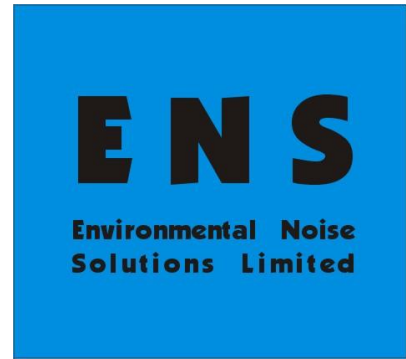




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Proposed MUGA Land off Bridge Road, Sutton Bridge, Lincolnshire, PE12 9SA

Noise Impact Assessment

**For:
SIS Pitches**

10th December 2025

Ref: NIA-12375-25-12649-v1 Sutton Bridge
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1 Introduction

1.1 Overview

Environmental Noise Solutions Ltd (ENS) has been commissioned by SIS Pitches to undertake a noise impact assessment (NIA) for a proposed MUGA at land off Bridge Road, Sutton Bridge, Lincolnshire, PE12 9SA (hereafter referred to as ‘the site’).

The objectives of the noise impact assessment were to:

- Establish the noise levels associated with use of the MUGA
- Establish the existing noise levels at the nearest noise sensitive receptors to the site during representative time periods
- Assess the potential noise impact of the MUGA on the nearest noise sensitive receptors, in accordance with pertinent guidance

This report details the methodology and results of the noise impact assessment. It has been prepared to accompany a planning application to be submitted to South Holland District Council.

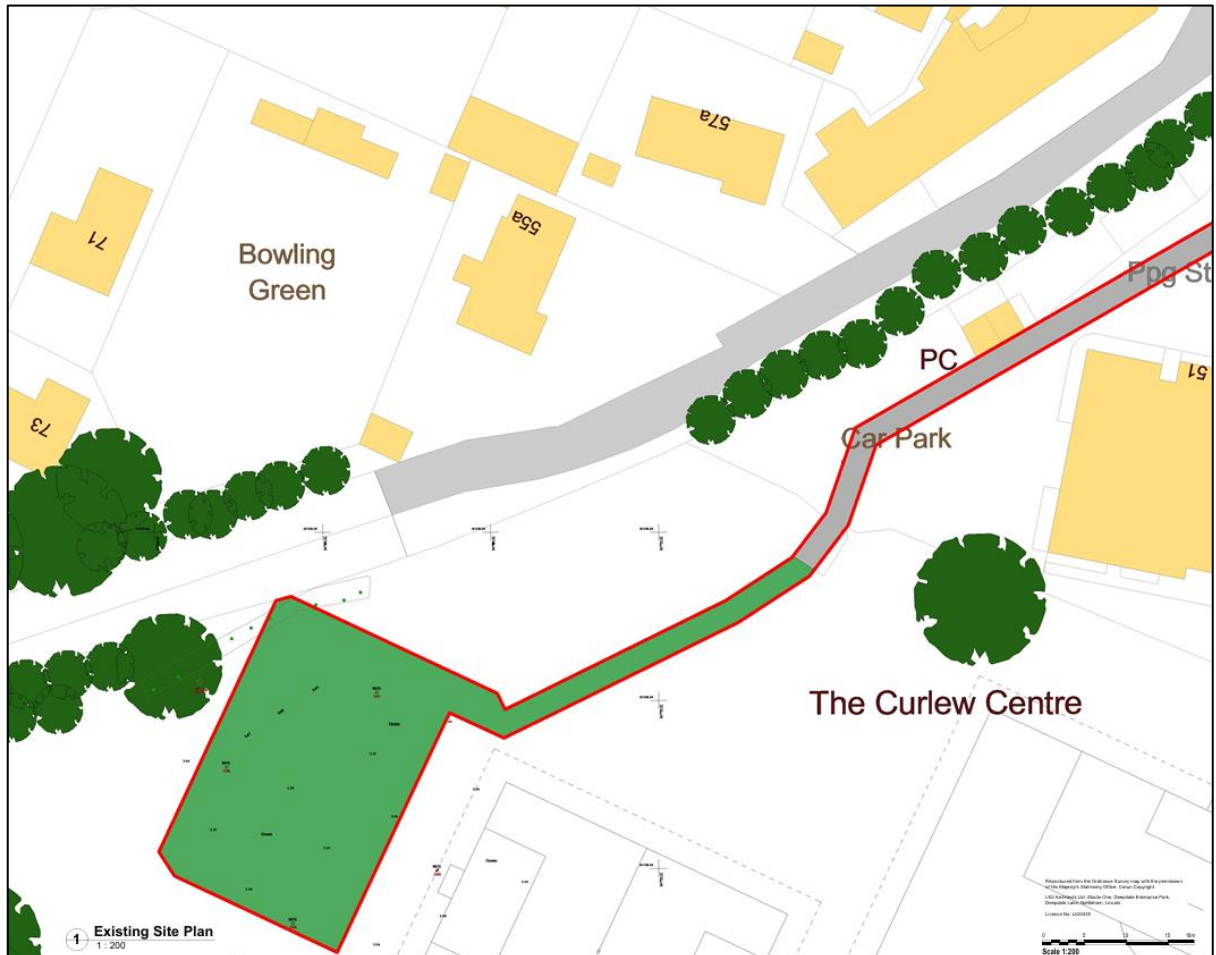
The report has been prepared for SIS Pitches for the sole purpose described above and no extended duty of care to any third party is implied or offered. Third parties referring to the report should consult SIS Pitches and ENS as to the extent to which the findings may be appropriate for their use.

A glossary of acoustic terms used in the main body of the text is contained in Appendix 1.

1.2 Site Description and Development Proposals

The proposed MUGA is located at land at Bridge Road. The site for the proposed MUGA is shown below (outlined in red) in Figure 1.1.

Figure 1.1: Location of Proposed Development



The ambient noise climate in the vicinity of the site is characterised by distant road traffic.

It is understood that the development is to be provided with floodlighting which will be operational until 2200 hours.

The nearest noise sensitive receptors (NSRs) to the proposed MUGA are considered to be:

- Residential dwellings, circa 45 metres to the north (NSR1)
- Residential dwellings on Church Gate, circa 140 metres to the south-east (NSR2)
- Residential dwellings on Kenzie Drive, circa 70 metres to the west (NSR3)

The proposed development layouts are illustrated in Figure 1.2 overleaf.

Figure 1.2: Proposed Development Layout



2 Policy Context and Assessment Guidance

2.1 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.

2.2 Noise Policy Statement for England

The Noise Policy Statement for England² (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):

'....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.'

1 National Planning Policy Framework. Ministry of Housing, Communities and Local Government (2025)

2 Government Department for Environment, Food and Rural Affairs. Noise Policy Statement for England. March 2010.

2.3 Planning Practice Guidance on Noise

Planning Practice Guidance³ (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 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

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. The following guidance document provides some meaningful context.

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

2.4 Sport England Design Note

Sport England's 'Artificial Grass Pitch (AGP) – Planning Implications: New Guidance for 2015' provides guidance to assess the noise impact of new artificial grass pitches on noise sensitive receptors.

The guidance details two assessment methodologies as follows.

Absolute Assessment Method

This method reflects the guidance contained in the WHO 'Guidelines for Community Noise', recommending that external noise levels from sports events should not exceed 50 dB $L_{Aeq, T}$ at the nearest noise-sensitive receptor.

Comparative Assessment Method

In higher noise areas (i.e. where noise levels are potentially already in excess of 50 dB $L_{Aeq, T}$ at the nearest noise-sensitive receptor), the guidance suggests that compliance with of 50 dB $L_{Aeq, T}$ might become overly onerous and that it might be more relevant to compare external sports activity noise against the existing noise climate.

3 Noise Survey

3.1 Overview

In order to determine the existing ambient noise levels at the nearest noise sensitive receptors, noise monitoring was carried out on Thursday 6th November 2025 during the daytime and evening.

Noise monitoring was undertaken in accordance with the requirements of the relevant parts of BS 7445 'Description and Measurement of Environmental Noise'.

The adopted noise monitoring position (shown in Appendix 2) was as follows:

- MP1 was located in the vicinity of NSR1
- MP2 was located in the vicinity of NSR2
- MP3 was located in the vicinity of NSR3

Noise measurements were undertaken in free field conditions at 1.5 metres above ground level using a NtI Audio XL3 Type 1 integrating sound level meter. The meter was connected to a windshield covered microphone positioned at the location detailed above.

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

The noted weather conditions during the survey were dry with wind speeds < 5 m/s.

3.2 Summary

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

Table 3.1: Summary of Noise Measurement Data

Position	Date	Time	L _{Aeq} (dB)	Comment
MP1	06/11/25	1507-1600	53	Distant road traffic driving noise levels
		1600-1700	54	
		1700-1800	51	
		1800-1900	52	
		1900-2000	50	
		2000-2100	50	
		2100-2200	48	
MP2	06/11/25	1513-1543	53	Distant road traffic driving noise levels
		1623-1653	54	
		1737-1807	49	
		1849-1919	50	
		2001-2031	49	
		2114-2144	47	
MP3	06/11/25	1548-1618	53	Distant road traffic driving noise levels
		1700-1730	51	
		1814-1844	53	
		1925-1955	50	
		2036-2106	48	

Ambient noise levels in the vicinity of NSR 1 were circa **48–54 dB $L_{Aeq,T}$** during the daytime and evening.

Ambient noise levels in the vicinity of NSR 2 were circa **47–56 dB $L_{Aeq,T}$** during the daytime and evening.

Ambient noise levels in the vicinity of NSR 3 were circa **48–53 dB $L_{Aeq,T}$** during the daytime and evening.

4 Noise Assessment

4.1 Noise Levels Associated with the Development

Sport England's 'Artificial Grass Pitch (AGP) – Planning Implications: New Guidance for 2015' provides guidance to assess the noise impact of new artificial grass pitches on noise sensitive receptors. The following two assessment methodologies are considered the most appropriate in this case:

- **Absolute Assessment Method:** This method refers to the World Health Organisation (WHO) 'Guidelines for Community Noise' (1999) recommending that noise levels at 1 metre from the façades of living spaces should not exceed 50 dB $L_{Aeq,16hr}$ during the day.
- **Comparative Assessment Method:** This method makes comparison of external sports activity noise against the existing noise climate. Reference is made to the IOA/IEMA Working Party Consultation Draft 2002, superseded by Guidelines for Environmental Noise Impact, providing the impact of change in noise levels. Sport England recommends the introduction of a new pitch should not result in an increase of the existing noise climate by more than 3 dB, which is the 'minimum perceptible under normal conditions.

Typical AGP noise levels are presented in the document, based on noise levels measured during nine sports sessions on three separate AGPs. The sessions included football, hockey and rugby and participation by men, women and children. Noise level measurements were taken at a distance of 10 metres behind the mid-way points along goal lines and side-lines. The most significant noise source from typical AGP sports sessions was found to be that from voices.

From the measurement data, a typical free-field noise level of 58 dB $L_{Aeq,1hr}$ at a distance of 10 metres from the side-line halfway marking has been determined as representative for noise from AGPs.

Adopting this as a representative noise level, noise propagation from the MUGA has been calculated using iNoise acoustic modelling software. This is a software program specifically developed for the prediction and assessment of environmental noise.

The model calculates noise levels on horizontal and vertical grids with a user defined spacing of receiver points. From these levels, calculated at thousands of points, contour lines of constant noise levels are generated and printed as noise maps. All scaling was based on direct import from Google Earth, with 2nd order reflections considered.

An area source was entered into the location of the proposed MUGA and calibrated to a sound pressure level of 58 dB(A) at 10 metres from the side of the halfway line (see Appendix 3).

The model was then populated with existing buildings in order to predict noise levels at surrounding noise sensitive receptors.

Noise level contour maps are contained in Appendix 3. The façade levels on the map represent the worst-case (most exposed) upper floor of each receiver.

Based on the above, the predicted resultant noise levels at the receptors are summarised below, with the noise modelling results illustrated in Appendix 3.

Table 4.1: Summary of AGP Noise Levels

Location	AGP Noise Level
NSR 1	49 $L_{Aeq,T}$
NSR 2	40 $L_{Aeq,T}$
NSR 3	45 $L_{Aeq,T}$

4.2 Impact Assessment

As existing ambient noise levels, as measured at the nearest receptors, are < **50 dB L_{Aeq} (1 hour)** during evening periods, it is considered that the more robust absolute noise level assessment represents the most appropriate assessment method at the site.

With respect to the absolute criteria described in the Sport England guidance, noise associated with use of the MUGA at the worst-case residential façades is predicted to be $\leq$ **49 dB $L_{Aeq,T}$** and is therefore below the target criteria of **50 dB $L_{Aeq,T}$** .

The existing site has football pitches marked out with goalposts, and it is understood that the site is used regularly for sports activities. As such, the proposals are not expected to change the character of noise in the area.

In terms of the NPSE, noise from use of the MUGA is therefore considered to represent the no observed adverse effect level (NOAEL).

On the basis of the above, the proposals are considered acceptable in terms of noise.

5 Summary and Conclusions

A noise survey and assessment has been performed for a proposed MUGA at land at Bridge Road, Sutton Bridge, Lincolnshire, PE12 9SA.

Baseline noise monitoring was carried out on Thursday 6th November 2025 to determine the baseline noise levels at the nearest noise sensitive receptors.

The assessment has determined that noise levels associated with use of the MUGA are compliant with the criteria outlined in Sport England's 'Artificial Grass Pitch (AGP) – Planning Implications: New Guidance for 2015'.

In terms of the NPSE, noise from use of the MUGA is therefore considered to represent the no observed adverse effect level (NOAEL).

Appendix 1 – 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:

$$L_p = 20 \log_{10}(p/p_0)$$

Where L_p = sound pressure level in dB; p = rms sound pressure in Pa; and p_0 = 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.

$L_{AF \max}$

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 2 – Noise Measurement Positions



Appendix 3 – MUGA Noise Contour Plot

