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New Light Industrial Units
Land off Valley Road, Wombwell, S73 0BS

Noise Impact Assessment

For:
White Agus Ltd

18th February 2026

Ref: NIA/12497/26/12809/v1/Valley Road, Wombwell
Issue: First
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1 Introduction

1.1 Overview

Environmental Noise Solutions Ltd (ENS) has been commissioned by White Agus ltd (hereafter referred to as 'the client') to undertake a noise impact assessment for new light industrial units on land off Valley Road, Wombwell, S73 0BS (hereafter referred to as 'the site').

This report presents:

- The methodology and results of a noise survey conducted at the site
- The assessment of potential impact of noise emission from the proposals on existing noise sensitive receptors
- Recommendations for structural and management controls, as necessary, to protect the noise amenity of existing noise sensitive receptors

This report has been prepared on behalf of the client for the sole purpose described above and no extended duty of care to any third party is implied or offered. Third parties referring to the report should consult the client and ENS as to the extent to which the findings may be appropriate for their use.

A glossary of acoustic terms used in the main body of the text is contained in Appendix A.

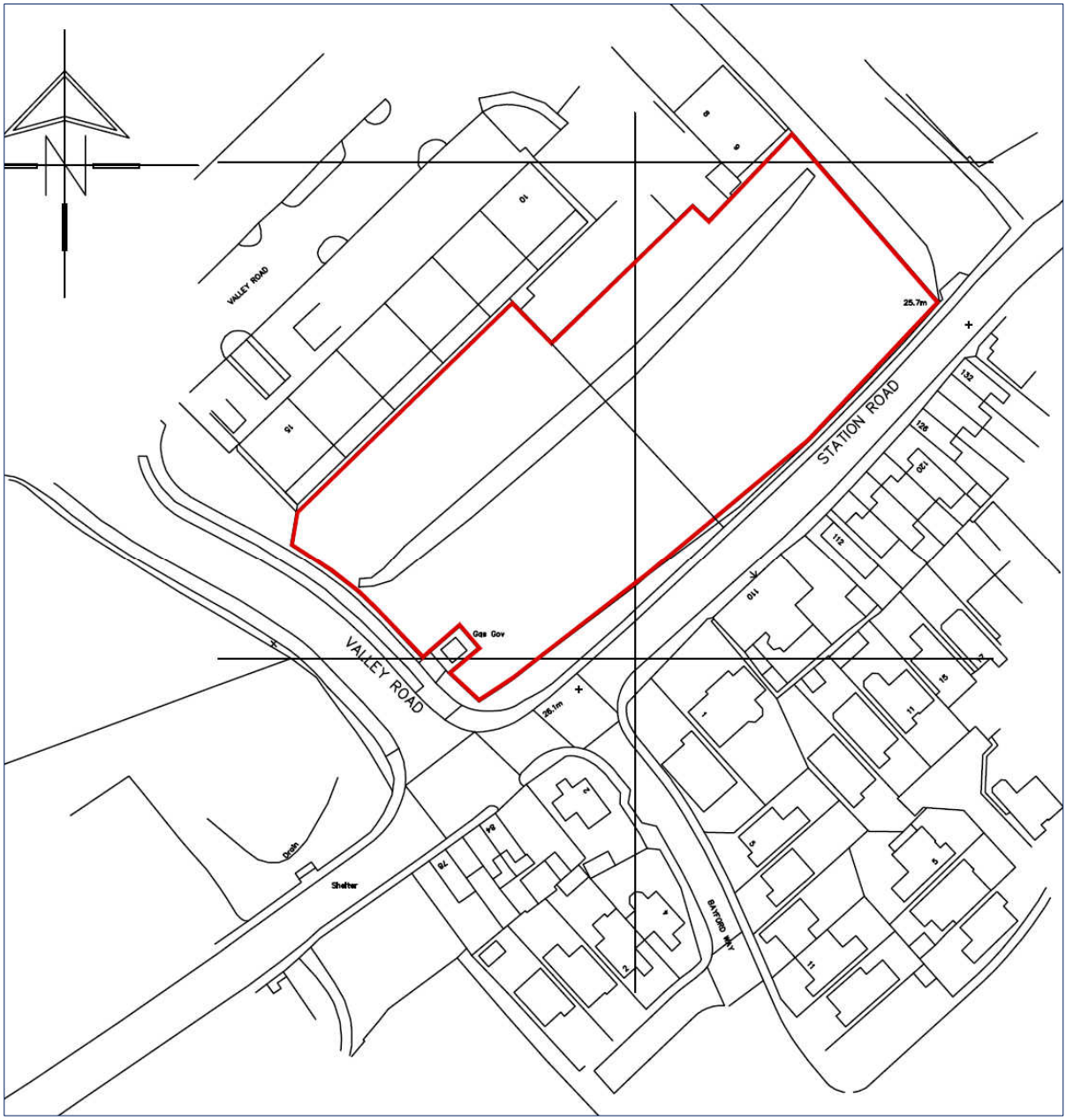
1.2 Site Description and Proposals

The site is located on land to the south north-west of Station Road, Wombwell, approximately centred on grid reference: 440508,403453, in an area of mixed commercial and residential land uses to the south-east of an existing industrial estate.

The development site is bounded to north by existing commercial units, with residential dwellings to the east, south and west. The existing access road to the industrial estate is located adjacent to the south-western site boundary.

The proposed site location is presented on Figure 1.1 below.

Figure 1.1: Development Site Boundary



2 Noise Criteria

2.1 Assessment Guidance

National Planning Policy Framework

The National Planning Policy Framework (NPPF)[1] was updated in February 2025 and sets out the Government's planning policies for England and how these are expected to be applied.

Where issues of noise impact are concerned the NPPF provides brief guidance in paragraph 187 where it states that planning policies and decisions should contribute to and enhance the natural and local environment by:

'preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of…..noise pollution'.

Paragraph 198 advises that:

'Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should…..mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life'.

The NPPF also refers to the 2010 DEFRA publication, the Noise Policy Statement for England (NPSE) which reinforces and supplements the NPPF.

Noise Policy Statement for England

The Noise Policy Statement for England[2] (NPSE) sets out the long-term vision of promoting good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development. This long-term vision is supported by the following aims:

- Avoid significant adverse impacts on health and quality of life
- Mitigate and minimise adverse impacts on health and quality of life
- Where possible, contribute to the improvement of health and quality of life

The NPSE describes the following levels at which noise impacts may be identified:

- NOEL – No Observed Effect Level. This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise
- LOAEL – Lowest Observed Adverse Effect Level. This is the level above which adverse effects on health and quality of life can be detected
- SOAEL – Significant Observed Adverse Effect Level. This is the level above which significant adverse effects on health and quality of life occur

According to the explanatory notes in the statement, where a noise level falls between the lowest observable adverse effect level (LOAEL) and a level which represents a significant observable adverse effect level (SOAEL):

1 National Planning Policy Framework. Ministry of Housing, Communities and Local Government (2021)
2 Government Department for Environment, Food and Rural Affairs. Noise Policy Statement for England. March 2010.

'….all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life whilst also taking into consideration the guiding principles of sustainable development. This does not mean that such effects cannot occur.'

British Standard 4142: 2014 +A1:2019 "Methods for rating and assessing industrial and commercial sound"

BS 4142[3] presents methods for rating and assessing the potential impact of commercial and industrial sound upon noise sensitive receptors. The Standard is appropriate for the consideration of industrial and manufacturing processes, fixed installations which comprise mechanical and electrical plant and equipment and mobile plant / vehicles that form an intrinsic part of the industrial/commercial including the loading and unloading of goods and materials at the premises.

The noise impact magnitude is derived from the numerical subtraction of the representative[4] background noise level from the measured or calculated rating level of the specific sound under consideration. Typically, the greater this difference, the greater the magnitude of the impact:

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

The 'rating level' must be determined considering the need for any 'character corrections' to the specific industrial/commercial noise level to account for tonal qualities, impulsive qualities, other sound characteristics and/or intermittency. This can be done using a subjective, objective or reference methods. Where multiple features are present the corrections should be added in a linear fashion to the specific level.

The subjective method is based on the corrections presented in Table 2.1.

Table 2.1: BS4142 Subjective Method 'Acoustic Feature' / Rating Corrections

Level of Perceptibility	Tonal Correction	Impulsivity Correction	Intermittency Correction	Other
None	0 dB	0 dB	+3 dB Where intermittency is readily identifiable	+3 dB Where neither tonal nor impulsive but clearly identifiable against prevailing soundscape
Just Perceptible	+ 2 dB	+ 3 dB		
Clearly Perceptible	+ 4 dB	+ 6 dB		
Highly Perceptible	+ 6 dB	+ 9 dB		

BS 4142 requires separate analysis for day and night time periods, evaluating the Rating level over an appropriate reference time interval (T_r) of:

- 1 hr during the day (between 07:00 – 23:00 hrs)
- 15 min during the night (between 23:00 – 07:00 hrs)

[3] British Standard 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound. British Standards Institution (2019)

[4] 'Representative' is generally considered to be 'typical' (e.g. formed by analysis of modal / mean average values) rather than the lowest measured

2.2 Noise Sensitive Receptors

The closest noise sensitive receptors are dwellings to the south-east and south-west of the site boundary, as indicated on the site location plan included as Appendix B, and described in Table 2.2 below.

Table 2.2: Noise Sensitive Receptors

NSR	Description	Direction	Approximate minimum distance of facade to site boundary (m)
A	Residential dwellings on Station Road	South-east	20
B	Residential dwellings on Station Road	South-west	70
C	Residential dwellings on Station Road	East	50

3 Noise Survey and Results

Noise monitoring was undertaken between Friday 30th January to Monday 2nd February 2026 to assess noise levels in the vicinity of the proposed development and nearby noise sensitive receptors.

Noise measurements were made at the following locations:

1. At the south-eastern site boundary

All measurements were undertaken using an NTi XL3 Type 1 integrating sound level meter. The meter was connected to a windshield covered microphone at a height of approximately 4 metres above ground level. All measurements were undertaken in free field conditions.

The calibration of the measurement system was verified immediately before and after the survey period using a Brüel & Kjaer Type 4231 calibrator. No drift in calibration levels greater than 0.5 dB was noted.

Measurements consisted of A–weighted broadband parameters including $L_{Aeq,T}$, $L_{A10,T}$ and $L_{A90,T}$ together with linear octave band data.

3.1 Summary of Results

Table 3.1 presents a summary of the noise data for each measurement period, rounded to the nearest decibel.

Table 3.1: Summary of Noise Measurement Data

Position	Date	Time (hh:mm)	Measured sound pressure level (dB)		
			$L_{Aeq,T}$	$L_{A10,T}$	$L_{A90,T}$
1	30/01/26	09:30-23:00	65	71	50
	31/01/26	07:00-23:00	64	70	47
	01/02/26	07:00-23:00	62	69	42
	30/01/26-31/01/26	23:00-07:00	55	56	35
	31/01/26-01/02/26	23:00-07:00	56	56	34
	01/02/26-02/02/26	23:00-07:00	57	59	31

The noise climate in the vicinity of the site was found to be controlled by local and distant road traffic noise on the road traffic network surrounding the site, with contributions from existing industrial activity.

3.2 Plant Noise Limits

BS 4142 rating noise limits for new items of fixed plant have been proposed having regard to the noise survey results summarised above and the guidance set out in BS 4142.

Representative background noise levels have been derived from a modal analysis of the 1 hour and 15-minute background noise measurements during both the day and night time periods respectively. With reference to the guidance set out in Section 2, rating noise limits have been set at a level not exceeding the existing background noise level.

Table 3.2 below presents the proposed rating noise limits.

Table 3.2: Rating Noise limits

NSR	Period	Representative background noise level (dB $L_{A90,T}$)	Proposed fixed plant rating noise limit (dB $L_{Ar,Tr}$)

All NSRs	Daytime (07:00-23:00)	52	≤52
	Night Time (23:00-07:00)	34	≤34

4 Commercial Noise Assessment

4.1 Noise Modelling

To calculate specific noise levels at the nearest noise sensitive receptors resulting from the proposals, a three-dimensional Cadna-A noise model has been developed.

Noise model geometry is based on Ordnance Survey mapping and terrain data and drawings supplied by the client. Propagation of noise has been calculated at a height of 4m above ground level, representative of first floor bedrooms in the NSRs. All buildings within the model are assumed to be acoustically reflective, and second order reflections have been considered. The noise model mixed ground for propagation corrections. All buildings outside the site boundary have an assumed height of 8m, representing a two-storey dwelling.

The noise model considers the following noise sources/scenarios:

- Noise breakout from within the proposed new units
- Noise emission from external loading/unloading

The development includes one garage & workshop and amenity unit, 9 individual light industrial units and an office block.

Noise emission from the workshop and light industrial units has been calculated assuming an internal ambient noise level of 80 dB L_{iA} with all doors assumed to be fully open for the duration of the daytime assessment period, and fully closed during the night time period.

The highest specific noise levels at the NSRs are presented in Table 4.3 below. All plant is assumed to be operating continuously and concurrently.

Table 4.3: Calculated Specific Noise Levels at NSRs

Noise Sensitive Receptor	Specific Noise Level [dB $L_{Aeq,T}$] at Receptor	
	Daytime (07:00-23:00)	Night time (23:00-07:00)
A	39	17
B	40	19
C	44	22

With regard to potential 'acoustic feature' corrections, the assessment assumes that all units are operating continuously and concurrently therefore no correction has been applied for intermittency. It is possible that the noise may include both tonal and impulsive characteristics which may be just perceptible therefore a correction of +5 dB has been applied for tonality and intermittency.

The calculated specific noise levels have been assessed in accordance with the methodology set out in BS 4142, including corrections for acoustic character discussed above. The results of the assessment are presented in Table 4.4 and Table 4.5 below.

Table 4.4: BS4142 Assessment – Day

Parameter	A	B	C
Typical background sound level (dB $L_{A90,1hr}$)	52	52	52
Specific noise level (dB $L_{Aeq,1hr}$) (See Table 4.3)	39	40	44
Acoustic feature correction (dB)	+5	+5	+5
Rating level (dB $L_{Ar,Tr}$)	44	45	49
Excess of rating over background sound level (dB)	-8	-7	-3

Table 4.5: BS4142 Assessment – Night

Parameter	A	B	C
Typical background sound level (dB $L_{A90,15min}$)	34	34	34
Specific noise level (dB $L_{Aeq,15min}$) (See Table 4.3)	17	19	22
Acoustic feature correction (dB)	+5	+5	+5
Rating level (dB $L_{Ar,Tr}$)	22	24	27
Excess of rating over background sound level (dB)	-12	-10	-7

The BS 4142 assessment indicates that the Rating noise level from the proposals would not exceed the background noise level at the NSRs during either the day or night time period. According to BS 4142, the predicted rating noise levels are likely to result in a 'low impact'.

In regards to context, nearby receptors are presently exposed to noise levels from the existing commercial activities at a similar magnitude to the proposed. The character of proposed noise is expected to be similar to the existing noise climate and would therefore not increase the significance of noise effects.

On this basis, the development is not considered to be constrained by noise.

5 Summary and Conclusions

A noise impact assessment has been undertaken for a new for new light industrial units on land off Valley Road, Wombwell

A noise survey has been undertaken to assess noise levels in the vicinity of nearby noise-sensitive receptors, where the noise climate was found to be controlled by distant road traffic noise plus contributions from existing commercial noise sources.

Rating noise limits for new items of plant derived from the measured background noise levels are presented in Section 3 of this report.

Noise emission from the site has been calculated using three-dimensional noise modelling, based on information provided by the client, and an assessment of potential noise impacts from the proposals has been undertaken with reference to relevant guidance.

The assessment indicates that the proposals would result in a low impact, including consideration of the context of the existing noise climate.

On this basis, the proposals are not considered to be constrained by noise.

Appendix A – Abbreviations and Definitions

Sound Pressure Level (L_p)
The basic unit of sound measurement is the sound pressure level. As the pressures to which the human ear responds can range from 20 μPa to 200 Pa, a linear measurement of sound levels would involve many orders of magnitude. Consequently, the pressures are converted to a logarithmic scale and expressed in decibels (dB) as follows:

$L_p = 20 \log_{10}(p/p_o)$

Where L_p = sound pressure level in dB; p = rms sound pressure in Pa; and p_o = reference sound pressure (20 μPa).

A-weighting
A frequency filtering system in a sound level meter, which approximates under defined conditions the frequency response of the human ear. The A-weighted sound pressure level, expressed in dB(A), has been shown to correlate well with subjective response to noise.

Equivalent continuous A-weighted sound pressure level, $L_{Aeq,\,T}$
The value of the A-weighted sound pressure level in decibels of continuous steady sound that within a specified time interval, *T*, has the same mean-square sound pressure as a sound that varies with time. $L_{Aeq,\,16h}$ (07:00 to 23:00 hours) and $L_{Aeq,\,8h}$ (23:00 to 07:00 hours) are used to qualify daytime and night time noise levels.

$L_{A10,\,T}$
The A-weighted sound pressure level in decibels exceeded for 10% of the measurement period, T. $L_{A10,\,18h}$ is the arithmetic mean of the 18 hourly values from 06:00 to 24:00 hours.

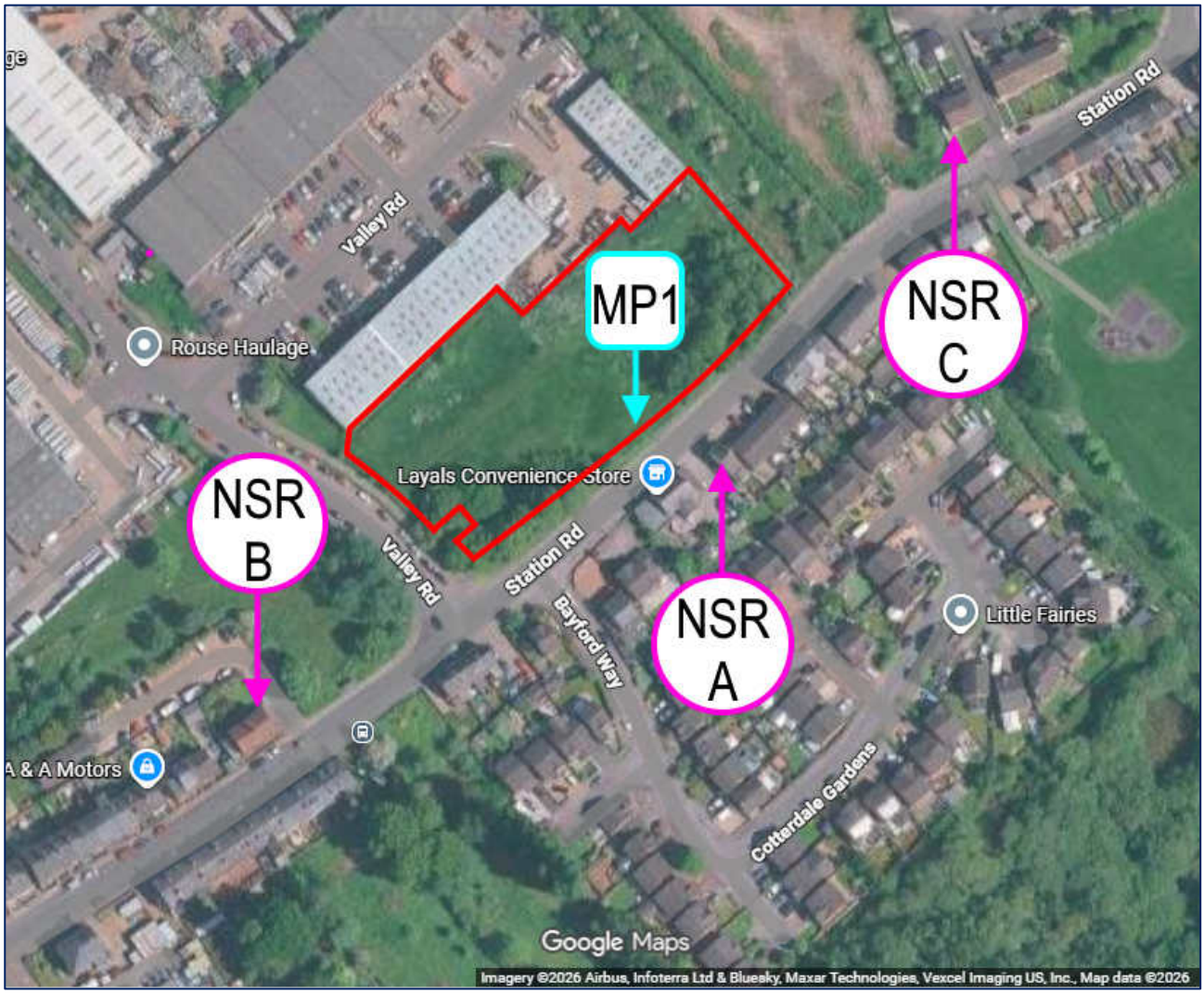
$L_{A90,\,T}$
The A-weighted sound pressure level of the residual noise in decibels exceeded 90% of a given time interval, T. L_{A90} is typically taken as representative of background noise.

$L_{Amax,F}$
The maximum A-weighted noise level recorded during the measurement period. The subscript 'F' denotes fast time weighting, slow time weighting 'S' is also used.

Single Event Level / Sound Exposure Level (SEL or L_{AE})
The energy produced by a discrete noise event averaged over one second, regardless of the event duration. This allows for comparison between different noise events which occur over different lengths of time.

Weighted Sound Reduction Index (R_W)
Single number quantity which characterises the airborne sound insulation properties of a material or building element over a defined range of frequencies (R_W is used to characterise the insulation of a material or product that has been measured in a laboratory).

Appendix B –Site Location Plan and Monitoring Positions



Appendix C –Noise contour plots at 4m above ground level

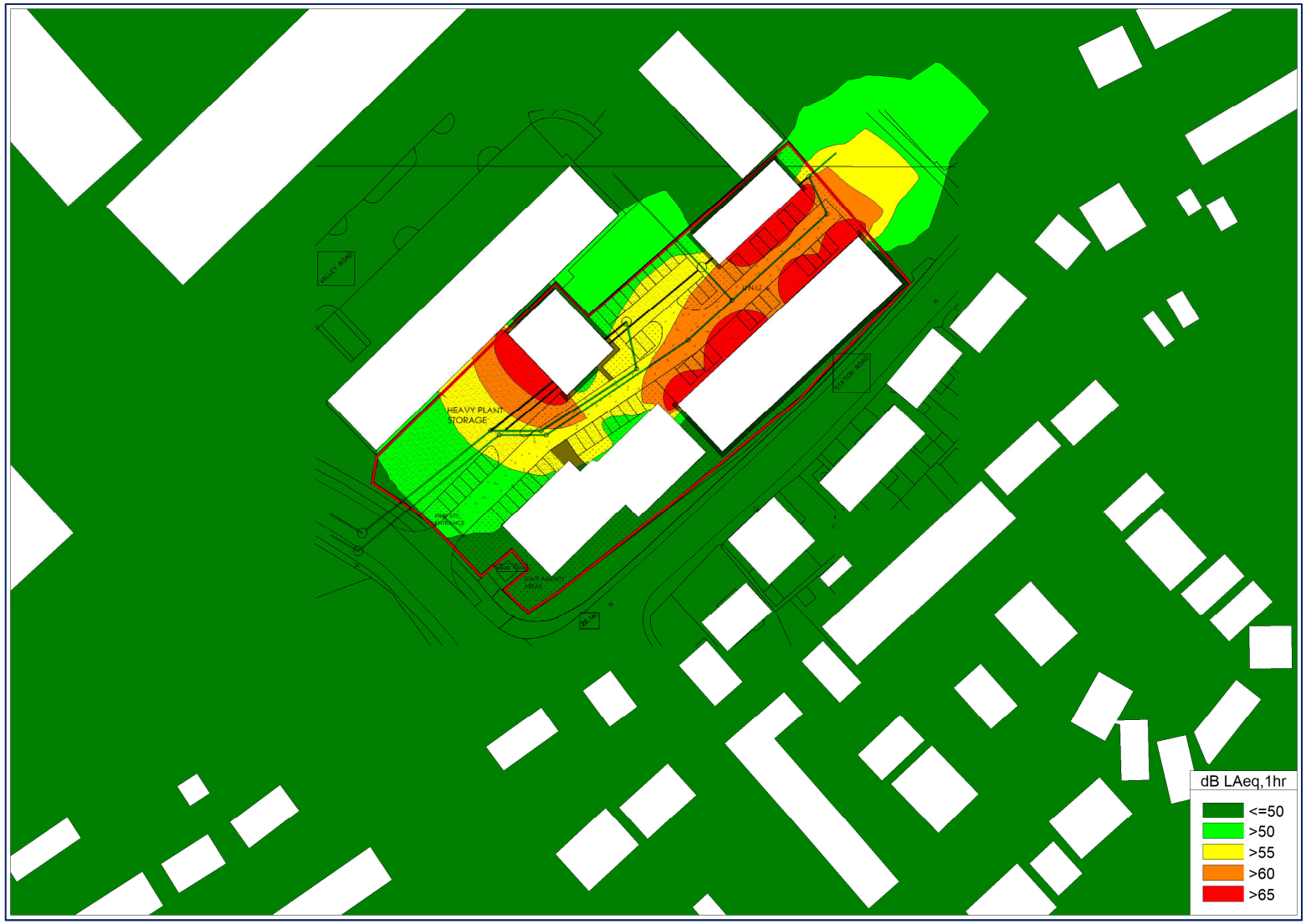


Figure C1: Daytime noise levels with doors open (dB $L_{Aeq,1hr}$)

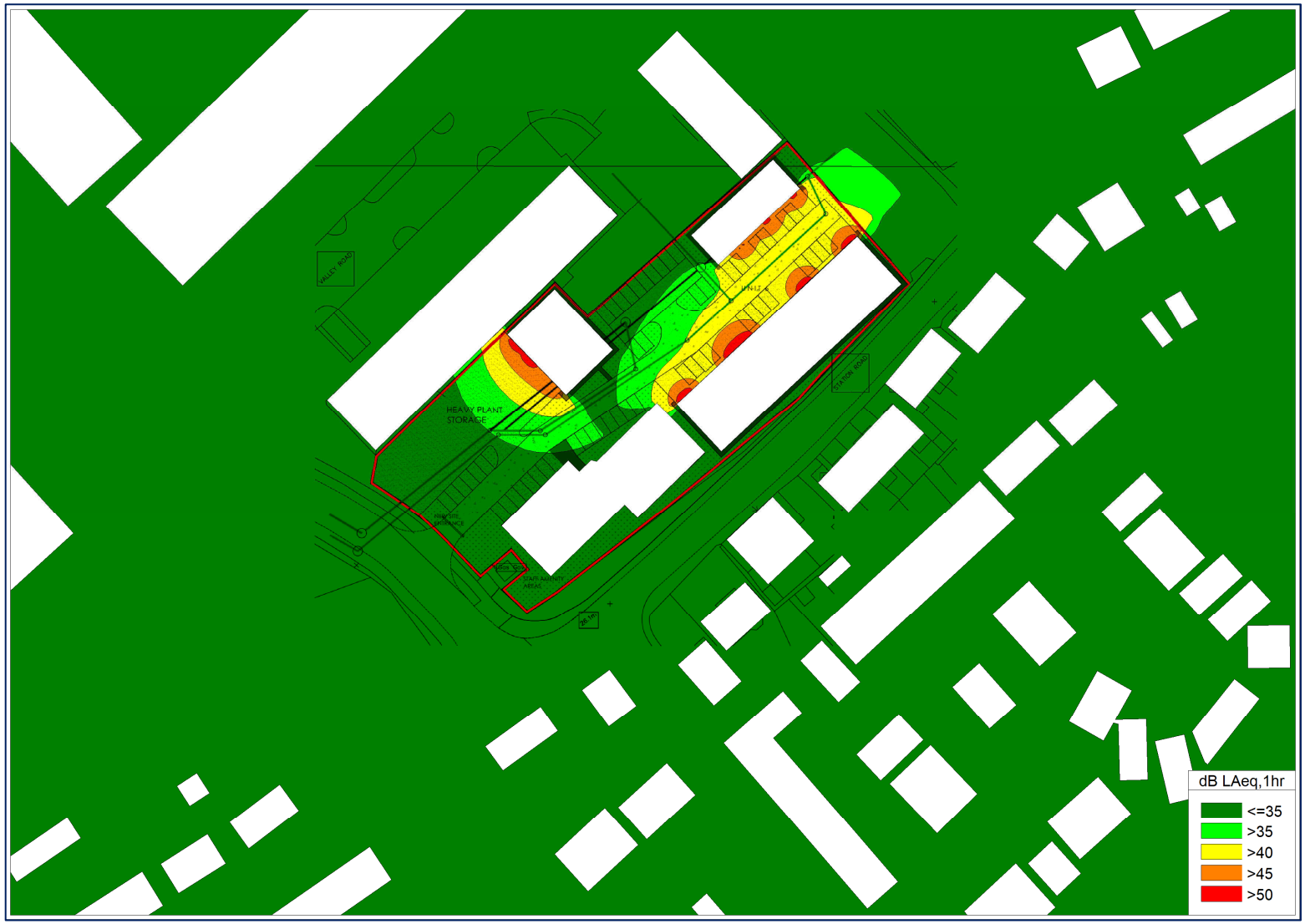


Figure C1: Night time noise levels with doors open (dB $L_{Aeq,1hr}$)