



ACOUSTIC
CONSULTANTS LTD

Noise Impact Assessment

**Land South of Seagry House
Startley Road, Upper Seagry, SN15 5HD**

Reference: 11686/FD

Client

Seagry House

Document Control

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The report has been prepared in good faith, with all reasonable skill and care, based on information provided or available at the time of its preparation and within the scope of work agreement with the Client. We disclaim any responsibility to the Client and others in respect of any matters outside the scope of the above. The report is provided for the sole use of the named Client and is confidential to them and their professional advisors. No responsibility is accepted to other parties.

The report limits itself to addressing solely on the noise, acoustic, and vibration aspects as included in this report. We provide advice only in relation to noise, vibration and acoustics. It is recommended that appropriate expert advice is sought on all the ramifications (e.g. CDM, structural, condensation, fire, legal, etc.) associated with any proposals in this report or as advised and concerning the appointment. It should be noted that noise predictions are based on the current information as we understand it and, on the performances noted in this report. Any modification to these parameters can alter the predicted level. All predictions are in any event subject to a degree of tolerance of normally plus or minus three decibels. If this tolerance is not acceptable, then it would be necessary to consider further measures.

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1. Introduction

Seagry House appointed Acoustic Consultants Ltd (ACL) to undertake a noise impact assessment in relation to the proposed application for the redevelopment of an existing site located at Land South of Seagry House, off Henn Lane and Starley Road.

The proposed application is for the demolition of the existing B8 Storage building and site remediation to include the erection of a building comprising 4No. flexible B8 storage and/or Class E(g) commercial, business and service units and erection of building for mixed agricultural and equestrian workshop, storage and estate office and stables.

The report identifies relevant planning, and noise guidance. The report also presents baseline environmental noise levels, operational noise assessment from known items such as deliveries, and operational noise limits for other sources.

The local authority have provided the following comments in terms of noise:

"we have concerns in respect of noise impact on the existing residents from the businesses and the access to Henn Lane. It is proposed that Henn Lane will be an emergency access road only, however no information has been submitted to support how this will work, and we have concerns this could be used as a 'short cut' and the likely impact of this.

We propose a holding objection in until we have received more clarification on these points and a noise impact assessment or statement."

While subsequently the local authority have raised no objections the Planning Case officer has suggested that a Noise Assessment may be helpful.

To address these comments a noise impact assessment has been undertaken in accordance with the guidance in the National Planning Policy Framework (NPPF), Noise Policy Statement for England (NPSE), National Planning Practice Guidance (PPG) and British Standard 4142:2014+A1:2019 (BS4142), and the local authority's comments.

The author of this report is a Technical Member of the Institute of Acoustics (TechIOA) with 5 years' experience in the field of noise and acoustics, the report and assessment has been checked by a full corporate Member with over 18 years experience (MIOA).

2. Site and Location

The proposed application is for the demolition of the existing Storage (B8) building and site remediation to include the erection of a building comprising 4No. flexible B8 storage and/or Class E(g) commercial, business and service units and erection of building for mixed agricultural and equestrian workshop, storage and estate office and stables.

Operational hours of the site are not currently known, but the new commercial units and the existing site building is expected to be operating during normal daytime hours and our assessment is on this basis.

Noise from the proposed site is expected to include but not be limited to: HGV movements (assume 5% OGV1 and 0% OGV2 – see submitted Traffic Assessment), delivery noise including unloading and loading of materials associated with the operations on site, as well as customer and user vehicles entering and exiting the site. No noise issues arise from the proposed new Class E(g) uses themselves.

The site is located in a mixed rural and residential area, with Seagry House Estate immediately to the north west, agricultural land (and cricket ground) to the north and west and residential dwellings to the east and south.

The nearest noise sensitive receivers (NSR) are 39 Henn Lane, Oakhill House and the Courtyard.

The site plan is shown below in Figure 1 below:

Figure 1 – Site plan



3. Planning and Noise

3.1. National Planning Policy Framework

The National Planning Policy Framework (NPPF) was published in March 2012 and revised in December 2024. Section 15 entitled 'Conserving and enhancing the natural environment' addresses noise as a requirement of planning. Paragraph 187 states:

"187. Planning policies and decisions should contribute to and enhance the natural and local environment by:

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and."

Paragraph 198 states:

"198. 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:

a) 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

b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and

c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation. "

The document does not prescribe any assessment methodology or criteria to assess the adverse effect of noise and refers you to the NPSE.

3.2. Noise Policy Statement for England

The NPPF refers to the Noise Policy Statement for England (NPSE). This was published in March 2010 and aims to provide clarity regarding current policies and practices to enable noise management decisions to be made within the wider context, at the most appropriate level, in a cost-effective manner and in a timely fashion and applies to all forms of noise including environmental noise, neighbour noise and neighbourhood noise.

The NPSE sets out the long term vision of Government noise policy. This long term vision is supported by three noise policy aims as follows:

"Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- *avoid significant adverse impacts on health and quality of life;*
- *mitigate and minimise adverse impacts on health and quality of life; and*
- *where possible, contribute to the improvement of health and quality of life."*

The NPSE introduces the concept of "Significant adverse" and "Adverse" impacts of noise which relate to the noise policy aims. These are applied as follows:

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.

The Noise Policy Statement for England (NPSE) states that noise levels above the Lowest Observed Adverse Effect Level are acceptable in planning where reduced to a minimum.

With regard to where there is potential for noise impact it states the following in relation to the second noise policy aim:

"The second aim of the NPSE refers to the situation where the impact lies somewhere between LOAEL and SOAEL. It requires that all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development (paragraph 1.8). This does not mean that such adverse effects cannot occur."

The NPSE does not provide any assessment criteria for the noted effect levels and each case must be considered on its merits.

The NPSE does, however, emphasise that in dealing with noise Local Planning Authorities are required to take a balanced approach in considering the benefits of development as against any adverse effects which arise. Paragraph 2.18 of the NPSE is particularly relevant in this respect and states:

"There is a need to integrate consideration of the economic and social benefits of the activity or policy under examination with proper consideration of the adverse environmental effects, including the impact of noise on health and quality of life. This should avoid noise being treated in isolation in any particular situation, i.e. not focusing solely on the noise impact without taking into account other related factors."

The planning need is outside the scope of noise and acoustics and will need to be addressed by others.

3.3. Planning Practice Guidance, Noise

The Planning Practice Guidance (PPG) on noise referred to here is based on the current version (July 2019) as provided on the Planning Guidance Website. It states that, *"Noise needs to be considered when new developments may create additional noise and when new developments would be sensitive to the prevailing acoustic environment."*

It provides generic guidance on how to determine the noise impact and what factors could be a concern.

It includes the option types to mitigate any adverse effects of noise stating that there are four broad types of mitigation. These are engineering, layout, using planning conditions or obligations and noise insulation.

Paragraph 5 of the PPG provides a table identifying the effect level and examples of effect relating to the impact effect levels provided in the NPSE. The table is duplicated below:

Table 1: PPG Noise – Perception of Effect Levels

Perception	Examples of Outcomes	Increasing Effect Level	Action
No Observed Effect Level			
Not present	No Effect	No Observed Effect	No specific measures required
No Observed Adverse Effect Level			
Present and not intrusive	Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a change in the quality of life	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level			
Present and intrusive	Noise can be heard and causes small changes in behaviour, attitude or other physiological response, 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 small actual or perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level			
Present and disruptive	The noise causes a material change in behaviour, attitude or other physiological response, 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
Present and very disruptive	Extensive and regular changes in behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory.	Unacceptable Adverse Effect	Prevent

The table does not provide any objective assessment which equates to the noted effect levels. However, the PPG identifies that where noise is audible, it is not necessarily intrusive. The effect and impact on people are based primarily on the level of noise.

4. Assessment Approach

The following section identifies guidance which is considered to provide noise criteria equivalent to or below the LOAEL described in NPPG and NPSE, i.e. *"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."*

4.1. External Fixed Plant Noise

For industrial and commercial noise, the most relevant guidance is provided within British Standard 4142:2014+A1:2019. The methods described in the British Standard use outdoor sound levels to assess the likely effects of sound upon people who might be inside or outside a dwelling or other premises used for residential purposes.

The initial estimate principle is that of establishing the 'difference' between the 'rating level' and the 'background sound level'. The 'rating level' is the 'specific sound level' of the source over a period of one hour during the day (07:00 to 23:00 hours) and over a period of 15 minutes during the night (23:00 to 07:00 hours). Clause 9 entitled 'Rating Level' states:

"Certain acoustic features can increase the significance of impact over that expected from a basic comparison between the specific sound level and the background sound level. Where such features are present at the assessment location, add a character correction to the specific sound level to obtain the rating level."

An acoustic character correction should be added to the 'specific sound level' if it exhibits any tonality, impulsivity, other specific characteristics and/or intermittency at the assessment location. The value of the character correction varies, dependent on the prominence of the character of the sound source at the assessment location. In Clause 11 of the Standard, entitled 'Assessment of the Impacts', it states:

"Obtain an initial estimate of the impact of the specific sound by subtracting the measured background sound level (see Clause 8) from the rating level (see Clause 9), and consider the following."

- *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."*

Based on the initial assessment outcomes of BS4142, and depending on context, it is our opinion that the NOEL, LOAEL and SOAEL levels stated in the Noise Policy Statement for England would generally fall within the following categories when considered in conjunction with the effect levels of the NPPG Noise.

Table 2: BS4142 Difference in Relation to Effect Levels

BS4142 Difference	Assessment	Corresponding Level*	Effect	Action*
≤-10 dB		No Observed Effect		No specific measures required
-9.9 dB to 0 dB		No Observed Adverse Effect		No specific measures required
		Lowest Observed Adverse Effect Level		
0.1 dB to 5 dB		Observed Adverse Effect		Mitigate and reduce to a minimum
		Significant Observed Adverse Effect Level		
5.1 dB to 10 dB		Significant Observed Adverse Effect		Avoid
≥10.1 dB		Unacceptable Adverse Effect		Prevent

* BS4142 states that “where the initial estimate of the impact needs to be modified due to the context, take all pertinent factors into consideration”. Therefore, the assessment levels and effect levels above are not definitive and can be modified due to context.

It should be noted that the numerical outcome only represents the initial estimate of impact, as stated in the first paragraph of Clause 11, and that contextual matters should be considered before determining what the potential impact is. This paragraph states:

The significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs. An effective assessment cannot be conducted without an understanding of the reason(s) for the assessment and the context in which the sound occurs/will occur. When making assessments and arriving at decisions, therefore, it is essential to place the sound in context.

Obtain an initial estimate of the impact of the specific sound by subtracting the measured background sound level (see Clause [8](#)) from the rating level (see Clause [9](#)).

NOTE 1 More than one assessment might be appropriate.

The second part of Clause 11 sets out three contextual matters that should be taken into account once the initial numerical estimate has been determined. It is important to note that the three listed is not exhaustive and all pertinent factors should be considered.

4.2. Vehicle Movement Noise

There is no guidance for the consideration of vehicle movement noise along the access road. As such we have followed a common sense approach and considered WHO 1999 and the IEMA change in noise levels.

4.2.1. World Health Organisation 'Guidelines for Community Noise'

The World Health Organisation 'Guidelines for Community Noise' published in 1999 gives the following description of community noise.

"Community noise (also called environmental noise, residential noise or domestic noise) is defined as noise emitted from all sources except noise at the industrial workplace. Main sources of community noise include road, rail and air traffic, industries, construction and public work, and the neighbourhood. Typical neighbourhood noise comes from premises and installations related to the catering trade (restaurant, cafeterias, discotheques, etc.); from live or recorded music; sport events including motor sports; playgrounds; car parks; and domestic animals such as barking dogs."

This includes road traffic and therefore is appropriate for assessing vehicle noise.

For noise levels internally and externally to dwellings, WHO states:

"In Dwellings. The effect of noise in dwellings, typically, are sleep disturbance, annoyance and speech interference. For bedrooms the critical effect is sleep disturbance. Indoor guideline values for bedrooms are 30 LAeq for continuous noise and 45 L_{Amax} for single sound events. Lower noise levels may be disturbing depending on the nature of the noise source. At night-time, outside sound levels about 1 metre from façades of living spaces should not exceed 45 dB LAeq, so that people may sleep with bedrooms open. This value was obtained by assuming the noise reduction from outside to inside with the window open is 15 dB. To enable casual conversation indoors during daytime, the sound level of interfering noise should not exceed 35 dB LAeq. The maximum sound pressure level should be measured with the sound pressure meter set at "fast"."

Based on the same methodology used to determine the night-time noise level (with a 15 dB(A) for an open window) outside a residential property, the daytime noise level about 1 metre from façades of living spaces should not exceed 50 dB L_{Aeq}.

Table 4.1 of the document provides guidelines for community noise in specific environments, suggesting noise levels at which adverse health and annoyance effects are likely. The relevant noise criteria are as follows:

Table 3: WHO Noise Criteria

Specific Environment	Critical Health Effect	$L_{eq(T)}$ dB(A)
Outdoor living area	Serious annoyance, daytime and evening	55
	Moderate annoyance, daytime and evening	50
Dwelling indoors	Speech intelligibility & moderate annoyance, daytime & evening	35

According to the WHO guidance, moderate annoyance is caused by noise levels exceeding 50 dB $L_{Aeq,T}$ externally and 35 dB $L_{Aeq,T}$ internally. With relation to the adverse effect level we would consider this the threshold of the Lowest Observed Adverse Effect Level. The noise may be noticeable but not intrusive and is considered acceptable in planning terms.

The equivalent noise level is determined over a specific time period. The World Health Organisation guidelines for residential developments are typically equivalent noise levels calculated over a 16-hour daytime period. In our opinion, a 16-hour assessment period may not truly reflect the noise impact as it takes into account times of use and non-use. We would propose an alternative, more stringent but appropriate assessment time period of one hour, $L_{Aeq,1hour}$.

Therefore, we would suggest the more stringent guideline of 50 dB $L_{Aeq,1hour}$ is more suitable in this instance.

The WHO criteria were reviewed in a report by the National Physical Laboratory (reference CMAM16) which states:

"Exceedance of the WHO guideline values does not necessarily imply significant noise impact and indeed, it may be that significant impacts do not occur until much higher levels of noise exposure are reached."

Therefore, it is not necessarily the case that where these levels are exceeded the noise will adversely affect nearby residential properties.

4.2.2. IEMA Change In Level Assessment

The criteria set out above is an absolute level in a dwelling or external amenity area. As such, it does not consider existing noise levels on or around the site. However, for certain applications it may be more suitable to consider a comparative assessment as part of the overall impact assessment.

The Institute of Environmental Management and Assessment (IEMA) Guidelines for Environmental Noise Impact Assessment, Version 1.2 published in November 2014 categorises the significance of a change in noise level, this is summarised as follows and taken from Table 7-14 of the guidance.

Table 4: IEMA Impact from the Change in Sound Levels (Table 7-14)

Sound Level Change LpT	Long-term Impact Classification	Short-term Impact Classification
≥ 0 dB and < 1 dB	Negligible	Negligible
≥ 1 dB and < 3 dB		Minor
≥ 3 dB and < 5 dB	Minor	Moderate
≥ 5 dB and < 10 dB	Moderate	Major
≥ 10 dB	Major	

Where noise from the proposed development does not exceed the existing noise climate, the increase in noise will be no more than 3 decibels. It is expected there will be no observed effect on nearby residential properties. This would be applicable where noise levels currently exceed the WHO guidelines which would be used as a lower limit. The noise levels are both measured in the $L_{Aeq,T}$ parameter over the same time period, T.

Where noise levels do not exceed the WHO guidelines, a higher change could be considered acceptable without having an observed adverse effect as the noise levels are suitably low.

5. Baseline Noise Survey

A noise monitoring was undertaken from the 7th to the 9th of October 2025.

5.1. Monitoring Equipment

Sound Pressure Levels were measured using a Class 1 sound level meter with a half-inch condenser microphone, using the 'fast' setting. The equipment is checked regularly using a Quality System meeting the requirements of British Standard EN ISO/IEC 17025:2017 "General requirements for the competence of testing and calibration laboratories"; in accordance with British Standard EN 10012:2003 "Measurement management systems. Requirements for measurement processes and measuring equipment"; and traceable to the National Standards. This equipment was checked and calibrated as noted below and the certificates are available for inspection.

Table 5: Equipment and Calibration Status

Equipment Description / Manufacturer / Type	Serial Number	Date of Calibration	Calibration Certification Number
SLM, NTI, XL2	A2A-13561-E0	24/11/2023	1507073-1
Pre-Amp, NTI, MA220	13831	24/11/2023	1507073-1
Microphone, NTI, MC230A	A17955	24/11/2023	1507073-1
Calibrator, Larson Davis, CAL200	15064	20/09/2024	45555

The measurement systems were checked before and after use with the noted calibrator and no significant drift was detected.

5.2. Weather Conditions

The weather conditions throughout the survey conducted were dry with no rain fall and winds speeds below 5 m/s.

5.3. Monitoring Procedure

The sound level meter at location 'A' to the north of the site, adjacent to proposed site access road and dwellings to the south (The Courtyard and Oakhill House). The main source of noise identified during the survey, road traffic from the M4, Startley Road and Henn Lane and birdsong. The sound level meter was free-field location and on a tripod 1.5m high.

The monitoring location (A) is shown on the figure below:

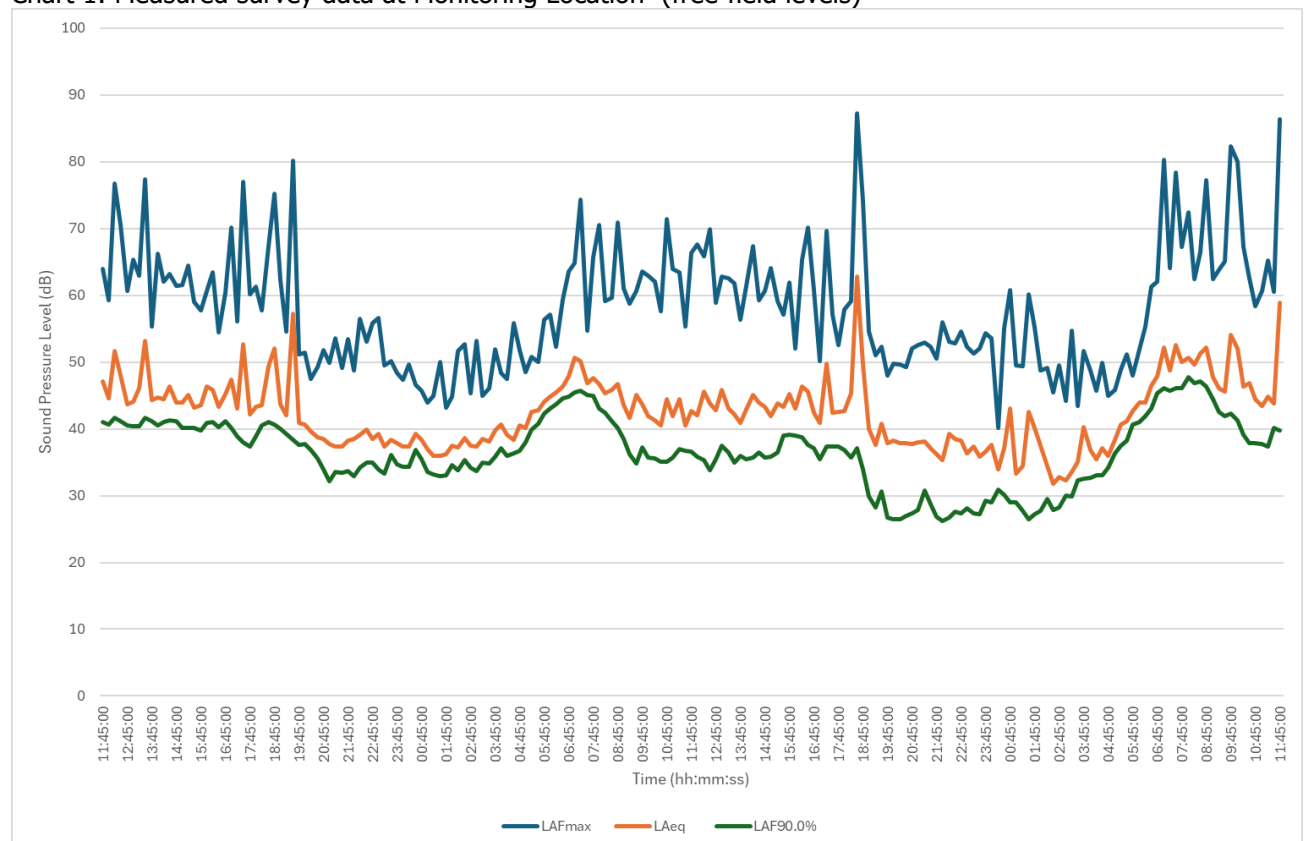
Figure 2: Monitoring location A



5.4. Measured Noise Levels

The measured equivalent ($L_{Aeq, T}$), maximum (L_{AFmax}), and background ($L_{A90, T}$) noise levels during the full survey are shown in the chart below. The measurement does not reflect the existing and potential unrestricted lawful Storage (B8) and/or estate activities, which exist, as they were not in operation during the survey:

Chart 1: Measured survey data at Monitoring Location (free-field levels)



The site is expected to be in operation during daytime hours only, this is typically 7am to 8pm. The modal background sound levels over the time are provided in the table below, along with the typical equivalent noise level (residual sound level).

Table 6: Summary of Measured Façade Corrected Levels (Free Field Levels)

Period	L _{A90,15min}		L _{Aeq,15min}	
	Range	Mode	Range	Typical
Day (07:00 - 20:00)	27 – 48	41	38 - 63	44

6. External Plant Noise Limits

If any fixed plant is installed externally to the development, the following noise limits are to be applied and should be determined at the façade of the nearby noise-sensitive residential properties. These limits are based on the measured survey results, British Standard 4142:2014+A1:2019 and Wiltshire typical planning requirements.

These are the maximum cumulative 'free-field' rating sound levels as measured at the façade of the noted NSRs between 7am and 8pm. If plant is to operate outside this time different limits will apply.

Table 7: Plant Noise Limits Determined at NSRs (free-field level)

Period	Rating Sound Level Limit
Daytime (07:00 – 20:00 hrs)	36 dB L _{Ar} ,1 hour

The rating sound level of the plant unit(s) should account for any reasonable character corrections, i.e., tonality, intermittency, impulsivity, and other sound characteristics. With plant meeting the limits it will be 5 dB below the background as required typically within Wiltshire. Submission of details and ordinary planning conditions can control and mitigate any impact from external plant.

7. Vehicle Movement Noise Modelling

This section will provide a noise model of the operations of the vehicle movements on the access road and assess the impact on the residential buildings in the area. The assessment considers vehicle accessing and exiting along the main access road. The Henn Lane entrance is emergency access only and should not be considered in terms of a noise impact assessment.

7.1. Vehicle Noise Levels

Based on the supplied transport assessment it can be seen that during the worst-case hour net 16/17 trips (max) will occur along the proposed Startley road access road.

Measurements were undertaken in a car park to determine the noise level of vehicle movements of a car arriving, departing and undertaking a three-point turn. The vehicle used was a 2007 Fiat Punto with a 1.4 litre petrol engine.

HGV noise was also measured at numerous supermarket sites (larger vehicles) over the years. The typical noise level of a HGV is also noted below:

The following summarises the main noise data used in modelling, with up to 2 HGV trips per peak hour and 16 car trips.

Table 8: Measured noise levels of representative vehicle movements

Activity	Measured Equivalent Noise Level
Vehicle driving at 5 miles per hour in 1 st gear	53 dB L _{Aeq,13sec} at 5 metres
Vehicle driving at 10 miles per hour in 2 nd gear	56 dB L _{Aeq,8sec} at 5 metres
HGV movement	68 dB L _{Aeq,5min} at 10 metres

7.2. Noise Modelling Parameters

A noise modelling exercise has been undertaken to address the potential impact of noise from vehicle movements as it affects the existing properties in the area. Noise emission prediction calculations have been carried out for the most sensitive locations to vehicle noise in Cadna:A by DataKustik. The parameters within the Cadna:A model are as follows and are considered reasonable assumptions:

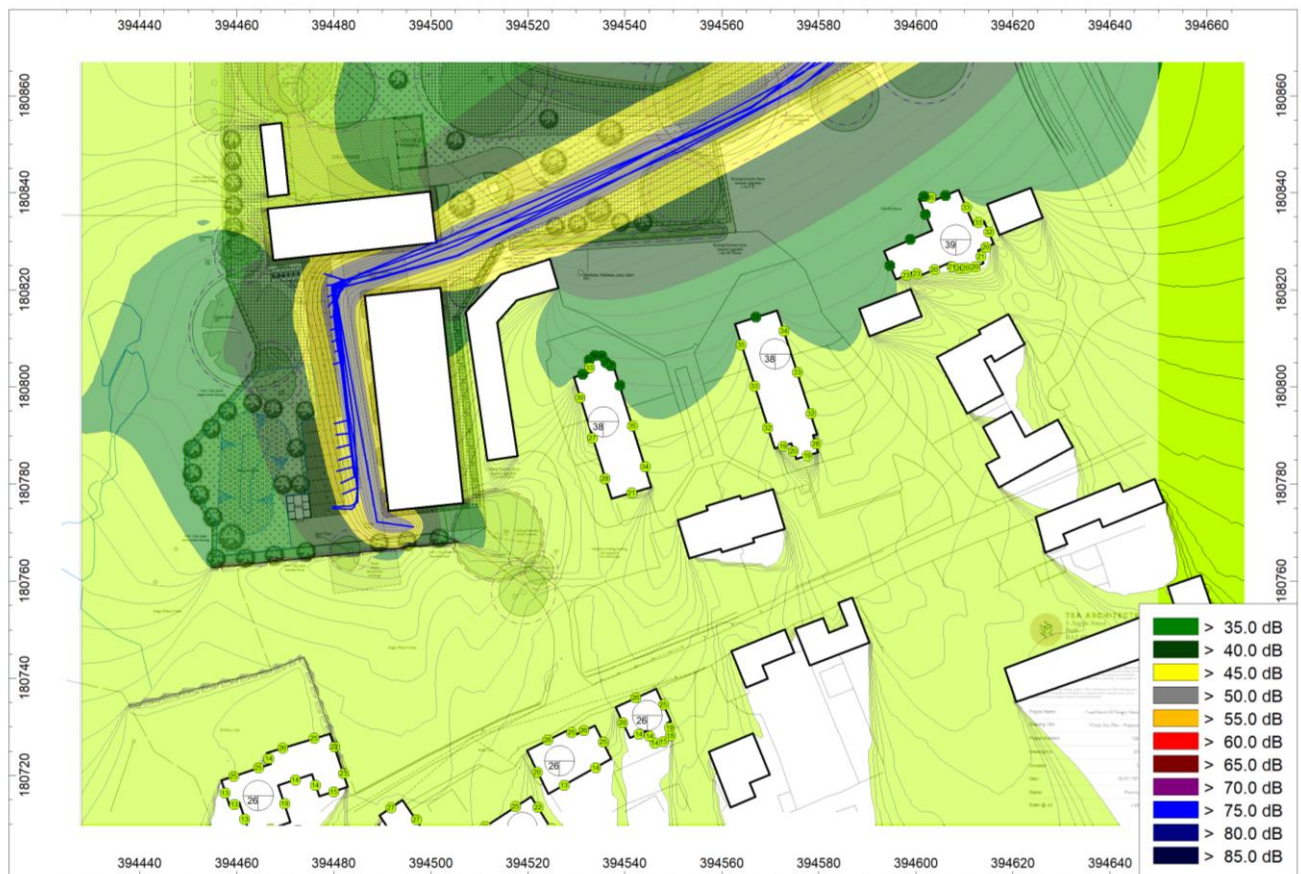
- The existing building heights are based on survey, site and Google Earth observations.
- The order of reflections is 3, and all buildings are reflective.
- The ground across the site is considered hard and reflective, the grass/garden areas are considered absorbent.
- The predictions are based on the measured noise levels above.
- Vehicle movements are based on site layout and reasonable assumptions.

- The predicted noise map is at 1.5m high for daytime habitable room and amenity area height.
- The predicted building evaluation levels are free-field.
- The source height is 0.5 metres above the ground level (as per 'Calculation of Road Traffic Noise', Department of Transport Welsh Office 1988).
- The vehicle speed is assumed to be 15 km/h.

7.3. Noise Modelling Results

The below figure shows the predicted noise map and impact on the worst-case nearest residential receivers due to vehicle movement accessing the site.

Figure 3: Predicted Noise Levels of the vehicles



8. Vehicle Movement Noise Assessment

The following section is the noise impact assessment of vehicle noise in terms of WHO1999 and IEMA guidelines.

8.1. Predicted Noise Level

The predicted level at each NSR is as follows:

- 39 Henn Lane – 26 dB $L_{Aeq}(1hr)$
- Oakhill House – 39 dB $L_{Aeq}(1hr)$
- The Courtyard – 38 dB $L_{Aeq}(1hr)$

8.2. WHO 1999 Assessment

According to the WHO guidance, moderate annoyance is caused by noise levels exceeding 50 dB $L_{Aeq,T}$ externally and 35 dB $L_{Aeq,T}$ internally.

8.2.1. Amenity Area Level

As can be seen above, the vehicle movement noise level is within the WHO 1999 criteria during daytime hours externally to all existing NSRs.

Therefore, we would consider vehicle movement noise along the access road to be of a low impact at all noise-sensitive receivers externally when compared to WHO1999

8.2.2. Indoor Level

The internal level is approximately 15 dB(A) quieter than the external free-field level (as stated by the WHO) allowing for the attenuation of a partially open window.

Therefore, based on the above, the WHO guidelines internal assessment is as follows.

Table 9: Indoor Level Assessment

NSR	Predicted Level dB $L_{Aeq}(1hr)$	Open Window Correction dB(A)	Predicted Internal Level dB(A)	Within WHO1999 Criteria?
39 Henn Lane	26	-15	11	YES
Oakhill House	39	-15	24	YES
The Courtyard	38	-15	23	YES

As can be seen from the table above, the vehicle movement noise level is within the WHO 1999 criteria during daytime hours at all existing NSRs. Therefore, we would consider vehicle movement noise along the access road to be of a low impact at all noise-sensitive receivers when compared to WHO1999 indoor level criteria.

8.3. IEMA Change In Noise Level

We have compared the baseline noise climate to the cumulative level with the vehicle movements plus the baseline. This is summarised below:

Table 10: Comparison to Baseline Sound Levels

NSR	39 Henn Lane	Oakhill House	The Courtyard
Typical Baseline Sound Level	44 dB $L_{Aeq}(1 \text{ hour})$		
Vehicle Movement Noise Level	26 dB $L_{Aeq}(1 \text{ hour})$	39 dB $L_{Aeq}(1 \text{ hour})$	38 dB $L_{Aeq}(1 \text{ hour})$
Cumulative Level	44 dB $L_{Aeq}(1 \text{ hour})$	45 dB $L_{Aeq}(1 \text{ hour})$	45 dB $L_{Aeq}(1 \text{ hour})$
Change in level	0	+1	+1

As can be seen above, the change is +1 dB above the typical baseline sound level at the nearest NSR's during the daytime hours.

This is a negligible impact in terms of the IEMA and therefore acceptable.

9. Summary and Conclusions

Seagry House appointed Acoustic Consultants Ltd (ACL) to undertake a noise impact assessment in relation to the proposed application for the redevelopment of an existing storage (B8) site located at Land South of Seagry House, off Henn Lane and Starley Road.

The proposed application is for the demolition of the existing B8 Storage building and site remediation to include the erection of a building comprising 4No. flexible B8 storage and/or Class E(g) commercial, business and service units and erection of building for mixed agricultural and equestrian workshop, storage and estate office and stables.

The report identifies relevant planning, and noise guidance. The report also presents baseline environmental noise levels, operational noise assessment from known items such as deliveries, and operational noise limits for other sources.

The assessment indicates that vehicle movements on the access road will be within the WHO 1999 guidelines, and change in noise level (in terms of IEMA guidelines).

Therefore, we would consider vehicle movement noise along the access road to be of a low impact at all noise-sensitive receivers.

On the basis of the above, the proposals are considered to meet the aims of planning policy and the NPPF.

10. Appendix 1 – Glossary of Acoustic Terminology

A-weighted sound pressure p_A – value of overall sound pressure, measured in pascals (Pa), after the electrical signal derived from a microphone has been passed through an A-weighting network.

A-weighted sound pressure level, L_{pA} – quantity of A-weighted sound pressure given by the following formula in decibels (dBA)

$$L_{pA} = 10 \log_{10} (p_A/p_0)^2$$

where:

p_A is the A-weighted sound pressure in pascals (Pa);
 p_0 is the reference sound pressure (20 μ Pa)

Background sound level, $L_{A90,T}$ – A-weighted sound pressure level that is exceeded by the residual sound assessment location for 90% of a given time interval, T, measured using weighting F and quoted to the nearest whole number of decibels

Break-in - noise transmission into a structure from outside.

Decibel (dB) – The decibel is the unit used to quantify sound pressure levels. The human ear has an approximately logarithmic response to acoustic pressure over a very large dynamic range (typically 20 micro-Pascals to 100 Pascals). Therefore, a logarithmic scale is used to describe sound pressure levels and also sound intensity and power levels. The logarithms are taken to base 10. Hence an increase of 10 dB in sound pressure level is equivalent to an increase by a factor of 10 in the sound pressure level (measured in Pascals). Subjectively, this increase would correspond to a doubling of the perceived loudness of sound.

Equivalent continuous A-weighted sound pressure level, $L_{Aeq,T}$ – value of the A-weighted sound pressure level in decibels of continuous steady sound that, within a specified time interval, $T = t_2 - t_1$, has the same mean-squared sound pressure as a sound that varies with time, and is given by the following equation:

$$L_{Aeq,T} = 10 \lg_{10} \left\{ (1/T) \int_{t_1}^{t_2} [p_A(t)^2/p_0^2] dt \right\} \quad (1)$$

where:

p_0 is the reference sound pressure (20 μ Pa); and

$p_A(t)$ is the instantaneous A-weighted sound pressure (Pa) at time t

NOTE The equivalent continuous A-weighted sound pressure level is quoted to the nearest whole number of decibels.

Facade level – sound pressure level 1 m in front of the façade. Facade level measurements of L_{pA} are typically 1 dB to 3 dB higher than corresponding free-field measurements because of the reflection from the facade.

Free-field level – sound pressure level away from reflecting surfaces. Measurements made 1.2 m to 1.5 m above the ground and at least 3.5 m away from other reflecting surfaces are usually regarded as free-field. To minimize the effect of reflections the measuring position has to be at least 3.5 m to the side of the reflecting surface (i.e. not 3.5 m from the reflecting surface in the direction of the source).

Octave and Third Octave Bands – The human ear is sensitive to sound over a range of frequencies between approximately 20 Hz to 20 kHz and is generally more sensitive to medium and high frequencies than to low frequencies within the range. There are many methods of describing the frequency content of a noise. The most common methods split the frequency range into defined bands, in which the mid-frequency is used as the band descriptor and in the case of octave bands is double that of the band lower. For example, two adjacent octave bands are 250 Hz and 500 Hz. Third octave bands provide a fine resolution by dividing each octave band into three bands. For example, third octave bands would be 160 Hz, 250 Hz, 315 Hz for the same 250 Hz octave band.

Sound pressure level – Sound pressure level is stated on many of the charts. It is the amplitude of the acoustic pressure fluctuations in a sound wave, fundamentally measured in Pascals (Pa), typically from 20 micro-Pascals to 100 Pascals, but commonly simplified onto the decibel scale.

Sound reduction index, R – laboratory measure of the sound insulating properties of a material or building element in a stated frequency band.

Specific sound level, $L_s = L_{Aeq,Tr}$ – equivalent continuous A-weighted sound pressure level produced by the specific sound source at the assessment location over a given reference time interval, T_r .

Structure-borne noise – audible noise caused by the vibration of elements of a structure, the source of which is within a building or structure with common elements.

Rating level, $L_{Ar,Tr}$ – Specific sound level plus any adjustment for the characteristic features of the sound.

Reverberation Time, T – The reverberation time is defined as the time taken for a noise level in an enclosed space to decay by 60 dB from a steady level once the noise source has stopped. It is measured in seconds. Often a 60 dB decay cannot be measured so the reverberation time is measured over a lesser range and corrected back to the time for a 60 dB drop assuming a constant decay rate. Common parameters are T20 (time taken for a 20 dB decay multiplied by three) and T30 (time taken for a 30 dB decay multiplied by two).

Vibration Dose Value, VDV – measure of the total vibration experienced over a specified period of time.

Estimated Vibration Dose Value, $eVDV$ – estimation of the total vibration experienced over a specified period of time. This is usually based on the number of events and shortened measurement data.

Weighted sound reduction index, R_w – Single-number quantity which characterizes the airborne sound insulating properties of a material or building element over a range of frequencies. The weighted sound reduction index is used to characterize the insulation of a material or product that has been measured in a laboratory (see BS EN ISO 717-1).



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