	
01:45	15:00	31.1	33.1	27.1	36.8	
02:00	15:00	31.7	32.8	26.6	46.7	
02:15	15:00	30.7	34.5	27.1	44.0	
02:30	15:00	32.0	36.4	26.6	47.2	
02:45	15:00	31.0	35.0	26.4	51.8	
03:00	15:00	32.1	33.2	27.1	40.2	
03:15	15:00	32.4	32.6	26.4	50.3	
03:30	15:00	30.9	35.5	27.3	45.5	
03:45	15:00	34.0	37.6	27.5	45.0	
04:00	15:00	31.9	33.3	28.0	40.0	
04:15	15:00	31.0	34.2	27.7	43.9	
04:30	15:00	32.5	35.9	27.5	44.2	
04:45	15:00	35.7	39.5	28.6	50.0	
05:00	15:00	34.3	36.8	28.2	49.4	
05:15	15:00	35.4	37.9	29.8	49.4	
05:30	15:00	35.8	38.1	31.7	47.7	
05:45	15:00	37.8	40.5	31.9	54.6	
06:00	15:00	42.7	42.8	35.1	61.4	
06:15	15:00	55.1	48.9	36.5	78.8	
06:30	15:00	43.4	43.8	36.5	64.3	
06:45	15:00	44.2	44.0	36.5	71.0	
Average 2300-0700		41.4	38.9	30.2	31-76	
Average 0700-2300		39.8	37.7	28.2	38-97	

Noise Survey Results

Date: Saturday 1st March 2025 **TABLE 22**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P3 (West of Site)**
Instrumentation: Cirrus 171A Real Time Analyser (G061253)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
07:00	15:00	41.7	41.5	34.2	71.0	
07:15	15:00	41.0	43.1	35.2	59.5	
07:30	15:00	42.7	44.5	36.5	61.0	
07:45	15:00	41.9	43.9	37.8	58.9	
08:00	15:00	41.0	42.8	37.5	61.9	
08:15	15:00	43.9	45.2	37.1	64.0	
08:30	15:00	43.4	43.4	37.0	64.9	
08:45	15:00	41.2	42.0	36.3	60.7	
09:00	15:00	43.6	43.7	36.4	63.5	
09:15	15:00	44.3	46.6	36.2	69.9	
09:30	15:00	40.7	42.6	34.9	57.1	
09:45	15:00	46.3	47.8	33.9	69.0	
10:00	15:00	43.9	42.6	32.3	67.8	
10:15	15:00	42.7	41.9	30.4	65.3	
10:30	15:00	40.7	42.9	30.8	61.7	
10:45	15:00	42.6	46.9	29.6	59.8	
11:00	15:00	54.2	48.3	40.3	86.9	
11:15	15:00	56.7	61.2	43.7	68.3	
11:30	15:00	52.9	57.9	30.8	66.1	
11:45	15:00	50.0	56.0	31.4	66.6	
12:00	15:00	39.4	37.9	30.3	66.5	
12:15	15:00	38.8	43.0	31.4	52.7	
12:30	15:00	46.2	46.0	31.6	67.6	
12:45	15:00	38.6	41.6	29.7	59.2	
13:00	15:00	35.2	37.1	31.3	51.9	
13:15	15:00	38.0	37.1	30.9	65.4	
13:30	15:00	36.4	37.2	29.5	57.0	
13:45	15:00	44.7	47.2	29.5	61.9	
14:00	15:00	40.2	42.6	31.9	61.4	
14:15	15:00	43.2	45.6	28.7	65.2	
14:30	15:00	39.4	42.7	29.8	55.0	
14:45	15:00	33.8	36.3	29.6	44.3	
Average 0700-1500		46.6	49.7	35.1	44-87	

Noise Survey Results

Date: Saturday 1st March 2025 **TABLE 23**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P3 (West of Site)**
Instrumentation: Cirrus 171A Real Time Analyser (G061253)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
15:00	15:00	38.1	40.6	30.5	57.1	
15:15	15:00	54.8	42.5	28.6	83.1	
15:30	15:00	40.3	42.6	31.4	60.1	
15:45	15:00	38.9	40.5	31.1	60.5	
16:00	15:00	37.3	38.9	29.7	57.8	
16:15	15:00	40.2	41.2	32.7	61.4	
16:30	15:00	41.5	44.4	29.8	59.5	
16:45	15:00	51.1	43.3	30.9	79.0	
17:00	15:00	40.5	42.5	31.9	59.4	
17:15	15:00	43.5	46.6	33.5	63.3	
17:30	15:00	58.8	49.3	35.4	88.4	
17:45	15:00	42.5	43.8	34.7	62.9	
18:00	15:00	40.1	41.1	34.3	61.5	
18:15	15:00	46.5	43.1	35.2	70.5	
18:30	15:00	35.6	37.6	32.0	45.0	
18:45	15:00	33.6	36.3	29.2	48.3	
19:00	15:00	36.3	38.8	31.2	45.8	
19:15	15:00	33.0	36.4	27.7	44.2	
19:30	15:00	33.8	36.6	28.4	43.6	
19:45	15:00	35.7	38.2	30.5	46.7	
20:00	15:00	34.2	37.4	27.4	44.1	
20:15	15:00	34.2	37.8	23.9	47.8	
20:30	15:00	32.9	36.0	26.5	46.5	
20:45	15:00	34.9	38.4	28.4	46.5	
21:00	15:00	35.5	39.0	27.6	46.9	
21:15	15:00	35.4	38.9	28.7	46.0	
21:30	15:00	32.7	35.6	26.3	47.1	
21:45	15:00	34.1	37.2	27.1	44.6	
22:00	15:00	37.3	33.9	23.1	63.4	
22:15	15:00	33.5	37.4	23.7	49.5	
22:30	15:00	32.7	36.8	23.7	45.2	
22:45	15:00	33.6	36.8	27.1	48.0	
Average 1500-2300		46.4	41.3	30.6	44-88	

Noise Survey Results

Date: Saturday 1st - Sunday 2nd March 2025 **TABLE 24**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P3 (West of Site)**
Instrumentation: Cirrus 171A Real Time Analyser (G061253)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
23:00	15:00	35.2	38.9	25.1	52.3	
23:15	15:00	32.1	34.8	27.4	45.4	
23:30	15:00	34.3	38.3	25.0	47.8	
23:45	15:00	30.3	33.1	23.7	46.4	
00:00	15:00	36.2	40.0	28.5	50.7	
00:15	15:00	34.2	38.1	25.3	46.9	
00:30	15:00	34.0	37.1	25.9	48.5	
00:45	15:00	30.5	31.8	25.4	51.9	
01:00	15:00	33.6	37.7	25.4	51.8	
01:15	15:00	32.2	33.5	25.3	47.1	
01:30	15:00	33.9	37.5	24.6	49.9	
01:45	15:00	31.5	33.6	24.9	46.8	
02:00	15:00	31.1	32.3	25.4	39.2	
02:15	15:00	32.8	36.4	25.2	49.8	
02:30	15:00	30.9	31.1	25.4	39.1	
02:45	15:00	29.3	32.8	24.7	40.1	
03:00	15:00	30.7	34.3	25.0	42.8	
03:15	15:00	33.5	36.5	24.9	50.9	
03:30	15:00	30.3	32.0	24.8	47.2	
03:45	15:00	28.4	30.8	23.7	46.0	
04:00	15:00	32.2	34.1	25.8	50.4	
04:15	15:00	31.4	34.6	25.7	43.5	
04:30	15:00	30.4	33.4	24.6	48.3	
04:45	15:00	29.8	33.0	26.0	44.2	
05:00	15:00	33.6	37.8	25.9	46.4	
05:15	15:00	34.1	37.2	28.5	44.0	
05:30	15:00	33.8	36.6	27.9	48.5	
05:45	15:00	31.6	33.8	27.7	49.1	
06:00	15:00	37.1	39.3	28.9	55.0	
06:15	15:00	55.3	45.7	31.8	81.6	
06:30	15:00	58.3	43.7	30.7	89.8	
06:45	15:00	37.7	40.7	30.7	54.4	
Average 2300-0700		45.2	37.6	26.8	37-90	
Average 0700-2300		46.5	47.3	33.4	44-88	

Noise Survey Results

Date: Sunday 2nd March 2025 **TABLE 25**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P3 (West of Site)**
Instrumentation: Cirrus 171A Real Time Analyser (G061253)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
07:00	15:00	39.9	43.5	32.7	50.5	
07:15	15:00	40.6	40.6	31.2	68.2	
07:30	15:00	39.8	40.7	33.3	68.3	
07:45	15:00	41.1	43.9	32.5	59.5	
08:00	15:00	42.7	44.2	33.7	63.5	
08:15	15:00	41.3	41.4	33.1	63.2	
08:30	15:00	40.1	40.9	33.6	66.2	
08:45	15:00	41.8	43.1	32.6	63.0	
09:00	15:00	41.8	42.7	33.1	63.1	
09:15	15:00	42.2	42.2	33.9	64.4	
09:30	15:00	38.0	39.5	32.9	60.2	
09:45	15:00	40.1	41.5	33.9	56.6	
10:00	15:00	42.3	41.7	32.2	69.2	
10:15	15:00	47.7	40.1	31.4	75.4	
10:30	15:00	47.2	49.1	32.1	78.0	
10:45	15:00	43.1	44.9	31.0	71.4	
11:00	15:00	39.8	40.7	29.4	65.2	
11:15	15:00	36.6	37.2	29.8	59.2	
11:30	15:00	39.5	39.2	30.1	64.9	
11:45	15:00	35.6	38.3	31.1	52.6	
12:00	15:00	48.1	48.1	28.8	66.1	
12:15	15:00	50.8	41.0	29.2	79.1	
12:30	15:00	42.9	41.3	28.6	64.1	
12:45	15:00	43.1	45.8	29.4	62.4	
13:00	15:00	42.6	40.1	27.0	67.4	
13:15	15:00	54.5	47.4	28.3	81.0	
13:30	15:00	41.3	43.4	31.6	62.5	
13:45	15:00	37.2	39.4	30.2	55.1	
14:00	15:00	44.9	43.0	31.5	68.2	
14:15	15:00	42.2	41.1	31.8	63.8	
14:30	15:00	41.1	45.8	30.3	56.5	
14:45	15:00	42.2	44.1	32.6	67.1	
Average 0700-1500		44.7	43.3	31.6	51-81	

Noise Survey Results

Date: Sunday 2nd March 2025 **TABLE 26**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P3 (West of Site)**
Instrumentation: Cirrus 171A Real Time Analyser (G061253)
Calibration: 94dB

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
15:00	15:00	44.5	47.4	31.7	62.9	
15:15	15:00	38.7	38.2	30.9	68.3	
15:30	15:00	39.2	38.4	30.7	64.1	
15:45	15:00	42.6	41.4	28.7	73.6	
16:00	15:00	39.4	40.8	31.5	61.3	
16:15	15:00	48.7	48.2	33.2	75.5	
16:30	15:00	45.5	42.4	31.8	67.6	
16:45	15:00	42.5	43.1	32.6	72.6	
17:00	15:00	50.0	50.2	34.3	83.3	
17:15	15:00	47.5	44.8	32.5	71.1	
17:30	15:00	54.3	43.9	32.1	82.5	
17:45	15:00	46.1	43.6	32.9	70.6	
18:00	15:00	42.0	43.0	34.5	60.5	
18:15	15:00	39.9	42.5	34.7	59.3	
18:30	15:00	37.5	40.3	32.0	49.8	
18:45	15:00	39.5	41.1	33.2	61.1	
19:00	15:00	37.2	39.7	32.6	51.2	
19:15	15:00	37.8	40.6	33.5	47.2	
19:30	15:00	38.9	41.7	34.1	50.8	
19:45	15:00	37.0	40.4	30.3	48.0	
20:00	15:00	37.6	41.1	31.2	49.3	
20:15	15:00	33.6	36.2	28.9	47.4	
20:30	15:00	33.8	36.9	28.5	44.0	
20:45	15:00	32.5	34.6	26.2	53.8	
21:00	15:00	31.9	34.9	27.3	43.1	
21:15	15:00	31.6	34.6	26.6	42.6	
21:30	15:00	32.4	35.7	24.1	45.0	
21:45	15:00	33.4	37.2	24.0	47.7	
22:00	15:00	31.8	35.3	24.3	45.2	
22:15	15:00	31.5	35.2	23.3	48.5	
22:30	15:00	30.9	33.7	24.6	47.0	
22:45	15:00	27.4	30.5	22.0	44.3	
Average 1500-2300		43.7	42.2	31.2	43-83	

Noise Survey Results

Date: Sunday 2nd - Monday 3rd March 2025 **TABLE 27**
Location: Fenns Bank, Whitchurch
Client: Veolia
Project: IVC
Data: **Baseline Sound Survey: Position P3 (West of Site)**
Instrumentation: Cirrus 171A Real Time Analyser (G061253)
Calibration: 94dB

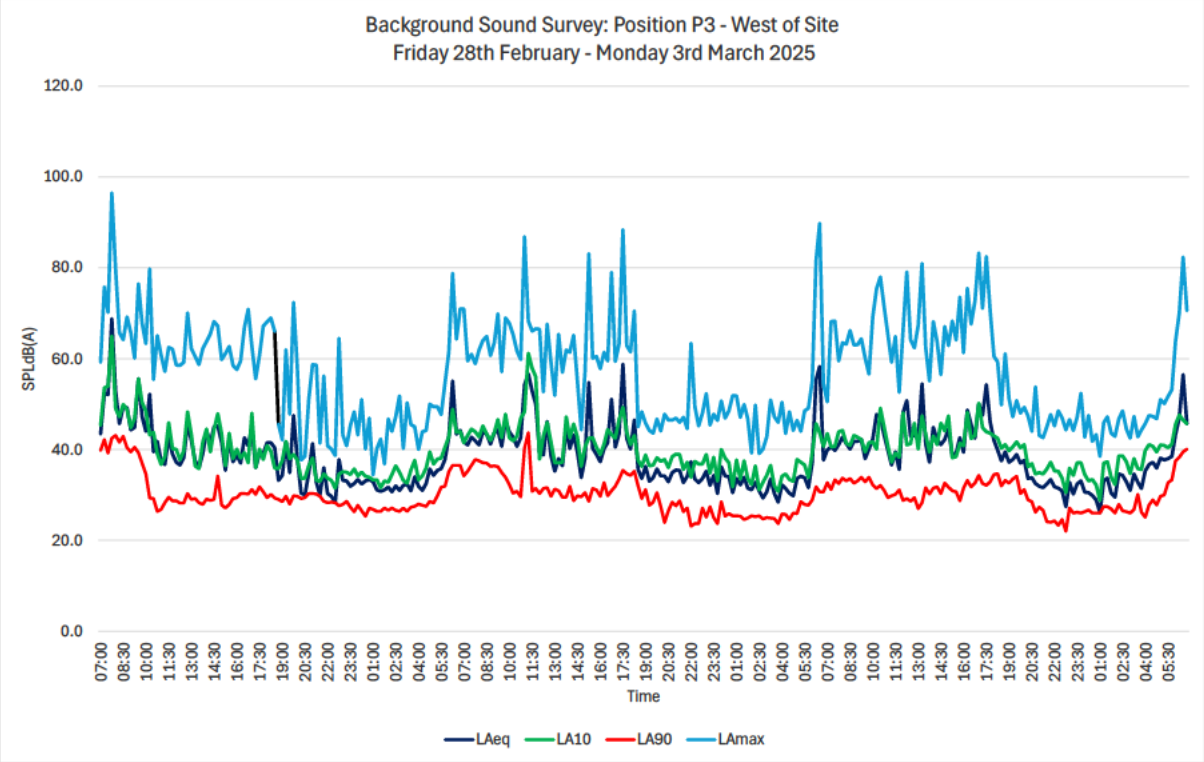
Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmax (dB)	Observations
23:00	15:00	32.8	35.9	27.1	46.6	
23:15	15:00	30.2	34.3	26.0	44.2	
23:30	15:00	32.4	37.1	26.2	47.1	
23:45	15:00	33.1	37.1	26.0	52.4	
00:00	15:00	30.6	34.5	26.3	42.7	
00:15	15:00	30.5	33.1	26.7	47.5	
00:30	15:00	29.9	33.4	26.0	41.8	
00:45	15:00	28.9	32.2	26.0	43.3	
01:00	15:00	26.1	28.8	26.0	38.5	
01:15	15:00	33.1	37.0	27.5	45.9	
01:30	15:00	33.7	37.3	27.4	47.2	
01:45	15:00	30.4	33.9	26.9	43.6	
02:00	15:00	29.5	32.3	26.0	42.9	
02:15	15:00	34.6	38.6	27.9	46.7	
02:30	15:00	34.3	38.6	26.5	48.5	
02:45	15:00	32.9	37.3	26.3	44.5	
03:00	15:00	31.0	34.7	26.0	42.5	
03:15	15:00	34.6	38.0	26.8	47.3	
03:30	15:00	32.8	35.8	30.1	42.8	
03:45	15:00	31.4	35.6	26.2	44.3	
04:00	15:00	35.3	39.8	25.1	45.7	
04:15	15:00	36.7	41.1	27.8	47.5	
04:30	15:00	37.2	40.7	28.9	47.3	
04:45	15:00	35.9	39.5	27.8	46.8	
05:00	15:00	38.1	41.0	29.7	51.0	
05:15	15:00	37.7	40.9	30.0	50.1	
05:30	15:00	38.0	40.4	32.7	51.7	
05:45	15:00	38.5	41.2	33.3	53.2	
06:00	15:00	43.3	45.5	37.5	63.8	
06:15	15:00	47.0	47.6	38.3	70.1	
06:30	15:00	56.5	46.5	39.5	82.4	
06:45	15:00	45.7	45.7	40.1	70.6	
Average 2300-0700		42.9	40.3	31.8	39-82	
Average 0700-2300		44.2	42.8	31.4	43-83	

Overall Average	**43.5**	**39.0**	**30.1**	**31-90**	
Overall Average	**48.6**	**47.1**	**33.5**	**38-97**	

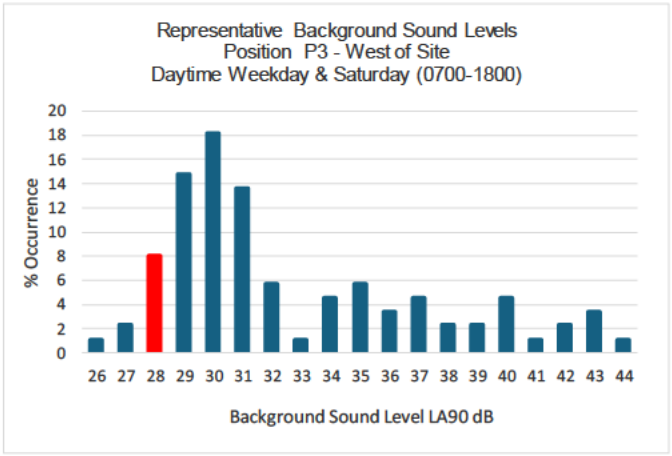
Average 1900-2300	**36.4**	**37.2**	**28.7**	**38-72**	

Average 0800-1800	**46.7**	**46.7**	**33.9**	**44-88**	

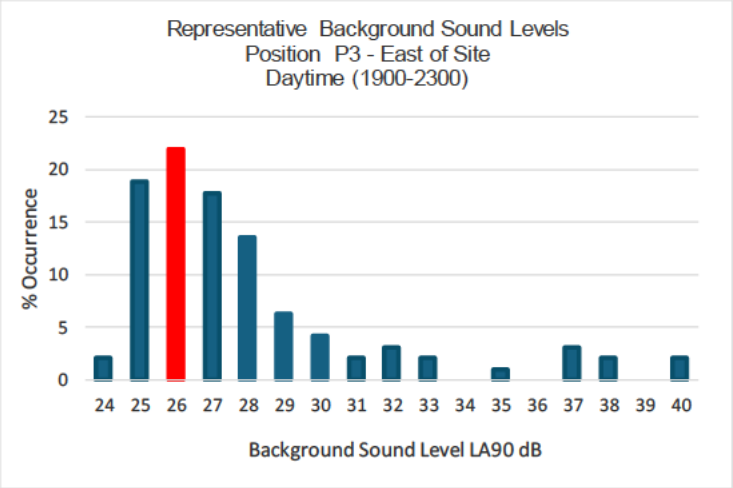
Weekday Av. 0700-1800	**53.2**	**50.6**	**36.1**	**55-97**	
Weekday/Sat 0700-1800	**51.4**	**49.8**	**35.4**	**44-97**	
Saturday Av. 0700-1800	**48.0**	**48.8**	**34.5**	**44-88**	
Sunday Av. 0700-1200	**42.1**	**42.6**	**32.3**	**51-78**	



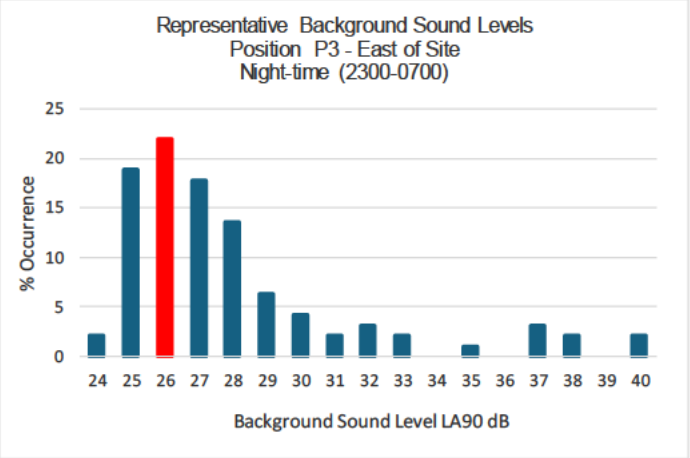
LA90	% Occurrence	
26	1.1	
27	2.3	
28	8.0	
29	14.8	
30	18.2	Mode
31	13.6	Median
32	5.7	Average
33	1.1	
34	4.5	
35	5.7	
36	3.4	
37	4.5	
38	2.3	
39	2.3	
40	4.5	
41	1.1	
42	2.3	
43	3.4	
44	1.1	



LA90	% Occurrence
24	2.1
25	18.8
26	**21.9**
27	17.7
28	13.5
29	6.3
30	4.2
31	2.1
32	3.1
33	2.1
34	0.0
35	1
36	0
37	3.1
38	2.1
39	0.0
40	2.1



LA90	% Occurrence
24	2.1
25	18.8
26	**21.9**
27	17.7
28	13.5
29	6.3
30	4.2
31	2.1
32	3.1
33	2.1
34	0.0
35	1.0
36	0.0
37	3.1
38	2.1
39	0
40	2.1



Weather Conditions for Baseline Survey

		Temp	Wind	Wind	Wind		
Date	Time	Out	Speed	Dir	Run	Bar	Rain
28/02/2025	07:00	2.6	0	E	0	768.9	0
28/02/2025	07:30	2.8	0	E	0	775.6	0
28/02/2025	08:00	3.2	0	E	0	777.1	0
28/02/2025	08:30	3.6	0	E	0	776.1	0
28/02/2025	09:00	3.7	0	E	0	777	0
28/02/2025	09:30	3.8	0	ESE	0	777.2	0
28/02/2025	10:00	3.9	0	E	0	777.5	0
28/02/2025	10:30	4.4	0	E	0	777.5	0
28/02/2025	11:00	5.2	0.4	WSW	0.8	777.7	0
28/02/2025	11:30	5.8	0	WSW	0	777.7	0
28/02/2025	12:00	7.1	0.4	ENE	0.8	777.5	0
28/02/2025	12:30	7.7	0.4	ENE	0.8	777.4	0
28/02/2025	13:00	8.3	0.4	E	0.8	777.4	0
28/02/2025	13:30	8.7	0.4	E	0.8	777.2	0
28/02/2025	14:00	8.6	0.9	E	1.61	777.2	0
28/02/2025	14:30	9.3	0.9	E	1.61	777.1	0
28/02/2025	15:00	9	0.4	E	0.8	776.9	0
28/02/2025	15:30	8.7	0.4	E	0.8	776.8	0
28/02/2025	16:00	8.5	0.4	E	0.8	776.8	0
28/02/2025	16:30	9.4	0.4	ENE	0.8	776.8	0
28/02/2025	17:00	9.6	0	E	0	776.8	0
28/02/2025	17:30	9.8	0	E	0	776.9	0
28/02/2025	18:00	9.5	0.4	E	0.8	777	0
28/02/2025	18:30	8.1	0	E	0	777.1	0
28/02/2025	19:00	5.3	0	---	0	777.3	0
28/02/2025	19:30	3.8	0	---	0	777.2	0
28/02/2025	20:00	2.5	0	E	0	777.3	0
28/02/2025	20:30	1.6	0	---	0	777.4	0
28/02/2025	21:00	0.8	0	---	0	777.3	0
28/02/2025	21:30	0.8	0	---	0	777.6	0
28/02/2025	22:00	0.4	0	---	0	777.5	0
28/02/2025	22:30	1.8	0	ENE	0	777.7	0
28/02/2025	23:00	0.9	0	ENE	0	777.9	0
28/02/2025	23:30	0.3	0	---	0	778.1	0
01/03/2025	00:00	0.4	0	ENE	0	778.2	0

Date	Time	Temp Out	Wind Speed	Wind Dir	Wind Run	Bar	Rain
01/03/2025	00:30	1.3	0.9	ENE	0	778.4	0
01/03/2025	01:00	1.2	0.9	ENE	0	778.5	0
01/03/2025	01:30	1.1	0.9	ENE	0	778.6	0
01/03/2025	02:00	1.1	0.4	E	0	778.7	0
01/03/2025	02:30	1	0.4	E	0	778.9	0
01/03/2025	03:00	0.9	0.4	E	0	778.9	0
01/03/2025	03:30	0.8	0.9	ENE	0	778.9	0
01/03/2025	04:00	0.8	0.4	ENE	0	779	0
01/03/2025	04:30	0.6	0.9	E	0	779	0
01/03/2025	05:00	0.4	0.9	E	0	779.1	0
01/03/2025	05:30	0.7	0.9	ENE	0	779.3	0
01/03/2025	06:00	0.5	0.9	ENE	0	779.5	0
01/03/2025	06:30	0.6	0.9	ENE	0	779.8	0
01/03/2025	07:00	0.6	1.3	ENE	0.8	780	0
01/03/2025	07:30	0.7	0.9	ENE	0	780.2	0
01/03/2025	08:00	0.8	0.9	ENE	0	780.4	0
01/03/2025	08:30	1.1	0.9	ENE	0	780.7	0
01/03/2025	09:00	1.4	0.9	W	0	781	0
01/03/2025	09:30	2.4	1.3	WSW	0	781.3	0
01/03/2025	10:00	3.1	1.8	WSW	0.8	781.3	0
01/03/2025	10:30	3.9	1.3	W	0.8	781.6	0
01/03/2025	11:00	4.9	1.8	W	0.8	781.7	0
01/03/2025	11:30	5.8	2.2	WSW	1.61	781.6	0
01/03/2025	12:00	7.6	1.8	WSW	0.8	781.4	0
01/03/2025	12:30	9.5	1.8	WSW	0.8	781.4	0
01/03/2025	13:00	9.6	1.8	WSW	0.8	781.4	0
01/03/2025	13:30	9.7	3.1	NW	0.8	781.3	0
01/03/2025	14:00	10.1	2.2	W	0.8	781.3	0
01/03/2025	14:30	10.1	2.7	NW	0.8	780.9	0
01/03/2025	15:00	10.2	1.8	NW	0.8	781	0
01/03/2025	15:30	10.4	2.2	NW	0.8	781.1	0
01/03/2025	16:00	10.3	1.8	NNW	0.8	781.2	0
01/03/2025	16:30	10.7	1.8	W	0.8	781.4	0
01/03/2025	17:00	10.2	1.8	NNW	0.8	781.5	0
01/03/2025	17:30	10.9	0.9	NW	0	781.5	0
01/03/2025	18:00	9.9	0.4	N	0	781.7	0
01/03/2025	18:30	8.7	0.4	N	0	781.8	0
01/03/2025	19:00	6.3	0	---	0	782	0
01/03/2025	19:30	4.7	0	---	0	782	0
01/03/2025	20:00	3.1	0	---	0	782.1	0
01/03/2025	20:30	2.9	0	---	0	782	0
01/03/2025	21:00	2.4	0.4	ENE	0	782.2	0
01/03/2025	21:30	1.7	0	---	0	782.2	0
01/03/2025	22:00	1.4	0	---	0	782.2	0
01/03/2025	22:30	1.6	0.9	SE	0	782.5	0
01/03/2025	23:00	1.2	0	---	0	782.7	0
01/03/2025	23:30	1.3	0.9	SE	0.8	782.1	0
02/03/2025	00:00	1.2	0.9	E	0	782.2	0

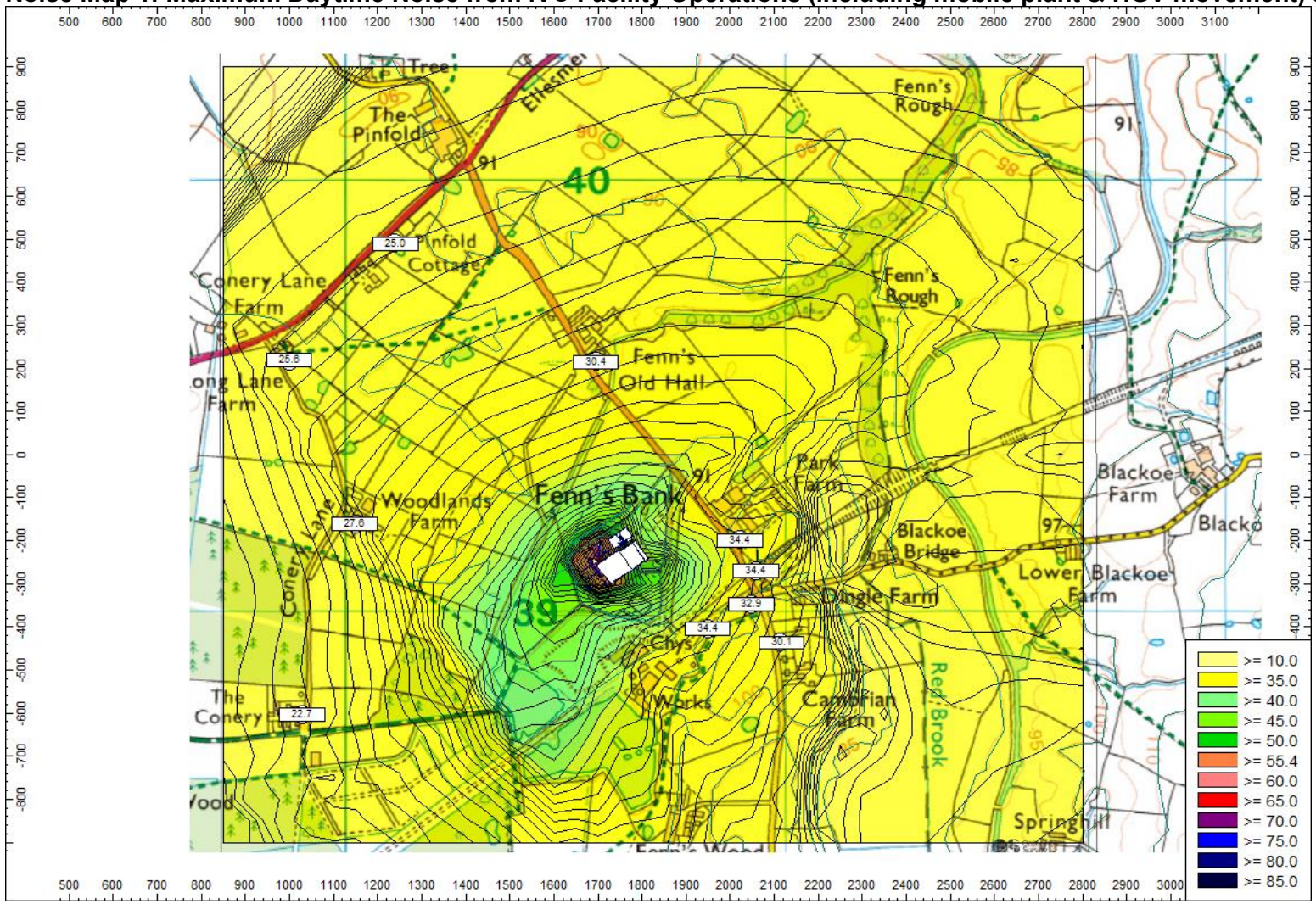
Date	Time	Temp Out	Wind Speed	Wind Dir	Wind Run	Bar	Rain
02/03/2025	00:30	1.2	0	---	0	782.4	0
02/03/2025	01:00	1.1	0	---	0	782.7	0
02/03/2025	01:30	1	0	---	0	782.7	0
02/03/2025	02:00	1	0.4	E	0	782.6	0
02/03/2025	02:30	0.9	0.4	E	0	782.4	0
02/03/2025	03:00	0.7	0.4	E	0	782.3	0
02/03/2025	03:30	0.7	0.4	ENE	0	782.3	0
02/03/2025	04:00	0.6	0	---	0	782.3	0
02/03/2025	04:30	0.6	0.9	E	0	782.1	0
02/03/2025	05:00	0.7	0.4	ENE	0	781.9	0
02/03/2025	05:30	0.7	0.4	ENE	0	782	0
02/03/2025	06:00	0.8	0.9	ENE	0	781.9	0
02/03/2025	06:30	0.9	0.9	ENE	0	781.9	0
02/03/2025	07:00	1	1.3	ENE	0.8	781.7	0
02/03/2025	07:30	1	1.3	ENE	0.8	781.6	0
02/03/2025	08:00	1.1	1.3	ENE	0	781.6	0
02/03/2025	08:30	1.4	0.9	ENE	0.8	781.6	0
02/03/2025	09:00	1.9	1.3	ENE	0.8	781.6	0
02/03/2025	09:30	2.8	1.8	W	0.8	781.7	0
02/03/2025	10:00	4.1	1.8	WSW	0.8	781.6	0
02/03/2025	10:30	6.2	1.3	WSW	0.8	781.7	0
02/03/2025	11:00	6.2	1.8	W	0.8	781.3	0
02/03/2025	11:30	6.6	2.2	W	0.8	781.1	0
02/03/2025	12:00	7.7	1.3	W	2.41	781	0
02/03/2025	12:30	8.7	1.8	WSW	3.22	780.8	0
02/03/2025	13:00	9.3	1.3	WSW	2.41	780.6	0
02/03/2025	13:30	9.7	1.8	WSW	3.22	780.3	0
02/03/2025	14:00	10.6	0.9	WSW	1.61	780	0
02/03/2025	14:30	10.4	0.9	WSW	1.61	779.8	0
02/03/2025	15:00	10.7	1.3	WSW	2.41	779.6	0
02/03/2025	15:30	10.9	1.3	W	2.41	779.1	0
02/03/2025	16:00	10.5	0.9	W	1.61	779	0
02/03/2025	16:30	10.8	0.4	NW	0.8	778.5	0
02/03/2025	17:00	12.1	0	W	0	778.7	0
02/03/2025	17:30	10.4	0.4	NNW	0.8	778.5	0
02/03/2025	18:00	10.1	0	NNW	0	778.3	0
02/03/2025	18:30	9.6	0	E	0	778.4	0
02/03/2025	19:00	8.2	0	E	0	778.4	0
02/03/2025	19:30	7.1	0	SW	0	778.6	0
02/03/2025	20:00	6.7	0	SW	0	778.8	0
02/03/2025	20:30	6.1	0	WSW	0	778.9	0
02/03/2025	21:00	5.8	0.4	WSW	0.8	778.7	0
02/03/2025	21:30	5.4	0.4	SW	0.8	778.7	0
02/03/2025	22:00	4.3	0	SSW	0	778.5	0
02/03/2025	22:30	4.3	0.4	W	0.8	778.4	0
02/03/2025	23:00	3.6	0.4	W	0.8	778.3	0
02/03/2025	23:30	3.3	0.9	W	1.61	778.2	0
03/03/2025	00:00	2.7	0.4	W	0.8	777.9	0

Date	Time	Temp Out	Wind Speed	Wind Dir	Wind Run	Bar	Rain
03/03/2025	00:30	2.7	0.9	W	1.61	777.8	0
03/03/2025	01:00	2.2	0.9	W	1.61	777.8	0
03/03/2025	01:30	2.2	1.3	W	2.41	777.9	0
03/03/2025	02:00	2.3	0.4	W	0.8	777.9	0
03/03/2025	02:30	2	0	WNW	0	777.7	0
03/03/2025	03:00	2.1	0.4	ENE	0.8	777.5	0
03/03/2025	03:30	2.1	0.4	W	0.8	777.4	**0**
03/03/2025	04:00	2.1	0.9	W	1.61	777.1	0
03/03/2025	04:30	1.9	0.9	W	1.61	776.9	0
03/03/2025	05:00	1.8	0.9	W	1.61	776.8	0
03/03/2025	05:30	1.6		W	0.8	776.7	0
03/03/2025	06:00	1.5	0.4	W	0.8	776.9	0
03/03/2025	06:30	1.7	0.4	W	0.8	776.9	0

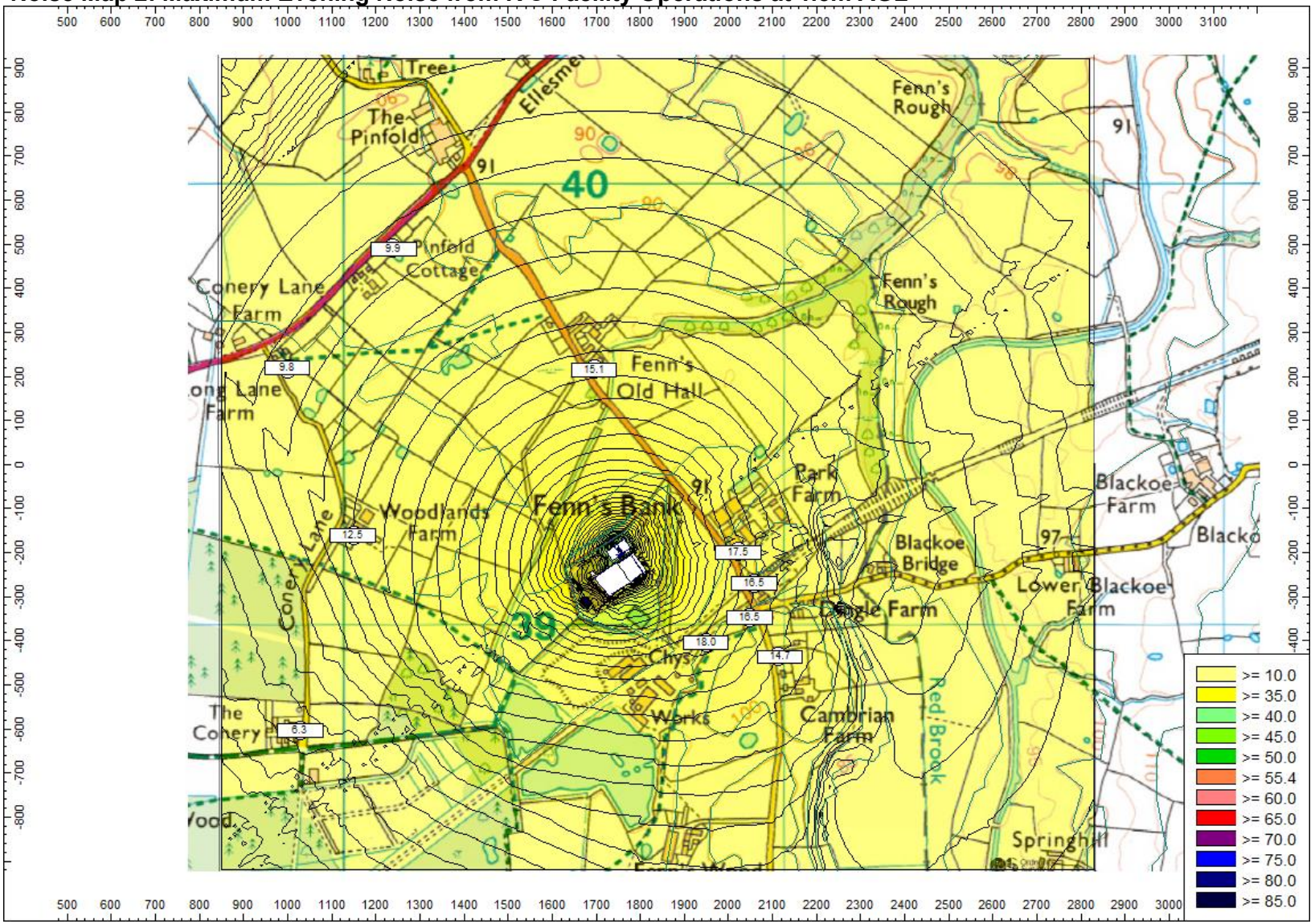
Appendix 3

Noise Mapping Results

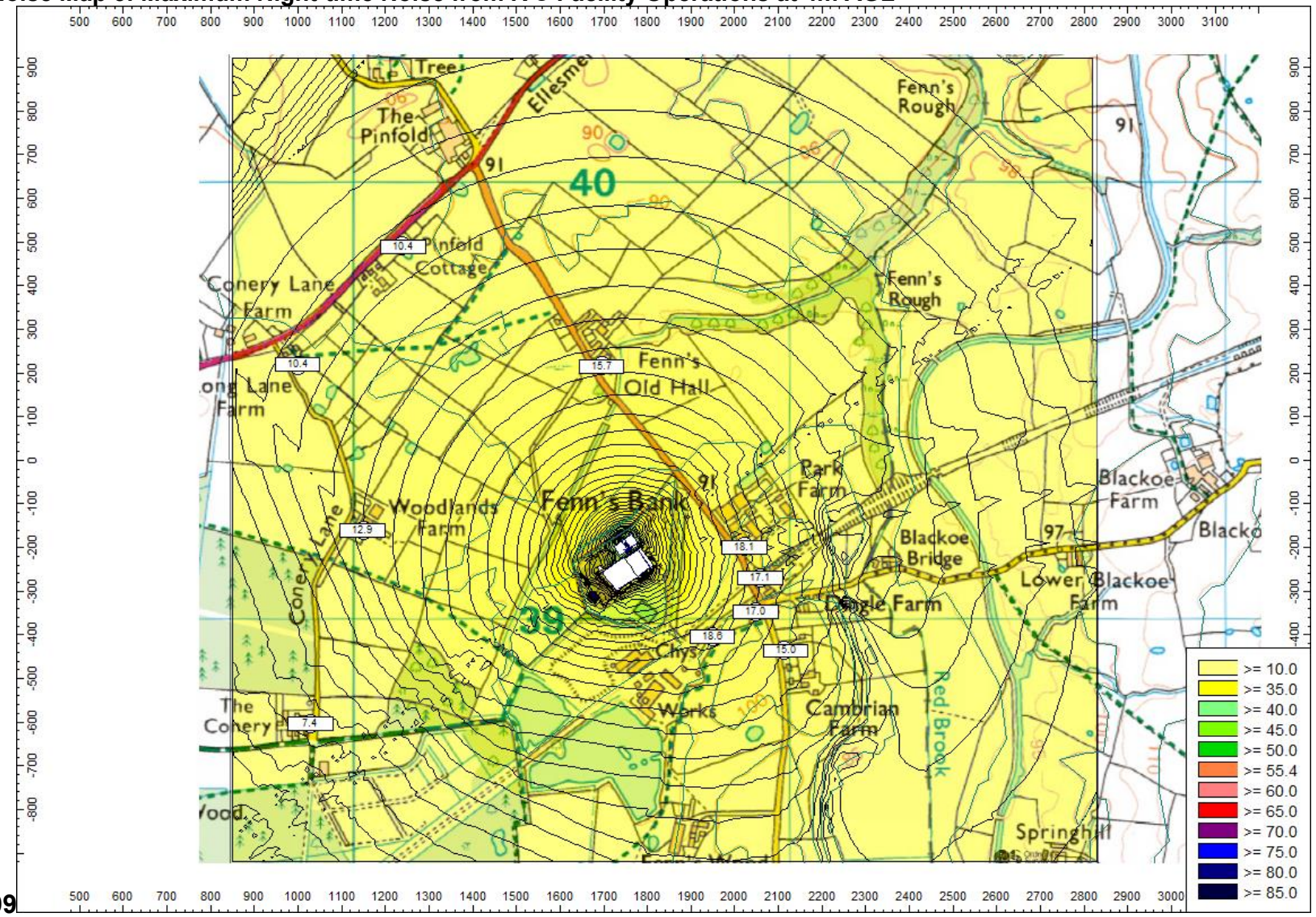
Noise Map 1: Maximum Daytime Noise from IVC Facility Operations (including mobile plant & HGV movement) at 1.5m AGL



Noise Map 2: Maximum Evening Noise from IVC Facility Operations at 1.5m AGL



Noise Map 3: Maximum Night-time Noise from IVC Facility Operations at 4m AGL



Appendix 4

Vibration Terminology

Ground Borne Vibrations

For any source of vibration on or near the surface of the ground, energy propagates away from the source via:

a) Elastic body (or compression) waves – which radiate energy into the ground in all directions
b) Surface (or shear) waves – which carry energy along the ground surface, caused when body waves are reflected back into the ground at the ground-surface interface

Thus, at any point away from that source, the ground motion is the sum of all the wave motions at that point. When wave motion has been generated, the waves will be attenuated as they travel away from the source. The two main mechanisms for attenuation are:

a) Enlargement of the wavefront as the distance from the source increases, and
b) Internal damping of the transmitting medium (the ground)

Ground borne vibration is therefore made up of a combination of different waves, travelling in different directions, at different speeds and at different frequencies. The frequency component of the vibration will affect the rate at which attenuation occurs since the internal damping of the ground is frequency dependent.

Since vibration enters buildings through the foundations, the hard structure of the building is normally affected to a greater degree than by air borne vibration. Often ground borne vibrations are more noticeable when standing or sitting near the middle of suspended wooden floors.

Ground Borne Vibration Measurement Units

Ground borne vibration is caused when the individual particles making up the strata are caused to oscillate by the passage of a pressure wave. The resulting vibration can be summarized in terms of 4 main parameters:

a) **Velocity** – how fast the particles move when they are oscillating. Since the velocity of these particles continually change as the pressure wave passes the most useful value that is often reported is the maximum or peak particle velocity (PPV). PPVs are usually expressed in terms of ms^{-1} or mms^{-1}.

b) **Acceleration** – is the rate at which the particle velocity changes during oscillation. It is usually measured in ms^{-2} mms^{-2} or "g's". 1g is that acceleration imparted to an object by the earth's gravitational pull and is approximately 9.81 ms^{-2}.

c) **Displacement** – is the distance moved by oscillating particles. This is usually very small and measured in mm or even µm.

d) **Frequency** – is the number of oscillations per second which a particle undergoes due to the passage of a vibration wave. It is measured in cycles per second or Hertz (Hz).

The movement of particles induced to oscillate by vibration waves are usually measured in three mutually perpendicular directions to fully describe the vibration intensity, as particles will be oscillating in three dimensions. These are:

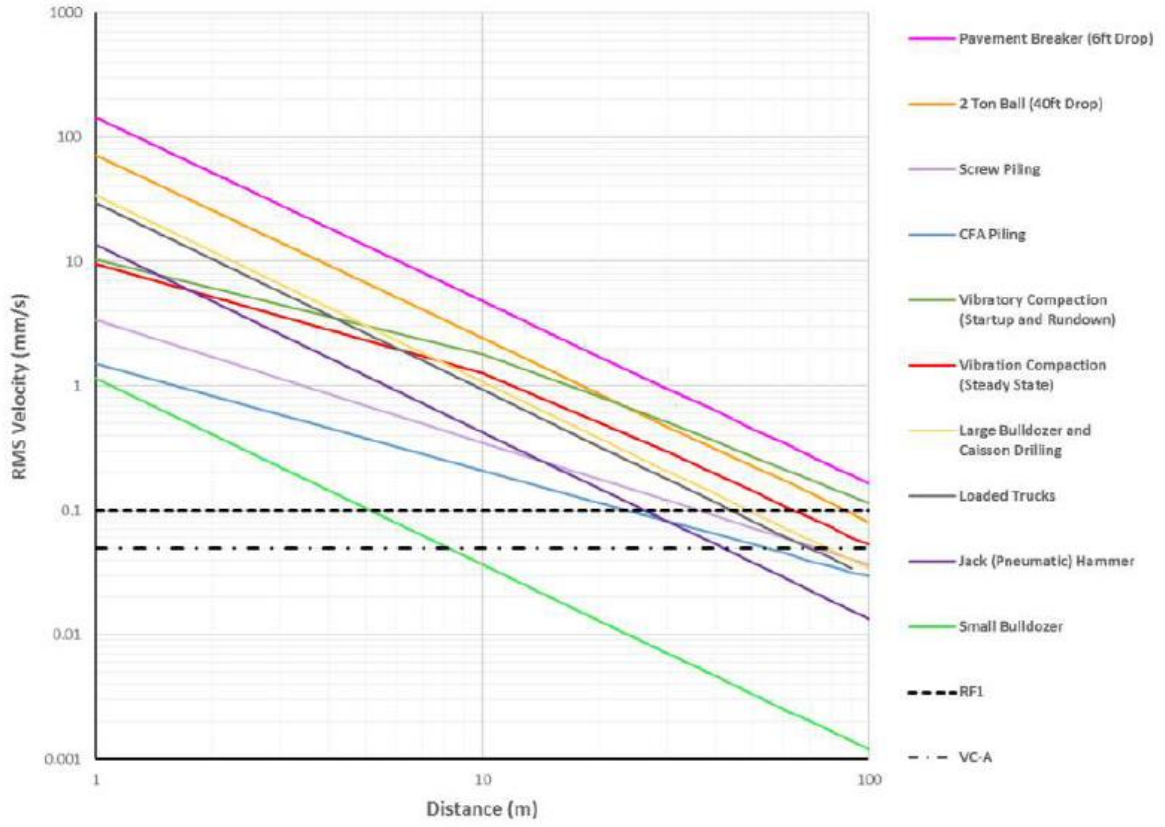
a) **Longitudinal** – back and forth particle movement in the same direction that the vibration wave is travelling.

b) **Vertical** – up and down movement perpendicular to the direction the vibration wave is travelling.

c) **Transverse** – left and right particle movement perpendicular to the direction the vibration wave is travelling.

Appendix 5

Vibration Levels from a Range of Construction Activities



Appendix 6

Assumed Plant Noise Levels

Plant Type	Sound Pressure Level (SPL) LAeq [dB]	Source Of Noise Data	Assumed % Operating Time	Example of mitigation	Period of Operation
Biofilter Stack	65 @ 1m/90deg	Design Limit	100	Design of fan stack silencer (design to limit, remove tonality & avoid stack resonance issues)	Daytime & Night-time
Biofilter Plantroom Building	75 (reverberant SPL in room)	Fan 1A (2 off) Fan 3 (2 off)	100	Fans acoustically treated. Design of Fan & Speed. Wall construction Rw 52dB, roof Rw 48dB.	Daytime
Biofilter Plantroom Building	70 (reverberant SPL in room)	Fan 1A (2 off) Fan 3 (2 off)	100	Fans acoustically treated Design of Fan & Speed Wall construction Rw 52dB roof 48dB.	Night-time
Biofilter Rooms 1 & 2	84 (reverberant SPL in room)	Each room: Fan 1A (1 off) Fan 3 (1 off)	100	Fans acoustically treated. Design of Fan & Speed. Wall construction Rw 52dB, roof Rw 48dB.	Daytime & Night-time
Maturation Pad Tech Room	69 (reverberant SPL in room)	Fan 5 (2 off)	100	Design of Fan & Speed Acoustic Cladding construction Rw 44dB	Daytime & Night-time
Pre-treatment	80-81 (rev. SPL in reception) 83 (rev. SPL in shredder area)	Mobile plant Shredder noise	100 100	Cladding treatment Rw 24dB. Fast Acting Doors Rw 10dB on SE facade	Daytime
Pre-treatment	60 (rev. SPL in reception & shredder)	Fan 1B (1 off) & 2B (1 off)	100	Cladding treatment Rw 24dB. Fast Acting Doors Rw 10dB on SE facade	Night-time
Composting Tunnel Building	80-81 (rev. SPL in room)	Mobile Plant	100	Cladding treatment Rw 24dB. Fast Acting Doors Rw 10dB on SW & NW façade. SE façade roller shutter door Rw18dB	Daytime
Composting Tunnel Building	60 (reverberant SPL in room)	Fan 2B in room (fans 2A & 4 in tunnels)	100	Design of fan & speed Cladding & doors as per daytime spec.	Night-time
Refiner Screener	85 – 87 @ 1m 82 – 84 @ 1m	Library Library	100 100	Design of plant Design of plant	Daytime Daytime
HGV	75 @ 10m	Library	Intermittent	No reversing into Reception Hall necessary	Daytime
Front Loader	73 @ 10m	Library	Intermittent	Non-tonal reversing alarm	Daytime

Appendix 7

Consultant's Experience & Qualifications

Consultant: Dean Robert Kettlewell - MSc MIOA MAE I.Eng
(Director - Principal Acoustic Consultant)

Précis

As Director and Principal Acoustic Consultant with Noise & Vibration Consultants Ltd, Dean has over 40 years background experience in a wide range of issues relating to environmental, industrial and commercial noise and vibration assessment. He currently manages corporate and unit specific contracts for:

- Assessment of Environmental & Industrial Noise
- Environmental Noise Impact Assessments
- Expert Witness representation for Planning Appeals
- Integrated Pollution Prevention and Control (IPPC) Applications
- Industrial Noise Assessment and Control
- Planning Issues for Residential and Commercial Development
- Noise at Work Regulations Assessments
- Building Acoustics and Sound Insulation Tests
- Wind Farm Noise Impact Assessments
- Entertainment Noise Assessment and Control
- Architectural Acoustics
- Specialist knowledge in the Design of Noise Control Systems
- Ground borne vibration measurement and assessment
- Project Management of Noise Control Systems

Relevant Work Experience

Director & Principal Consultant - Noise & Vibration Consultants Ltd	2001- to date
Senior Acoustic Consultant - Vibrock Limited	1998 - 2001
Associate & Principal Acoustic Consultant - John Savidge & Associates	1994 - 1998
Technical Manager – LBJ Limited (Noise Control Division)	1990 - 1994
Technical Engineer/Technical Manager (1988) - Vibac (Noise Control) Ltd	1982 - 1990

Qualifications and Education

M.Sc. Applied Acoustics (Derby University – Distinction)
HNC Electrical & Electronic Engineering
IOA Diploma in Acoustics & Noise Control
IOA Certificate in Law and Administration
Certificate of Competence in Workplace Noise Assessment
Certificate of Competence in Ground Vibration Monitoring

Affiliations: Member of Institute of Acoustics (MIOA)
Member of Academy of Experts (MAE)
Member of Association of Noise Consultants (ANC)
Incorporated Engineer (I.Eng)


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