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New Outdoor Seating Areas
Cask & Spindle, Abbey Road, Shepley, HD8 8EL

Noise Impact Assessment

For:
Robert Halstead Chartered Surveyors & Town Planners

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1 Introduction

1.1 Overview

Environmental Noise Solutions Ltd (ENS) has been commissioned by Robert Halstead Chartered Surveyors & Town Planners (hereafter referred to as 'the client') to undertake a noise impact assessment for new outdoor seating areas at the Cask and Spindle Public House on Abbey Road, Shepley, HD8 8EL. (hereafter referred to as 'the site').

- The methodology and results of a noise survey conducted at the site
- The assessment of potential impact of noise emission from the proposals on nearby 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 & Proposals

The site is located at the intersection of Abbey Road and Station Lane, in Shepley, approximately centred on grid reference: 419925, 410251.

The approximate site location is presented on Figure 1.1 below.

Figure 1.1: Development Site Boundary

The site is bounded to the north and west by residential dwellings. To the east, the site is bounded by Abbey Road. To the south, the site is bounded by Station Lane, with an elevated railway beyond.

The proposals are to create new external seating areas adjacent to the northern façade of the public house, approximately 20m from the closest NSR to the north and approximately 5m from NSRs to the west.

The proposed opening hours for the development are 12:00 to 00:00 Monday to Sunday with the external seating areas in use up to 22:00.

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.'

Planning Practice Guidance on Noise

Planning Practice Guidance[3] (PPG) is an online resource which provides additional guidance and elaboration on the NPPF. It advises that the Local Planning Authority should consider the acoustic environment in relation to:

- Whether or not a significant adverse effect is occurring or likely to occur
- Whether or not an adverse effect is occurring or likely to occur
- Whether or not a good standard of amenity can be achieved

In line with the Explanatory Note of the NPSE, the PPG references the LOAEL and SOAEL in relation to noise impact. It also provides examples of outcomes that could be expected for a given perception level of noise, plus actions that may be required to bring about a desired outcome. However, in line with the NPSE, no objective noise levels are provided for LOAEL or SOAEL although the PPG acknowledges that:

'…the subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation'.

Table 2.1 below summarises the PPG noise exposure hierarchy.

Table 2.1: PPG Noise Exposure Hierarchy

Perception	Examples of Outcomes	Increasing Effect Level	Action
Not Noticeable	No Effect	No Observed Effect	No specific measures required
Noticeable and not intrusive	Noise can be heard, but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level			
Noticeable and intrusive	Noise can be heard and causes small changes in behaviour and/or attitude, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level			
Noticeable and disruptive	The noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Noticeable and very disruptive	Extensive and regular changes in behaviour and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

[3] Planning Practice Guidance on Noise: http://planningguidance.planningportal.gov.uk/blog/guidance/noise/

Institute of Environmental Management and Assessment (IEMA) – Guidelines for Environmental Noise Impact Assessment

Guidance for the assessment of the change in noise level resulting from the increase in crowd capacity has been drawn from the Institute of Environmental Management and Assessment (IEMA) Guidelines for Environmental Noise Impact Assessment.

The IEMA guidance provides recommendations for noise impact assessments in the context of the Environmental Impact Assessment (EIA) process, however the principles are considered relevant to all types of project where noise effects are likely to occur.

Table 2.2 below presents an example of noise impact magnitude descriptors used to assess the impact of road traffic noise. This has been adopted as a means of assessing the impact of potential changes in ambient noise level at NSRs.

Table 2.2: Noise impact magnitude

Relative change (dB)	Magnitude / Scale of change
≤ 2.9	Negligible
3.0 - 4.9	Small
5.0 – 9.9	Medium
≥ 10	Large

2.3 Noise Sensitive Receptors

The closest noise sensitive receptors are indicated on the site location plan included as Appendix B, and described in Table 2.3 below.

Table 2.3: Noise Sensitive Receptors

NSR	Description	Direction	Approximate minimum distance to site boundary (m)
A	Residential dwellings on Station Lane	West	< 5
B	Residential Dwellings on Abbey Road	North-east	< 5

3 Noise Survey and Results

3.1 Representative Noise Levels

Noise monitoring was undertaken from Friday 13th to Monday 16th June 2025 to assess the existing noise climate in the vicinity of nearby noise sensitive receptors. Noise monitoring locations are presented on the site location plan presented as Appendix B and described below:

- Position 1 – at the western site boundary in the vicinity of NSR B
- Position 2 – at the north-eastern site boundary in the vicinity of NSR A

All measurements were undertaken using NTI XL3 Type 1 integrating sound level meters. Each meter was connected to a windshield covered microphone at a height of approximately 4 metres above ground. External measurements were undertaken in free field conditions, a minimum of 3 metres from any reflective surfaces.

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 $L_{Aeq,\,T}$, and L_{A90} together with linear 1/3rd octave band data.

Weather conditions throughout the survey were not monitored directly, however analysis of online historic weather data indicates that conditions were appropriate for noise monitoring.

3.2 Summary of Results

A series of short-term noise measurements were made at each of the three positions described above. 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)	$L_{Aeq,T}$ (dB)	$L_{A10,T}$ (dB)	$L_{A90,T}$ (dB)
1	13/06/25	14:00-23:00	55	60	39
	14/06/25	07:00-23:00	54	60	41
	15/06/25	07:00-23:00	55	60	41
	13/06/25-14/06/25	23:00-07:00	51	56	25
	14/06/25-15/06/25	23:00-07:00	51	57	28
	15/06/25-16/06/25	23:00-07:00	50	56	25
2	13/06/25	14:05-23:00	60	66	41
	14/06/25	07:00-23:00	60	66	43
	15/06/25	07:00-23:00	59	66	44
	13/06/25-14/06/25	23:00-07:00	53	55	28
	14/06/25-15/06/25	23:00-07:00	55	60	30
	15/06/25-16/06/25	23:00-07:00	54	57	27

The noise climate at both monitoring locations was controlled by local road traffic noise.

4 Assessment

4.1 Change in noise level

Guidance for the assessment of the change in noise level resulting from the increase in crowd capacity has been drawn from the Institute of Environmental Management and Assessment (IEMA) Guidelines for Environmental Noise Impact Assessment.

The IEMA guidance provides recommendations for noise impact assessments in the context of the Environmental Impact Assessment (EIA) process, however the principles are considered relevant to all types of project where noise effects are likely to occur.

Table 4.1 below presents an example of noise impact magnitude descriptors used to assess the impact of road traffic noise. This has been adopted as a means of assessing the impact of potential changes in ambient noise level at NSRs.

Table 4.1: Noise impact magnitude

Relative change (dB)	Magnitude / Scale of change
≤ 2.9	Negligible
3.0 - 4.9	Small
5.0 – 9.9	Medium
≥ 10	Large

4.2 Noise from external seating areas

A Cadna-A noise model has been developed to calculate noise levels at the façade of the identified noise sensitive receptors. The assessment is based on the assumption that up to 40 patrons are outside at any one time, and that each of them is speaking in raised voices for up to 15 minutes per hour. The noise model also includes an additional 20 no. sources with an 'on-time' correction representing shouted speech for up to ten seconds per hour per source.

Noise emission from external patrons is calculated based on a speech spectrum for adult raised voices and shouting derived from the American Standard ANSI 3.5.

The noise model does not include any existing boundary fences or similar which would provide acoustic screening, to present a worst-case noise level. The noise model does not consider noise breakout from within the bar, assuming that the door would ordinarily remain closed.

Table 4.1 below summarised the octave band noise level data used in the assessment, with all figures rounded to the nearest 1 dB. Note that values at 63Hz and 125Hz have been estimated as these are not presented in the ANSI guidance.

Table 4.1: Spectral source data

ANSI 3.5 Sound Power Level Spectrum (dB L_w)	Octave band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
Raised Voice	48	59	70	75	72	64	57	48
Shouted	52	63	73	84	89	82	75	64

Noise emission from each person speaking or shouting has been calculated based on point source propagation at a height of 1.2m above ground level.

In all cases, propagation has been calculated in octave bands according to ISO 9613: 1996 at a height of 4m above ground level.

The results are presented in Table 4.2 below. A noise contour plot illustrating the cumulative propagation of noise from the site are presented in Appendix C.

Table 4.2: Predicted external seating area noise

Noise Sensitive Receptor	Predicted noise levels at NSRs (dB $L_{Aeq,1hour}$)
NSR A	51
NSR B	46

The cumulative noise emission from the external seating area has been assessed having regard to the prevailing noise climate at the façade of the nearest noise sensitive receptors during the evening period to present the most onerous assessment. Noise levels are based on the lowest daily arithmetic average of noise levels measured between 19:00-22:00 Friday to Sunday.

Table 4.3 below presents the predicted worst case noise levels (as set out in Table 4.2) along with a comparison to the prevailing noise level at the NSRs, and the corresponding change in noise levels which results.

Table 4.3: External seating area noise assessment

NSR	Predicted Noise Level (dB $L_{Aeq,1hour}$)	Existing Prevailing Noise Level (dB $L_{Aeq,1hour}$)	Level Difference (dB)	Change in prevailing noise level (dB)
A	51	52	-1	+3
B	46	57	-11	0

The results presented in Table 4.3 indicate that noise from the external seating area would not exceed a noise level which is 1 dB below the prevailing noise level at the façade of each of the nearest noise sensitive receptors, with resulting change in noise level ≤ 3 dB.

Based on the noise impact magnitude criteria set out in Table 4.1, a change in noise level of ≤ 3 dB is considered negligible.

With reference to the PPG hierarchy set out in Table 2.2, the predicted noise levels are such that noise may be heard, but it would not affect the acoustic character such that there would be an adverse effect on the quality of life (NOAEL).

On this basis, although noise from the bar and external areas may be audible at the NSRs, it would be at a level which is not expected to result in observable adverse impacts.

5 Summary and Conclusions

A noise impact assessment for new outdoor seating areas at the Cask and Spindle Public House on Abbey Road, Shepley.

Noise monitoring was undertaken between Friday 13th and Monday 16th June 2025 to assess the existing noise climate in the vicinity of nearby noise sensitive receptors. The noise climate during the survey period was controlled by local road and rail traffic noise. The results of the survey are presented in Section 3 of this report.

Section 4 includes an assessment of noise from the proposed external seating areas, including noise from human activities externally and noise from internal bar areas via the open entrance door. The results of the assessment indicate that noise from the external seating area will result in a change in noise level at the façade of the nearest NSRs of ≤ 3 dB and would not be expected to result in adverse impacts.

Based on the assessment included herein, noise is not considered to be a constraint for the proposed development.

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.

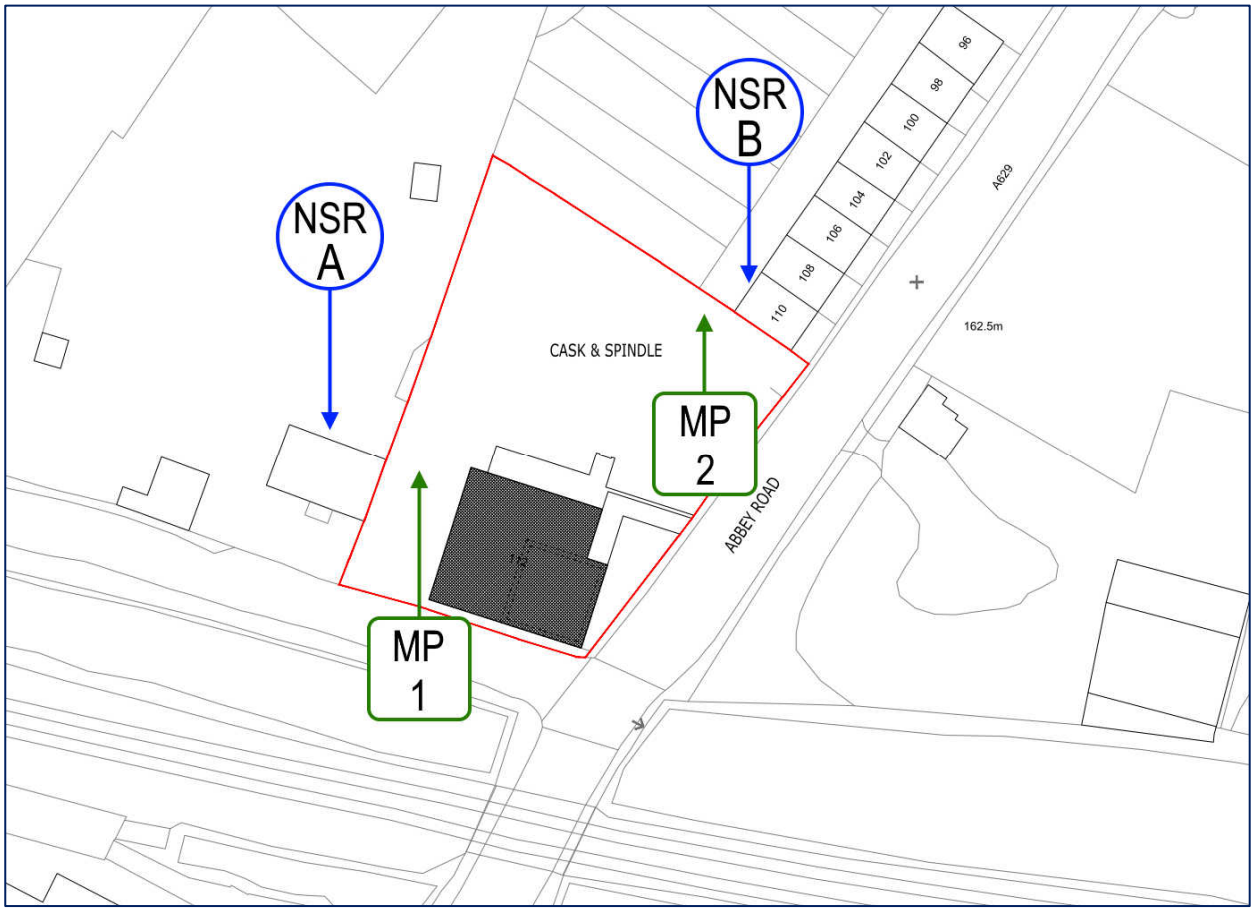
$L_{A90,\,T}$
The A-weighted sound pressure level of the residual noise in decibels exceeded 90% of a given time interval, T. L_{A90} is typically taken as representative of background noise.

$L_{Amax,F}$
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 D –External Seating Area -Contour Plot (dB $L_{Aeq,T}$) at 4m AGL

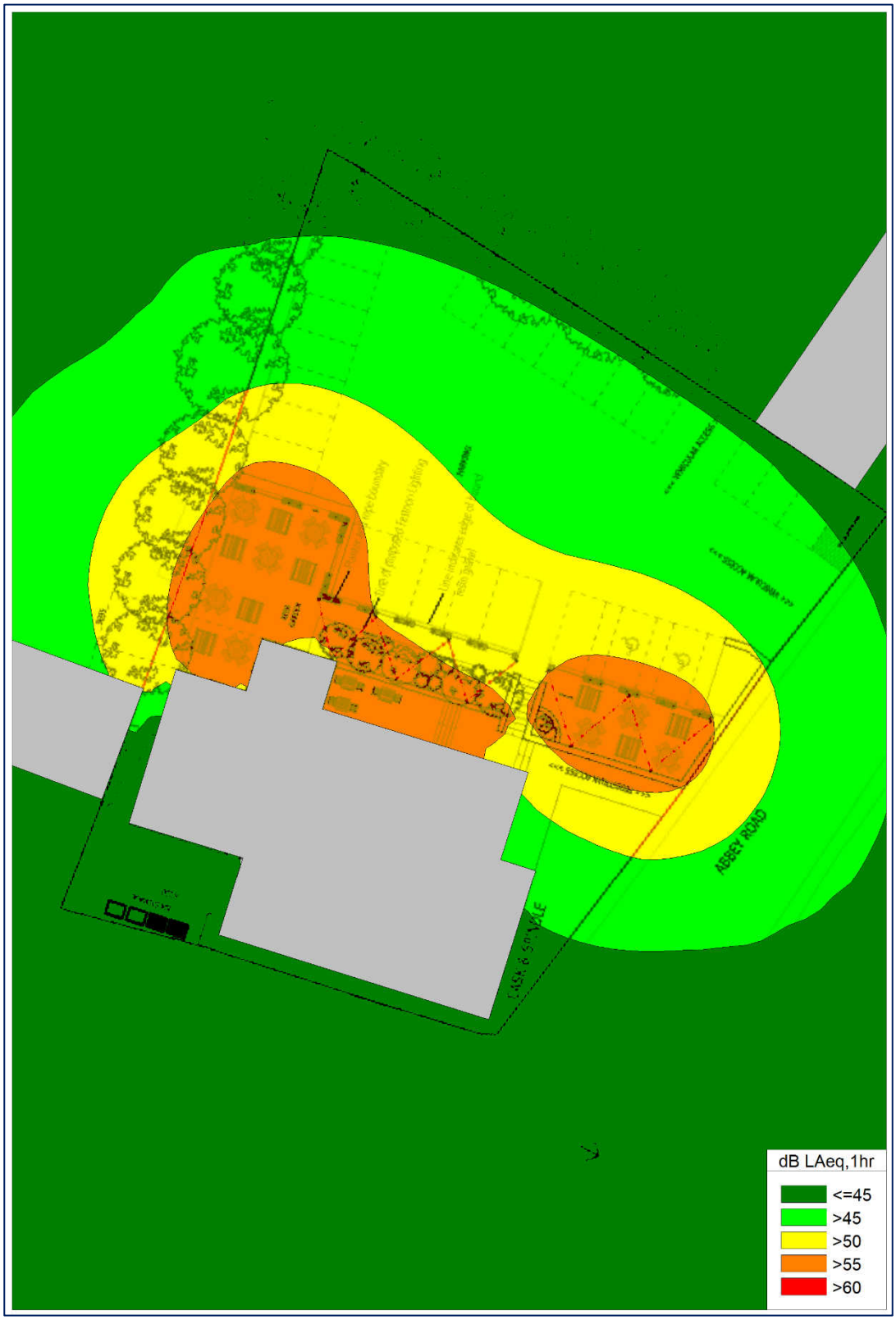


Figure C1: Noise from external patrons at 4m above ground level