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Environmental Statement

Interim Environmental Report (IER) Volume 1, Chapter 13: Noise and vibration

Document Reference

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13 Noise and vibration

13.1 Introduction

13.1.1 This chapter of the Environmental Statement (ES) presents the findings of the Environmental Impact Assessment (EIA) of effects on the environment with respect to noise and vibration as a result of the Scheme.

13.1.2 This chapter identifies and proposes measures to address the potential impacts and likely significant effects on the environment with respect to noise and vibration during the construction, operation and maintenance, and decommissioning phases.

13.1.3 The information presented within this chapter has been informed by the Scheme information and description provided in Volume 1, Chapter 2 Scheme description.

13.2 Scope of the assessment

13.2.1 Chapter 11 of the Environmental Impact Assessment Scoping Report[1] addressed the potential for the Scheme to result in significant effects with respect to noise and vibration for the construction, operational and decommissioning phases and consequently whether a standalone topic chapter was required in the ES.

13.2.2 Through the adoption of the Scoping Opinion[2], the Secretary of State has confirmed that the noise and vibration assessment must assess the scope set out in Table 13-1.

Table 13-1 Noise and vibration topics scoped in / out

Topic	Scoped in / out			Justification
	Construction phase and panel/battery replacement	Operational phase (routine maintenance)	Decommissioning phase	
Noise and vibration from construction works	Scoped in	N/A	Scoped in	The Scoping Report identified, temporary noise and vibration emissions from construction works may adversely impact sensitive receptors. Temporary noise and vibration emissions from decommissioning works may adversely impact on sensitive receptors. Following receipt of the Scoping Opinion, no further changes to the scope above are proposed.
Traffic noise	Scoped in	Scoped in	Scoped in	Construction traffic, particularly where access routes pass close to homes or community receptors has the potential to cause noticeable noise increases and may adversely affect receptors near public roads that are part of construction traffic routes. Decommissioning traffic will be lower in volume than during construction and therefore assessment of construction traffic will act as a worst case for the decommissioning phase. Operational traffic, limited primarily to occasional maintenance visits and periods of replacement of panels and batteries, are predicted to be low in volume and not at a scale likely to give rise to significant noise effects at Noise Sensitive Receptors (NSRs) along the main access routes, however, operational phase traffic numbers are yet to be finalised. Following receipt of the Scoping Opinion, as operational phase traffic numbers are yet to be finalised, operational traffic noise, in addition to construction traffic noise, is scoped into the assessment.

[1] Arrow Valley Solar Limited (2026) Arrow Valley Solar. Environmental Impact Assessment Scoping Report. Volume I: Main Report (Document Reference AVS-ATR-GEN-AA-DOC-ENV-000001, Rev. A). Planning Inspectorate Reference EN0110033.
Available at: https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN0110033-000002-20260327%20Arrow%20Valley%20EIA%20Scoping%20Report%20Volume%201%20Main%20Report%20Rev.%20A.pdf.

[2] Planning Inspectorate (2026) Scoping Opinion: Proposed Arrow Valley Solar (Case Reference EN0110033). Adopted on behalf of the Secretary of State pursuant to Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, 7 May 2026.
Available at: https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN0110033-000010-Arrow%20Valley%20Solar%20Scoping%20Opinion.pdf

Topic	Scoped in / out			Justification
	Construction phase and panel/battery replacement	Operational phase (routine maintenance)	Decommissioning phase	
Traffic vibration	Scoped in	Scoped in	Scoped in	Design Manual for Roads and Bridges (DMRB) LA111[3] implies that road surfaces will be free of irregularities under general maintenance, so that vibration will not have the potential to lead to significant adverse effects. Despite this, the ES will assess a conservative scenario that assumes the presence of localised road surface irregularities, such as potholes, in order to demonstrate whether significant traffic-induced vibration effects could occur at sensitive receptors. Following receipt of the Scoping Opinion these matters have been scoped into the assessment.
Noise from Scheme infrastructure	N/A	Scoped in	N/A	Permanent noise emissions from Scheme infrastructure may adversely affect nearby sensitive receptors. Not applicable for construction or decommissioning phases. Following receipt of the Scoping Opinion, no further changes to the scope above are proposed.
Operational equipment vibration	Scoped out	Scoped out	Scoped out	The nature of the proposed operational equipment is such that it is not expected to generate perceptible levels of ground borne vibration at NSRs. Not applicable for construction or decommissioning phases. Following receipt of the Scoping Opinion these matters remain scoped out the assessment.

13.3 Consultation

Consultation to date

13.3.1 Table 13-2 provides a summary of all the consultation and engagement undertaken to date relevant to this assessment.

Table 13-2 Summary of the consultation with stakeholders

Stakeholder	Date consulted	Issue consulted on	Addressed in the ES
Stratford-on-Avon District Council	06/03/2026 – meeting	A meeting took place between the Applicant and a Senior Environmental Health Officer for Stratford-on-Avon District Council on 3 June 2026. The purpose of the meeting was to agree noise monitoring methodology and specific monitoring locations.	The monitoring methodology and locations were agreed to be representative of NSRs and no further comments were provided on the proposed assessment methodology.
Wychavon District Council	21/05/2026 – email	Wychavon District Council was approached for consultation and invited to comment on the noise monitoring methodology and monitoring locations via email on 21 May and 3 June 2026. However, it declined to engage directly with the Applicant.	No comments received to date. Further engagement ongoing.

13.4 Legislation, policy and guidance

Legislation

13.4.1 The below listed legislation has been taken into account in the noise and vibration assessment. Volume 3, Appendix 13.1 Legislation, policy and guidance relevant to the noise and vibration assessment provides further detail on how the below listed legislation has informed the noise and vibration assessment:

- Control of Pollution Act (CoPA) 1974[4]; and

[3] Highways England (2020) DMRB LA 111: Noise and Vibration (Revision 2). Available at: https://www.standardsforhighways.co.uk/dmrb/search/cc8cfcf7-c235-4052-8d32-d5398796b364

[4] Control of Pollution Act 1974 - Part III Noise. Available at: https://www.legislation.gov.uk/ukpga/1974/40/part/III

- Environmental Protection Act 1990[5].

Policy

13.4.2 The below listed policy has been taken into account in the noise and vibration environment assessment. Volume 3, Appendix 13.1 Legislation, policy and guidance relevant to the noise and vibration assessment provides further detail on how the below listed policy has informed the noise and vibration assessment:

- Overarching National Policy Statement (NPS) for Energy (EN-1)[6];
- National Policy Statement for Renewable Energy Infrastructure (EN-3)[7];
- National Policy Statement for Electricity Networks Infrastructure (EN-5)[8];
- National Planning Policy Framework (NPPF) 2026[9];
- Noise Policy Statement for England (NPSE) 2010[10];
- Stratford-on-Avon District Council (SoADC) Core Strategy 2011–2031[11];
- South Warwickshire Local Plan (SWLP) 2025 (emerging policy)[12];
- South Worcestershire Development Plan (SWDP) 2026[13]; and
- Redditch Borough Council (ReBC) Local Plan No4 (2017)[14].

Guidance documents

13.4.3 The following guidance documents have informed the noise and vibration assessment:

- Planning Practice Guidance: Noise (PPGN) 2025[15];
- BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1 (BS 5228-1) 2014[16];
- BS 5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 2 (BS 5228-2) 2014[17];
- BS 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound 2019[18];
- BS 8233:2014 Guidance on sound insulation and noise reduction for buildings 2014[19]; BS EN 61672-1:2013 Electroacoustics - Sound level meters - Part 1: Specifications[20];
- BS 7445-1:2003 Description and measurement of environmental noise - Part 1: Guide to quantities and procedures 2003[21] ;
- BS EN 61672-1:2013 Electroacoustics - Sound level meters - Part 1: Specifications[22]
- Design Manual for Roads and Bridges (DMRB) LA111 - Noise and vibration – Revision 2 2020[23];
- Institute of Sustainability and Environmental Professionals (ISEP) Guidelines for Environmental Noise Impact Assessment 2014[24]; and

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[5] Environmental Protection Act 1990. Available at: https://www.legislation.gov.uk/ukpga/1990/43/contents
[6] Department for Energy Security and Net Zero (2026) Overarching National Policy Statement for Energy (EN-1). Available at: https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1-2025
[7] Department for Energy Security and Net Zero (2026) National Policy Statement for Renewable Energy Infrastructure (EN-3). Available at: https://www.gov.uk/government/publications/national-policy-statement-for-renewable-energy-infrastructure-en-3-2025
[8] Department for Energy Security and Net Zero (2026) National Policy Statement for Electricity Networks Infrastructure (EN-5). Available at: https://www.gov.uk/government/publications/national-policy-statement-for-electricity-networks-infrastructure-en-5-2025
[9] Ministry of Housing, Communities and Local Government (2026) National Planning Policy Framework. Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2
[10] Department for Environment, Food & Rural Affairs (2010) Noise Policy Statement for England. Available at: https://www.gov.uk/government/publications/noise-policy-statement-for-england
[11] Stratford-on-Avon District Council (2016) Stratford-on-Avon District Core Strategy 2011–2031. Available at: https://tysoe-pc.gov.uk/wp-content/uploads/2026/01/SDC-CORE-STRATEGY-2011-2031-July-2016.pdf
[12] South Warwickshire Local Plan (2026) Publication (Regulation 19) Consultation Version. Available at: https://southwarwickshire.oc2.uk/document/168
[13] South Worcestershire Development Plan 2026. Available at: https://www.swdevelopmentplan.org/files/SWDPR%20Adopted%20Plan%2026%20March%202026/South%20Worcestershire%20Development%20Plan%20Review%20-%20Adopted%20March%202026.pdf
[14] Redditch Borough Council (2017). Borough of Redditch Local Plan No. 4 (2011–2030). Available at: https://www.redditchbc.gov.uk/media/tbodcekr/adopted-borough-of-redditch-local-plan-no4-2011-2030.pdf
[15] Ministry of Housing, Communities and Local Government (2025) Noise: Planning Practice Guidance. Available at: https://www.gov.uk/guidance/noise--2
[16] British Standards Institution (2014). BS 5228-1:2009+A1:2014 – Code of practice for noise and vibration control on construction and open sites – Part 1: Noise. London: BSI. Available at: https://landingpage.bsigroup.com/LandingPage/Standard?UPI=000000000030258086
[17] British Standards Institution (2014). BS 5228-2:2009+A1:2014 – Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration. London: BSI. Available at: https://landingpage.bsigroup.com/LandingPage/Standard?UPI=000000000030258089
[18] British Standards Institution (2019). BS 4142:2014+A1:2019 – Methods for rating and assessing industrial and commercial sound. London: BSI. Available at: https://landingpage.bsigroup.com/LandingPage/Standard?UPI=000000000030382132
[19] British Standards Institution (2014). BS 8233:2014 – Guidance on sound insulation and noise reduction for buildings. London: BSI. Available at: https://landingpage.bsigroup.com/LandingPage/Standard?UPI=000000000030241579
[20] British Standards Institution (2014). BS 8233:2014 – Guidance on sound insulation and noise reduction for buildings. London: BSI. Available at: https://landingpage.bsigroup.com/LandingPage/Standard?UPI=000000000030241579
[21] British Standards Institution (2003). BS 7445-1:2003 – Description and measurement of environmental noise - Part 1: Guide to quantities and procedures. London: BSI. Available at: https://landingpage.bsigroup.com/LandingPage/Series?UPI=BS%207445
[22] British Standards Institution (2013). BS EN 61672-1:2013 Electroacoustics. Sound level meters. Part 1: Specifications. Available at: https://landingpage.bsigroup.com/LandingPage/Standard?UPI=000000000030208586
[23] Highways England, (2020). Design Manual for Roads and Bridges – LA 111 – Noise and Vibration, Standards for Highways. Available at: https://www.standardsforhighways.co.uk/dmrb/search/cc8cfcf7-c235-4052-8d32-d5398796b364
[24] ISEP (2026). Guidelines for Environmental Noise Impact Assessment. Available at: https://www.isep-global.org/articles/environmental-noise-assessments

- Calculation of Road Traffic Noise (CRTN)[25].

13.5 Method of assessment

Establishing the baseline

Study area

Study area – construction

13.5.1 A study area extending 300 m from the closest construction activity has been applied for the assessment of construction noise. This approach is consistent with DMRB LA 111[23], which states that a study area of 300 m is normally sufficient to encompass noise-sensitive receptors, and with BS 5228-1:2009+A1:2014[16], which notes that construction noise predictions at distances greater than 300 m should be treated with caution due to the increasing importance of meteorological effects. Construction vibration has been assessed within a 100 m study area from the closest construction activity with the potential to generate vibration. This is consistent with DMRB LA 111 and reflects the rapid attenuation of vibration with distance due to geometric spreading and ground damping, together with the increasing uncertainty associated with empirical vibration prediction methods at greater distances. The adopted study areas are therefore considered sufficient to identify receptors that could reasonably experience significant construction noise or vibration effects.

13.5.2 The construction study areas of 300 m and 100 m have also been applied for the assessment of decommissioning noise and vibration, respectively.

13.5.3 The construction and operational traffic noise study area encompasses those roads on the public highway network that are proposed to be used by Scheme traffic to access the Order Limits from the strategic road network, as identified in Volume 1, Chapter 12 Transport and access. Where appropriate, changes in traffic noise will be assessed at sensitive receptors located within 50 m of affected roads, in accordance with guidance within DMRB LA 111[23].

Study area – operation

13.5.4 As operational noise study areas are not prescribed within current technical guidance, the extent of the assessment has been defined using professional judgement informed by the nature of the proposed operational noise sources and experience of comparable solar and energy storage developments. The principal operational noise sources comprise Conversion Units, Substations and BESS infrastructure. Sound from these sources attenuates with distance through geometric spreading, atmospheric absorption, ground effects and screening. Given the anticipated sound power levels of these sources and the distances over which significant operational effects are typically observed at comparable developments, a study area extending 500 m from the Order Limits is considered sufficient to identify receptors with the potential to experience significant operational noise effects.

13.5.5 Accordingly, the adopted study area is consistent with recognised guidance and is considered sufficient to identify receptors that could reasonably experience significant operational noise effects. Receptors located beyond the adopted study area are further from the operational noise sources than those assessed and, therefore, where significant effects are not predicted at the outer extent of the study area, significant effects beyond the study area would not be expected.

Desk study

13.5.6 Information regarding the existing ambient noise climate i.e., baseline conditions, and identification of potential noise impact constraints of the Scheme, are determined through reference to the following desktop sources:

- Ordnance Survey Master Map and OS Unique Property Reference Number (UPRN) point data, used to identify the locations of residential and non-residential NSRs.
- Strategic Noise Mapping and Noise Important Area datasets published by Defra in 2024[26].

Surveys

13.5.7 Baseline noise monitoring was undertaken in June and July 2026 at 23 locations selected to be representative of the principal noise-sensitive receptors (NSRs) within the study areas. The locations of the monitoring positions and associated NSRs are shown on Volume 2, Figure 13-1 Noise Sensitive Receptors and baseline noise monitoring locations. Details of the survey methodology, monitoring programme and results are provided in Volume 3, Appendix 13-2 Baseline noise monitoring report.

Determining value

13.5.8 The sensitivity of NSRs varies depending on a number a factors, including, but not limited to:

[25] Department of Transport Welsh Office (1988). Calculation of Road Traffic Noise (CRTN). Available at: https://www.warrington.gov.uk/sites/default/files/2020-08/cf52_crtn_dpt_of_t_welsh_office_1988.pdf

[26] Department for Environment, Food & Rural Affairs (Defra) (2024) Strategic Noise Mapping (2022) and Noise Important Areas datasets. Available at: https://www.gov.uk/government/collections/noise-management

- The function of the space and its acoustic requirements – the primary activity within the space determines its sensitivity. For example, spaces used for sleeping (e.g. bedrooms, hospital wards), learning (e.g. classrooms), or worship (e.g. prayer halls) require low ambient noise levels to support concentration, rest, or spiritual reflection. Higher noise levels may be acceptable in spaces such as industrial units, shops, and restaurants, and these are therefore less sensitive.
- Occupant vulnerability – receptors serving vulnerable populations, such as children, the elderly, patients, or individuals with hearing impairments, are more sensitive to noise. These groups may experience greater disruption or health impacts from noise exposure.
- Time of use – sensitivity can vary depending on when the space is used. For example, residential areas are more sensitive at night due to sleep requirements, while schools are most sensitive during teaching hours.
- The existing noise climate – the existing noise climate can affect the sensitivity of receptors. For example, existing high noise residential areas (such as Noise Important Areas (NIA)) are more sensitive to smaller increases in noise than quiet areas due to a greater rate of impact on health outcomes with increasing long-term noise exposure.

13.5.9 The sensitivity of residential NSRs is factored into the various assessment methodologies and residential NSRs can be considered as the 'standard' receptor type. As such, residential NSRs are defined as having a medium sensitivity, with the impact magnitudes being set to provide sensible outcomes in terms of significance of effect with respect to residential NSRs. The sensitivity of other, non-residential NSRs is therefore determined relative to that of residential NSRs. For all phases of the Scheme receptors are to be assigned a value based on the criteria set out in Table 13-3. These values are based on standard practice and are applicable for both noise and vibration.

Table 13-3 Criteria for determining the value or sensitivity of noise receptors

Receptor value	Receptors sensitive to noise
High	Schools and education premises, hospitals, clinics, care homes, places of worship, libraries, and dwellings within NIA (in relation to road traffic noise).
Medium	Residential dwellings, areas primarily used for leisure activities including sports facilities, community centres and sites of historic or cultural importance, camp sites, hotels, gardens, and parks.
Low	Offices, cafes/bars with external areas.
Negligible	Industrial or retail premises.

13.5.10 Although all residential NSRs are sensitive to noise and vibration, there are also cases where the sensitivity of an NSR may depend on the pre-existing noise climate. For example, NSRs within existing high noise areas, such as NIA, may be more sensitive to increases in noise than those outside NIA. Consideration is given to such instances as part of the assessment of construction traffic noise impacts.

13.5.11 Where structural sensitivity to vibration is concerned, all structures, regardless of their usage, exhibit a broadly similar inherent sensitivity. However, structures that have been poorly maintained or exhibit pre-existing defects or structural damage have an increased susceptibility to the effects of vibration, as there is a greater likelihood that vibration could exacerbate existing weaknesses. These structures may therefore be considered more sensitive due to their reduced capacity to withstand additional stress. Historic structures are not inherently more sensitive due to age alone: provided they are well maintained and in good condition, their structural sensitivity to vibration is comparable to that of other structures.

Impact assessment

Determining impact magnitude

Construction noise and vibration and construction traffic noise

13.5.12 Construction noise and vibration predictions have been undertaken using the empirical calculation methods set out in BS 5228[16].

13.5.13 The assessment of construction noise and vibration will follow the procedures and guidance set out in BS 5228, supplemented by DMRB LA111[23] for determining impact magnitudes and effect significance. This approach ensures a consistent and robust assessment that considers both the overall level of construction noise relative to existing ambient conditions and the duration of the works.

13.5.14 Construction noise Lowest Observed Adverse Effect Levels (LOAEL) and Significant Observed Adverse Effect Levels (SOAEL) values, as provided in DMRB LA111[23], are presented below in Table 13-4.

Table 13-4 Construction noise LOAEL and SOAEL

Time period	LOAEL	SOAEL
Day 07:00-19:00 weekdays & 07:00-13:00 Saturdays	Baseline noise levels dB $L_{Aeq,T}$	Threshold level determined as per BS 5228-1 Section E3.2 and Table E.1 BS 5228-1
Night 23:00-07:00	Baseline noise levels dB $L_{Aeq,T}$	Threshold level determined as per BS 5228-1 Section E3.2 and Table E.1 BS 5228-1

Time period	LOAEL	SOAEL
Evening and Weekends All time periods not covered above	Baseline noise levels dB $L_{Aeq,T}$	Threshold level determined as per BS 5228-1 Section E3.2 and Table E.1 BS 5228-1

13.5.15 The construction noise LOAEL is represented by baseline noise levels. The LOAEL represents the lowest noise level at which the detectable onset of an adverse effect can occur. The SOAEL represents the noise level which, if exceeded, has the potential to result in a significant effect, depending on duration and context.

13.5.16 Construction noise SOAEL values are determined using the "ABC" methodology outlined in BS 5228-1 (Section E3.2). As shown in Table 13-5, the ABC method categorises threshold values according to the prevailing ambient noise environment within the given period. Using the ABC method, SOAEL threshold values are determined using measured baseline noise levels, categorised for daytime, evening, and night-time periods. A potential significant effect is indicated if the noise level, expressed as dB $L_{Aeq,T}$, arising from the works exceeds the threshold level for the category appropriate to the ambient noise level.

13.5.17 In locations where low baseline noise conditions are anticipated, such as rural areas, a Category A threshold may be adopted as a reasonable worst-case representation of the SOAEL in lieu of consideration of actual baseline noise levels. This approach provides a proportionate basis for the assessment of construction noise and avoids the need for extensive baseline noise monitoring across areas that would not otherwise be affected by operational noise. This is particularly relevant to linear infrastructure such as cable route corridors, where effects are anticipated to be limited to temporary construction activities.

Table 13-5 The ABC method – BS 5228-1[27]

Assessment Category and threshold value period	Threshold value, in decibels (dB) ($L_{Aeq,T}$)		
	Category A[A)]	Category B[B)]	Category C[C)]
Night-time (23:00-07:00)	45	50	55
Evening and weekends [D)]	55	60	65
Daytime (07:00 – 19:00) and Saturdays (07:00-13:00)	65	70	75
Note 1: A potential significant effect is indicated if the $L_{Aeq,T}$ noise level arising from the site exceeds the threshold level for the Category appropriate to the ambient noise level.			
Note 2: If the ambient noise level exceeds the Category C threshold values given in the table (i.e. the ambient noise level is higher than the above values), then a potential significant effect is indicated if the total $L_{Aeq,T}$ noise level for the period increases by more than 3 dB due to site noise.			
Note 3: Applied to residential receptors only.			
A) Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values.			
B) Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as Category A values.			
C) Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than Category A values.			
D) 19:00-23:00 weekdays, 13:00-23:00 Saturdays and 07:00-23:00 Sundays.			

13.5.18 Construction road traffic noise has been predicted in accordance with the Changes in the Basic Noise Level (BNL), as defined by CRTN[28]. This has been calculated based on the anticipated increase in traffic on the local road network and assessed against the criteria set out in DMRB LA 111.

13.5.19 Where low traffic flows are identified (as defined in CRTN) which would otherwise be outside the validity of CRTN, alternative prediction and assessment methods may be applied with reference to BS 5228.

13.5.20 The magnitude of impact from construction noise has been determined as shown in Table 13-6.

Table 13-6 Magnitude of impact from construction noise

Magnitude of impact	Construction noise level (dB $L_{Aeq,T}$)	Change in construction traffic noise level (dB $L_{A10,18h}$)
Major	Greater than or equal to the SOAEL +5 dB	Greater than or equal to 5 dB
Moderate	Greater than or equal to the SOAEL and below the SOAEL +5 dB	Greater than or equal to 3 dB and less than 5 dB
Minor	Greater than or equal to the LOAEL and below the SOAEL dB	Greater than or equal to 1 dB and less than 3 dB
Negligible	Below the LOAEL	Less than 1 dB

13.5.21 Construction vibration LOAEL and SOAEL values, as provided in DMRB LA 111, are presented below in Table 13-7.

[27] British Standards Institute (2026) BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites. Noise: Table E.1, BS 5228-1. Available at: https://landingpage.bsigroup.com/LandingPage/Standard?UPI=000000000030258086

[28] Department of Transport Welsh Office (1988). Calculation of Road Traffic Noise (CRTN). Available at: https://trid.trb.org/view/291939

Table 13-7 Construction vibration LOAELs and SOAEL values

Thresh-old level	Vibration level (Peak Particle Velocity (PPV))	Effect
LOAEL	0.3 mm/s	Vibration might be just perceptible in residential environments.
SOAEL	1.0 mm/s	It is likely that vibration of this level in residential environments will cause complaint but can be tolerated.

13.5.22 The associated criteria representing the magnitude of impact for construction vibration are shown in Table 13-8.

Table 13-8 Magnitude of impact of vibration levels

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

Operational noise

13.5.23 Operational noise predictions from solar infrastructure have been undertaken using SoundPLAN noise modelling software, which applies the BS ISO[29] sound propagation methodology. This standard provides a recognised approach for calculating sound attenuation over distance, accounting for factors such as ground absorption, atmospheric conditions, screening, reflections, and barrier effects. The model will use reasonably worst-case assumptions on manufacturer sound power data, to ensure a robust and representative assessment of operational noise emissions from all key plant items.

13.5.24 The assessment of operational noise will take into account the baseline conditions and be undertaken with reference to guidance in BS 4142[18] and BS 8233[19].

13.5.25 For residential receptors, BS 4142 states the following regarding the initial estimate of the impact, comparing the rating level of the Scheme with the existing background level:

- *"a. Typically, the greater this difference, the greater the magnitude of the impact.*
- *b. A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context.*
- *c. A difference of around +5dB is likely to be an indication of an adverse impact, depending on the context.*
- *d. 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."*

13.5.26 Table 13-9 presents this BS 4142 criteria in terms of magnitude of impact.

Table 13-9 Magnitude of impact from operational noise

Magnitude of impact	Operational noise criteria
Major	Rating level $L_{Ar,Tr}$ >10 dB above background sound level ($L_{A90,T}$)
Moderate	Rating level $L_{Ar,Tr}$ 5-10 dB above background sound level ($L_{A90,T}$)
Minor	Rating level $L_{Ar,Tr}$ 0-5 dB above background sound level ($L_{A90,T}$)
Negligible	Rating level $L_{Ar,Tr}$ below background sound level ($L_{A90,T}$)

Determining effect significance

Construction noise and vibration and construction traffic noise

13.5.27 In accordance with recognised industry practice, and the principles set out in BS 5228-1:2009+A1:2014[16], and DMRB LA111[23], construction noise (including traffic) and human exposure to vibration shall constitute a significant effect where it is determined that a major or moderate magnitude of impact will occur for a duration exceeding:

- 10 or more days or nights in any 15 consecutive days or nights; or
- A total number of days exceeding 40 in any 6 consecutive months.

13.5.28 The above criteria reflect established practice concerning the duration over which temporary construction noise and vibration effects may reasonably be considered significant. Where the short duration of a potentially significant effect is relied upon in concluding that no significant effect would occur overall, sufficient evidence of the anticipated duration of the relevant activities, and any monitoring commitments considered necessary to support that conclusion are to be presented.

[29] BSI (2024). BS ISO 9613-2:2024 Acoustics – Attenuation of sound during propagation outdoors – Part 2: Engineering method for the prediction of sound pressure levels outdoors. British Standards Institution. Available at: https://www.iso.org/standard/74047.html

13.5.29 DMRB LA111[23] notes that human perception of vibration occurs at levels far lower than those associated with potential structural damage. The standard does not define damage thresholds itself but instead directs users to BS 5228 for further guidance within BS 7385-2, and notes "the probability of damage tends towards zero at 12.5 mm/s PPV".

Operational noise

13.5.30 BS 4142 does not determine EIA significance of effect directly. Rather, it provides an initial estimate of impact based on the relationship between the rating level and the background sound level. Accordingly, the BS 4142 assessment is used to determine the magnitude of operational noise impact, whilst the significance of effect is determined through consideration of both impact magnitude and appropriate absolute LOAEL and SOAEL thresholds.

13.5.31 BS 4142 advises that, where rating levels and background levels are low, which is likely to be the case in rural areas, the assessment of operational noise should take into context the absolute noise level. The ANC Guide to BS 4142[30] provides context to this by stating:

> *"BS 4142 does not define 'low' in the context of background sound levels nor rating levels. The note to the Scope of the 1997 version of BS 4142 defined very low background sound levels as being less than about 30dB L_{A90}, and low rating levels as being less than about 35dB $L_{Ar,Tr}$".*

13.5.32 The ANC Guide further suggests that:

> *"…similar values would not be unreasonable in the context of BS 4142, but that the assessor should make a judgement and justify it where appropriate".*

13.5.33 Based on the above, a minimum rating level of 35 dB $L_{Ar,Tr}$ for the LOAEL would align with the Noise Exposure Hierarchy Table in PPGN, which defines noise below the LOAEL as follows:

> *"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".*

13.5.34 BS 8233 provides guidance levels for internal noise within dwellings of 30 dB $L_{Aeq,T}$ for good sleeping conditions at night, and 35 dB $L_{Aeq,T}$ for living rooms and good resting conditions during the daytime. In accordance with examples in Annex A of BS 4142, it is assumed that conservative building envelope attenuation would be reduced to approximately 10 dB by a partially open window. Accordingly, external rating levels of 45 dB $L_{Ar,Tr}$ during the daytime period and 40 dB $L_{Ar,Tr}$ during the night-time period are considered appropriate indicators of the onset of a SOAEL for residential receptors, reflecting the point at which recognised internal noise criteria may no longer be achieved with windows partially open.

13.5.35 Operational noise shall constitute a significant effect where a Moderate or Major magnitude of impact is predicted and the relevant SOAEL is exceeded. For residential receptors, this corresponds to a rating level exceeding the relevant SOAEL (45 dB $L_{Ar,Tr}$ during the daytime period or 40 dB $L_{Ar,Tr}$ during the night-time period) and being at least 5 dB above the background sound level.

Determining effect significance

13.5.36 The criteria for determining receptor sensitivity and magnitude of impact are given above (Table 13-3, Table 13-6, Table 13-8 and Table 13-9). Significance has been characterised as adverse, beneficial, or neutral, and the scale of significance determined by reference to the matrix in Table 13-10. Effects deemed as significant are highlighted grey.

Table 13-10 Criteria for determining significance

Value / Sensitivity	Impact magnitude: No Change	Negligible	Minor	Moderate	Major
High	Neutral	Neutral or Slight	Slight	Moderate or large	Large or very large
Medium	Neutral	Neutral	Neutral or Slight	Slight	Moderate or large
Low	Neutral	Neutral	Neutral	Neutral or Slight	Slight
Negligible	Neutral	Neutral	Neutral	Neutral	Neutral or Slight

13.6 Baseline conditions

Description of current baseline conditions

13.6.1 The main noise source affecting Site 1 is road traffic on the B4088, which runs along the eastern boundary, and the Alcester Road, which branches off from the B4088 and runs through the middle of Site 1. Other noise sources include intermittent road traffic noise on other minor roads, and noise from typical agricultural activity. Most NSRs within the surrounding study areas experience low baseline noise levels due to the rural setting and substantial distances from any major roads. Background noise levels across much of the study area, particularly to the west and distant from the Alcester Road, are below 30 dB during the

[30] Association of Noise Consultants (ANC) (2020). ANC Guide to BS 4142: Methods for rating and assessing industrial and commercial sound. Association of Noise Consultants, UK. Available at: https://www.association-of-noise-consultants.co.uk/wp-content/uploads/2020/05/ANC-BS-4142-Guide-March-2020.pdf

day and 20 dB at night. NSRs located closer to main roads, experience higher background levels, typically up to 40 dB during the daytime and 20 dB at night. Although not directly observed, receptors located to the south of Abbots Morton and west of Cock Bevington may also be influenced by operational noise associated with Morton Wood Farm Solar Farm and Bevington Substation.

13.6.2 The primary noise source influencing Site 2 and the surrounding study area, located to the east of Site 1 and north of Salford Priors, is road traffic on the A46, which runs north–south through Site 2. NSRs closest to the A46 have higher background noise levels during the night-time, typically in the region of 30 dB. NSRs situated further from the A46 experience a lower baseline during the night-time, with the measured background sound levels ranging from 21-25 dB. However, during the daytime the there is little difference between the background noise at receptors in relation to their distance from the A46; this is due to them being exposed to intermittent noise from minor local roads and agricultural activities. The measured background daytime levels at NSRs closer to the A46 range from 39 to 46 dB, and further away range from 36 to 42 dB. In addition, although not directly observed, receptors located to the south, within Salford Priors, may also be subject to noise contributions from Spearhead Machinery Works and the adjacent industrial estate. Meanwhile, NSRs to the west, near Iron Cross and Hilters Halt, may experience periodic noise associated with the kennels at Evesham Lodge, general agricultural activity associated with the surrounding farmland and other nearby busy roads (e.g. B4088).

13.6.3 Site 3, located southeast of Site 2 and extending from Cleeve Prior southwards towards Ullington and east towards Dorsington, is generally characterised by low baseline noise levels, reflecting its rural setting and distance from major noise sources. The only NSRs on Site 3 that do not align with this are those located near Buckle Street, with the background noise levels measured here being 38 dB during the day time, while the other areas around Site 3 have a background noise in the range of 28-30 dB. Night-time background noise levels are all similar around Site 3 at 19-22 dB. The main contributors to noise include activities from the Bidford Gliding and Flying Club situated between sub-Site 3(b) and 3(c), intermittent agricultural operations, activities associated with Bickmarsh Hall Farm and traffic on the B4085 to the north and Honeybourne Lane/ Buckle Street which runs through the centre of Site 3. Noise sensitive receptors located nearer to these roads experience elevated baseline levels, compared with the quieter conditions prevailing across the majority of Site 3.

13.6.4 For NSRs within the study areas of Site 4, baseline noise levels are primarily influenced by road traffic on the B4085, which runs to the west of Site 4 through South Littleton. During both the day-time and night-time the background noise at Site 4 is around 30 dB; NSRs located closest to this road are typically expected to experience daytime noise levels. Although the Cotswold Railway Line is located some 500m south of the southern boundary of Site 4, the nearest NSRs are within approximately 550m of the track, and as such, railway noise is not anticipated to influence baseline sound levels at these receptors.

13.6.5 Cable Route Corridors (CRCs) 1 to 5 extend from Noah's Green, approximately 7 km north of Site 1, southward, connecting Sites 1 through 4 along with their respective sub-Sites.

13.6.6 CRC1 spans from the existing National Grid substation east of Feckenham to sub-Site 1(c) at Abbots Morton; the primary noise sources in this region are agricultural activities, including farming operations, and road traffic associated with the A422, B4092, and B4090. Receptors located within Inkberrow may also be affected by noise from the Inkberrow Football Club, during sporting events.

13.6.7 CRC2 connects sub-Site 1(d) to 2(c), where the predominant noise source is vehicular traffic from the A4088, which passes directly between the sub-Sites. Additionally, Mudwalls Farm, situated between these locations, likely contributes to the local noise environment.

13.6.8 CRC3 links sub-Sites 2(e) with 3(a), crossing the A46 and B439; consequently, road traffic is the dominant noise source in this area, and minor noise contributions from agricultural sources is likely at receptors in the area.

13.6.9 CRC4 runs between sub-Sites 3(a) and 3(b), with road traffic from the B4085 serving as the dominant noise source in the area.

13.6.10 CRC5 links Site 3 and 4, extending north of Ullington down to South Littleton, with noise sources primarily comprising road traffic from Buckle Street, which extends south to Honeybourne and Shinehill Lane, which is located north of Site 4.

Description of future baseline conditions

13.6.11 The future noise environment within the study area is expected to remain broadly consistent with the existing baseline conditions. The surrounding area is predominantly rural in character, with limited noise sources and no known major developments or transport schemes, that pose the potential to alter the noise environment.

13.6.12 The prevailing soundscape is therefore expected to remain characterised by natural sounds, such as bird song, wind through vegetation and other wildlife or livestock noise, together with occasional intermittent noise from agricultural activities, local road traffic and recreational activities such as sporting events at Inkberrow Football Club and activities associated with Bidford Gliding and Flying Club.

Noise monitoring results

13.6.13 Baseline noise monitoring was undertaken in June and July 2026 (Volume 3, Appendix 13-2 Baseline noise monitoring report). Unattended long-term noise monitoring was undertaken at 17 locations identified as LT1 to LT17 (Volume 2, Figure

13-1 Noise Sensitive Receptors and baseline noise monitoring locations). Monitoring was generally undertaken over a seven-day period, with continuous sound level measurements recorded and subsequently processed into consecutive 15-minute noise indices for analysis. Attended 15-minute measurements were undertaken at an additional six locations, referenced as ST1 to ST6 (see Volume 2, Figure 13-1 Noise Sensitive Receptors and baseline noise monitoring locations), to further define the spatial variation of noise levels.

13.6.14 Results indicated baseline noise levels in the form of ambient sound levels (dB L_{Aeq}) and typical background sound levels (dB L_{A90}) across the Order Limits are in the region of 40-65 dB $L_{Aeq,16hr}$ and 25-45 dB L_{A90} during daytime. Night-time baseline noise levels are in the range of 35-55 dB $L_{Aeq,8hr}$ and 15-35 dB L_{A90} at night-time. Dominant noise sources in the area were identified as natural sounds such as birds, insects and rusting leaves as well as road traffic noise in areas of the Order Limits in close proximity to main roads, aircraft movements due to Bidford Gliding and Flying Club, and agricultural activities including movement of heavy farm machinery. Further details of the survey methodology, monitoring programme and results are provided in Volume 3, Appendix 13-2 Baseline noise monitoring report.

Embedded mitigation

13.6.15 The development of the noise and vibration assessment for the Scheme has taken into consideration the embedded mitigation as defined in Volume 1, Chapter 2 Scheme description, Section 2.7 of this ES and design evolution outlined in Volume 1, Chapter 4 Consideration of alternatives of this ES. For noise and vibration this includes:

- E-GEN.1 - Implementation of Outline Construction Environmental Plan (oCEMP);
- E-GEN.3 - Implementation of Outline Operational Environmental Management Plan (oOEMP);
- E-GEN.4 - Implementation of Outline Decommissioning Environmental Management Plan (oDEMP);
- E-NV.1 - Management of noise emissions from BESS and substations;
- E-LV.5 - Aligning cable route away from sensitive features; and
- E-B.4 - Buffer zones between sensitive environmental features and the developable area.

Noise Sensitive Receptors

13.6.16 There are a number of NSRs located adjacent to the Order Limits. Many of these comprise isolated clusters of rural properties, however, areas where receptors are grouped in larger communities, such as towns and villages, include Dunnington, Wixford, Broom, Salford Priors, Cleeve Prior and South Littleton. Identified NSRs are shown in Table 13-11 and their location is shown on Volume 2, Figure 13.1 Noise Sensitive Receptors and baseline noise monitoring locations.

Table 13-11 Receptors considered in the impact assessment

Receptor name	Description	Value
(NSR 1) 2 Evesham Road	2 Evesham Road (NSR 1) is a noise-sensitive residential receptor, located approximately 100-125 m from Site 1.	Medium
(NSR 2) Rodgerway Barn	Rodgerway Barn (NSR 2) is a noise-sensitive residential receptor, located approximately 200-250 m from Site 1.	Medium
(NSR 3) St James Church of England	St James Church of England (NSR 3) is a noise-sensitive place of worship, located approximately 200-250 m from Site 1.	High
(NSR 4) Properties along Evesham Road	Properties along Evesham Road (NSR 4) are noise-sensitive residential receptors, located approximately 50-75 m from Site 1.	Medium
(NSR 5) Turnpike Cottages	Turnpike Cottages (NSR 5) are noise-sensitive residential receptors, located approximately 75-100 m from Site 1.	Medium
(NSR 6) Properties east of Wood Bevington	Properties east of Wood Bevington (NSR 6) are noise-sensitive residential receptors, located approximately 50-75 m from Site 1.	Medium
(NSR 7) Foxlea Beck	Foxlea Beck (NSR 7) is a noise-sensitive residential receptor, located approximately 100-125 m from Site 1.	Medium
(NSR 8) Wood Bevington Farm	Wood Bevington Farm (NSR 8) is a noise-sensitive residential receptor, located approximately 100-125 m from Site 1.	Medium
(NSR 9) Mudwalls Farm	Mudwalls Farm (NSR 9) is a noise-sensitive residential receptor, located approximately 500-550 m from Site 1.	Medium
(NSR 10) Properties north of Cock Bevington	Properties north of Cock Bevington (NSR 10) are noise-sensitive residential receptors, located approximately 400-450 m from Site 1.	Medium
(NSR 11) 59A Low Road	59A Low Road (NSR 11) is a noise-sensitive residential receptor, located approximately 150-200 m from Site 1.	Medium
(NSR 12) Properties on Franklins Lane	Properties on Franklins Lane (NSR 12) are noise-sensitive residential receptors, located approximately 300-350 m from Site 1.	Medium
(NSR 13) Properties on Low Road	Properties on Low Road (NSR 13) are noise-sensitive residential receptors, located approximately 550-600 m from Site 1.	Medium

Receptor name	Description	Value
(NSR 14) Additional properties on Low Road	Additional properties on Low Road (NSR 14) are noise-sensitive residential receptors, located approximately 550-600 m from Site 1.	Medium
(NSR 15) The Old Cow Shed, Morton Wood Lane	The Old Cow Shed, Morton Wood Lane (NSR 15) is a noise-sensitive residential receptor, located approximately 100-125 m from Site 1.	Medium
(NSR 16) York Cottage, Morton Wood Lane	York Cottage, Morton Wood Lane (NSR 16) is a noise-sensitive residential receptor, located approximately 250-300 m from Site 1.	Medium
(NSR 17) Properties on Abbots Morton Road	Properties on Abbots Morton Road (NSR 17) are noise-sensitive residential receptors, located approximately from Site 1.	Medium
(NSR 18) 1 Alcester Road	1 Alcester Road (NSR 18) is a noise-sensitive residential receptor, located approximately 100-125 m from Site 1.	Medium
(NSR 19) Morton Spirit Farm, Village Road	Morton Spirit Farm, Village Road (NSR 19) is a noise-sensitive residential receptor, located approximately 200-250 m from Site 1.	Medium
(NSR 20) Properties on Gooms Hill	Properties on Gooms Hill (NSR 20) are noise-sensitive residential receptors, located approximately 100-125 m from Site 1.	Medium
(NSR 21) Treetops Farm	Treetops Farm (NSR 21) is a noise-sensitive residential receptor, located approximately 200-250 m from Site 1.	Medium
(NSR 22) The Kennels, Bidford-on-Avon	The Kennels, Bidford-on-Avon (NSR 22) is a noise-sensitive community receptor, located approximately 350-400 m from Site 2.	Medium
(NSR 23) Hollybush Farm	Hollybush Farm (NSR 23) is a noise-sensitive residential receptor, located approximately 200-250 m from Site 2.	Medium
(NSR 24) Properties south of High Street	Properties south of High Street (NSR 24) are noise-sensitive residential receptors, located approximately 125-150 m from Site 2.	Medium
(NSR 25) 30 Dunnington	30 Dunnington (NSR 25) is a noise-sensitive residential receptor, located approximately 200-250 m from Site 2.	Medium
(NSR 26) Properties on High Street	Properties on High Street (NSR 26) are noise-sensitive residential receptors, located approximately 125-150 m from Site 2.	Medium
(NSR 27) Dunnington Lodge	Dunnington Lodge (NSR 27) is a noise-sensitive residential receptor, located approximately 150-200 m from Site 2.	Medium
(NSR 28) 52 Tothall Lane	52 Tothall Lane (NSR 28) is a noise-sensitive residential receptor, located approximately 50-75 m from Site 2.	Medium
(NSR 29) Tothall Farm House	Tothall Farm House (NSR 29) is a noise-sensitive residential receptor, located approximately 50-75 m from Site 2.	Medium
(NSR 30) Properties along B4088	Properties along B4088 (NSR 30) are noise-sensitive residential receptors, located approximately 50-75 m from Site 2.	Medium
(NSR 31) Queens Head Inn	Queens Head Inn (NSR 31) is a noise-sensitive residential (non-permanent) receptor, located approximately 150-200 m from Site 2.	Medium
(NSR 32) Properties on School Road	Properties on School Road (NSR 32) are noise-sensitive residential receptors, located approximately 400-450 m from Site 2.	Medium
(NSR 33) Properties on Perkins Close	Properties on Perkins Close (NSR 33) are noise-sensitive residential receptors, located approximately 150-200 m from Site 2.	Medium
(NSR 34) Properties on Ridsdale Close	Properties on Ridsdale Close (NSR 34) are noise-sensitive residential receptors, located approximately 75-100 m from Site 2.	Medium
(NSR 35) Marsh Farm	Marsh Farm (NSR 35) is a noise-sensitive residential receptor, located approximately 50-75 m from Site 2.	Medium
(NSR 36) 14 Perkins Close	14 Perkins Close (NSR 36) is a noise-sensitive residential receptor, located approximately 300-350 m from Site 2.	Medium
(NSR 37) Properties on Kestrel Close	Properties on Kestrel Close (NSR 37) are noise-sensitive residential receptors, located approximately 200-250 m from Site 2.	Medium
(NSR 38) Marriage Hill House	Marriage Hill House (NSR 38) is a noise-sensitive residential receptor, located approximately 250-300 m from Site 2.	Medium
(NSR 39) Broom Court Farm	Broom Court Farm (NSR 39) is a noise-sensitive residential receptor, located approximately 400-450 m from Site 2.	Medium
(NSR 40) Properties on Kings Lane	Properties on Kings Lane (NSR 40) are noise-sensitive residential receptors, located approximately 75-100 m from Site 2.	Medium
(NSR 41) 4 Bridge Court	4 Bridge Court (NSR 41) is a noise-sensitive residential receptor, located approximately 75-100 m from Site 2.	Medium
(NSR 42) Properties within Broom	Properties within Broom (NSR 42) are noise-sensitive residential receptors, located approximately 250-300 m from Site 2.	Medium

Receptor name	Description	Value
(NSR 43) Wixford Village Hall	Wixford Village Hall (NSR 43) is a noise-sensitive community receptor, located approximately 100-125 m from Site 2.	Medium
(NSR 44) Properties within Wixford	Properties within Wixford (NSR 44) are noise-sensitive residential receptors, located approximately 50-75 m from Site 2.	Medium
(NSR 45) Properties west of Wixford CP	Properties west of Wixford CP (NSR 45) are noise-sensitive residential receptors, located approximately from Site 2.	Medium
(NSR 46) Kingley Farm	Kingley Farm (NSR 46) is a noise-sensitive residential receptor, located approximately 500-550 m from Site 2.	Medium
(NSR 47) Properties on Froglands Lane	Properties on Froglands Lane (NSR 47) are noise-sensitive residential receptors, located approximately 150-200 m from Site 3.	Medium
(NSR 48) Cleeve Prior Church	Cleeve Prior Church (NSR 48) is a noise-sensitive place of worship, located approximately 200-250 m from Site 3.	High
(NSR 49) St Andrew, Manor Court	St Andrew, Manor Court (NSR 49) is a noise-sensitive residential receptor, located approximately 400-450 m from Site 3.	Medium
(NSR 50) Memorial Hall, Cleeve Prior	Memorial Hall, Cleeve Prior (NSR 50) is a noise-sensitive community receptor, located approximately 500-550 m from Site 3.	Medium
(NSR 51) Sharrow House, Cleeve Road	Sharrow House, Cleeve Road (NSR 51) is a noise-sensitive residential receptor, located approximately 350-400 m from Site 3.	Medium
(NSR 52) Cleeve Prior Church of England Primary School	Cleeve Prior Church of England Primary School (NSR 52) is a noise-sensitive educational receptor, located approximately 550-600 m from Site 3.	High
(NSR 53) Properties on Hoden Lane	Properties on Hoden Lane (NSR 53) are noise-sensitive residential receptors, located approximately 500-550 m from Site 3.	Medium
(NSR 54) Additional properties on Hoden Lane	Additional properties on Hoden Lane (NSR 54) are noise-sensitive residential receptors, located approximately 350-400 m from Site 3.	Medium
(NSR 55) Buckle House B&B	Buckle House B&B (NSR 55) is a noise-sensitive residential (non-permanent) receptor, located approximately 500-550 m from Site 3.	Medium
(NSR 56) Clink Cottage	Clink Cottage (NSR 56) is a noise-sensitive residential receptor, located approximately 300-350 m from Site 3.	Medium
(NSR 57) Park House, Cleeve Road	Park House, Cleeve Road (NSR 57) is a noise-sensitive residential receptor, located approximately 50-75 m from Site 3.	Medium
(NSR 58) The Grange, Cleeve Road	The Grange, Cleeve Road (NSR 58) is a noise-sensitive residential receptor, located approximately 150-200 m from Site 3.	Medium
(NSR 59) 19 Cleeve Road	19 Cleeve Road (NSR 59) is a noise-sensitive residential receptor, located approximately 50-75 m from Site 3.	Medium
(NSR 60) The Homelands, Cleeve Road	The Homelands, Cleeve Road (NSR 60) is a noise-sensitive residential receptor, located approximately 100-125 m from Site 3.	Medium
(NSR 61) Holloway House, Cleeve Road	Holloway House, Cleeve Road (NSR 61) is a noise-sensitive residential receptor, located approximately 300-350 m from Site 3.	Medium
(NSR 62) Rough Cottages, Honeybourne Road	Rough Cottages, Honeybourne Road (NSR 62) are noise-sensitive residential receptors, located approximately 150-200 m from Site 3.	Medium
(NSR 63) Properties on Roberts Lane	Properties on Roberts Lane (NSR 63) are noise-sensitive residential receptors, located approximately 450-500 m from Site 3.	Medium
(NSR 64) 4 Buckle Street	4 Buckle Street (NSR 64) is a noise-sensitive residential receptor, located approximately 250-300 m from Site 3.	Medium
(NSR 65) Ullington House	Ullington House (NSR 65) is a noise-sensitive residential receptor, located approximately 150-200 m from Site 3.	Medium
(NSR 66) Fox Cover Farm, Dorsington Road	Fox Cover Farm, Dorsington Road (NSR 66) is a noise-sensitive residential receptor, located approximately 75-100 m from Site 3.	Medium
(NSR 67) Garden of Heroes and Villains, Dorsington Road	Garden of Heroes and Villains, Dorsington Road (NSR 67) is a noise-sensitive community receptor, located approximately 350-400 m from Site 3.	Medium
(NSR 68) Collett's Farm, Barton Road	Collett's Farm, Barton Road (NSR 68) is a noise-sensitive residential receptor, located approximately 250-300 m from Site 3.	Medium
(NSR 69) Oak Cottage B&B	Oak Cottage B&B (NSR 69) is a noise-sensitive residential (non-permanent) receptor, located approximately 200-250 m from Site 3.	Medium
(NSR 70) Elmcroft, Dorsington	Elmcroft, Dorsington (NSR 70) is a noise-sensitive residential receptor, located approximately 50-75 m from Site 3.	Medium
(NSR 71) The Grange, Dorsington	The Grange, Dorsington (NSR 71) is a noise-sensitive residential receptor, located approximately 200-250 m from Site 3.	Medium

Receptor name	Description	Value
(NSR 72) Properties on Welford Road	Properties on Welford Road (NSR 72) are noise-sensitive residential receptors, located approximately 400-450 m from Site 3.	Medium
(NSR 73) Meadow Brook, Roberts Lane	Meadow Brook, Roberts Lane (NSR 73) is a noise-sensitive residential receptor, located approximately 250-300 m from Site 4.	Medium
(NSR 74) 1 Clevedon Green	1 Clevedon Green (NSR 74) is a noise-sensitive residential receptor, located approximately 200-250 m from Site 4.	Medium
(NSR 75) Shinehill Farm	Shinehill Farm (NSR 75) is a noise-sensitive residential receptor, located approximately 50-75 m from Site 4.	Medium
(NSR 76) New Barn Cottage, Shinehill Lane	New Barn Cottage, Shinehill Lane (NSR 76) is a noise-sensitive residential receptor, located approximately 125-150 m from Site 4.	Medium
(NSR 77) 38 Withy Trees Road	38 Withy Trees Road (NSR 77) is a noise-sensitive residential receptor, located approximately 300-350 m from Site 4.	Medium
(NSR 78) Properties on Sheehill Lane	Properties on Sheehill Lane (NSR 78) are noise-sensitive residential receptors, located approximately 500-550 m from Site 4.	Medium
(CRC NSR 1) 2 Evesham Road	2 Evesham Road (CRC NSR 1) is a noise-sensitive residential receptor, located approximately 75-100 m from the cable route corridor.	Medium
(CRC NSR 2) Rodgeway Barn	Rodgeway Barn (CRC NSR 2) is a noise-sensitive residential receptor, located approximately 175-200 m from the cable route corridor.	Medium
(CRC NSR 3) St James C of E Church	St James C of E Church (CRC NSR 3) is a noise-sensitive place of worship, located approximately 175-200 m from the cable route corridor.	High
(CRC NSR 4) Properties along Evesham Road	Properties along Evesham Road (CRC NSR 4) are noise-sensitive residential receptors, located approximately 10-25 m from the cable route corridor.	Medium
(CRC NSR 5) Turnpike Cottages	Turnpike Cottages (CRC NSR 5) are noise-sensitive residential receptors, located approximately <10 m from the cable route corridor.	Medium
(CRC NSR 6) Properties East of Wood Bevington	Properties East of Wood Bevington (CRC NSR 6) are noise-sensitive residential receptors, located approximately 10-25 m from the cable route corridor.	Medium
(CRC NSR 7) Foxlea Beck	Foxlea Beck (CRC NSR 7) is a noise-sensitive residential receptor, located approximately 10-25 m from the cable route corridor.	Medium
(CRC NSR 8) Wood Bevington Farm	Wood Bevington Farm (CRC NSR 8) is a noise-sensitive residential receptor, located approximately 100-125 m from the cable route corridor.	Medium
(CRC NSR 9) Mudwalls Farm	Mudwalls Farm (CRC NSR 9) is a noise-sensitive residential receptor, located approximately 450-500 m from the cable route corridor.	Medium
(CRC NSR 10) Properties north of Cock Bevington	Properties north of Cock Bevington (CRC NSR 10) are noise-sensitive residential receptors, located approximately 350-400 m from the cable route corridor.	Medium
(CRC NSR 11) 59A Low Road	59A Low Road (CRC NSR 11) is a noise-sensitive residential receptor, located approximately 125-150 m from the cable route corridor.	Medium
(CRC NSR 12) Properties on Franklins Lane	Properties on Franklins Lane (CRC NSR 12) are noise-sensitive residential receptors, located approximately 300-350 m from the cable route corridor.	Medium
(CRC NSR 13) Properties on Low Road	Properties on Low Road (CRC NSR 13) are noise-sensitive residential receptors, located approximately 500-550 m from the cable route corridor.	Medium
(CRC NSR 14) Properties on Low Road	Properties on Low Road (CRC NSR 14) are noise-sensitive residential receptors, located approximately 400-450 m from the cable route corridor.	Medium
(CRC NSR 15) The Old Cow Shed, Morton Wood Lane	The Old Cow Shed, Morton Wood Lane (CRC NSR 15) is a noise-sensitive residential receptor, located approximately 25-50 m from the cable route corridor.	Medium

Receptor name	Description	Value
(CRC NSR 16) York Cottage on Morton Wood Lane	York Cottage on Morton Wood Lane (CRC NSR 16) is a noise-sensitive residential receptor, located approximately 200-250 m from the cable route corridor.	Medium
(CRC NSR 17) Properties on Abbots Morton Road	Properties on Abbots Morton Road (CRC NSR 17) are noise-sensitive residential receptors, located approximately 400-450 m from the cable route corridor.	Medium
(CRC NSR 18) 1 Alcester Road	1 Alcester Road (CRC NSR 18) is a noise-sensitive residential receptor, located approximately 25-50 m from the cable route corridor.	Medium
(CRC NSR 19) Morton Spirit Farm on Village Road	Morton Spirit Farm on Village Road (CRC NSR 19) is a noise-sensitive residential receptor, located approximately 350-400 m from the cable route corridor.	Medium
(CRC NSR 20) Properties on Gooms Hill	Properties on Gooms Hill (CRC NSR 20) are noise-sensitive residential receptors, located approximately 100-125 m from the cable route corridor.	Medium
(CRC NSR 21) Treetops Farm	Treetops Farm (CRC NSR 21) is a noise-sensitive residential receptor, located approximately 175-200 m from the cable route corridor.	Medium
(CRC NSR 22) The Kennels within Bidford-on-Avon	The Kennels within Bidford-on-Avon (CRC NSR 22) is a noise-sensitive community receptor, located approximately 125-150 m from the cable route corridor.	Medium
(CRC NSR 23) Hollybush Farm	Hollybush Farm (CRC NSR 23) is a noise-sensitive residential receptor, located approximately 10-25 m from the cable route corridor.	Medium
(CRC NSR 24) Properties south of High Street	Properties south of High Street (CRC NSR 24) are noise-sensitive residential receptors, located approximately 25-50 m from the cable route corridor.	Medium
(CRC NSR 25) 30 Dunnington Lane	30 Dunnington Lane (CRC NSR 25) is a noise-sensitive residential receptor, located approximately 125-150 m from the cable route corridor.	Medium
(CRC NSR 26) Properties on High Street	Properties on High Street (CRC NSR 26) are noise-sensitive residential receptors, located approximately 25-50 m from the cable route corridor.	Medium
(CRC NSR 27) Dunnington Lodge	Dunnington Lodge (CRC NSR 27) is a noise-sensitive residential receptor, located approximately 100-125 m from the cable route corridor.	Medium
(CRC NSR 28) 52 Tothall Lane	52 Tothall Lane (CRC NSR 28) is a noise-sensitive residential receptor, located approximately 50-75 m from the cable route corridor.	Medium
(CRC NSR 29) Tothall Farm House	Tothall Farm House (CRC NSR 29) is a noise-sensitive residential receptor, located approximately 10-25 m from the cable route corridor.	Medium
(CRC NSR 30) Properties along B4088	Properties along B4088 (CRC NSR 30) are noise-sensitive residential receptors, located approximately 10-25 m from the cable route corridor.	Medium
(CRC NSR 31) The Queens Head Inn	The Queens Head Inn (CRC NSR 31) is a noise-sensitive residential receptor (hotel), located approximately 125-150 m from the cable route corridor.	Medium
(CRC NSR 32) Properties on School Road	Properties on School Road (CRC NSR 32) are noise-sensitive residential receptors, located approximately 350-400 m from the cable route corridor.	Medium
(CRC NSR 33) Properties on Perkins Close	Properties on Perkins Close (CRC NSR 33) are noise-sensitive residential receptors, located approximately 125-150 m from the cable route corridor.	Medium
(CRC NSR 34) Properties on Ridsdale Close	Properties on Ridsdale Close (CRC NSR 34) are noise-sensitive residential receptors, located approximately 50-75 m from the cable route corridor.	Medium

Receptor name	Description	Value
(CRC NSR 35) Marsh Farm	Marsh Farm (CRC NSR 35) is a noise-sensitive residential receptor, located approximately 10-25 m from the cable route corridor.	Medium
(CRC NSR 36) 14 Perkins Close	14 Perkins Close (CRC NSR 36) is a noise-sensitive residential receptor, located approximately 250-300 m from the cable route corridor.	Medium
(CRC NSR 37) Properties on Kestrel Close	Properties on Kestrel Close (CRC NSR 37) is a noise-sensitive residential receptor, located approximately 175-200 m from the cable route corridor.	Medium
(CRC NSR 38) Marriage Hill House	Marriage Hill House (CRC NSR 38) is a noise-sensitive residential receptor, located approximately 200-250 m from the cable route corridor.	Medium
(CRC NSR 39) Broom Court Farm	Broom Court Farm (CRC NSR 39) is a noise-sensitive residential receptor, located approximately 400-450 m from the cable route corridor.	Medium
(CRC NSR 40) Properties on Kings Lane	Properties on Kings Lane (CRC NSR 40) are noise-sensitive residential receptors, located approximately 50-75 m from the cable route corridor.	Medium
(CRC NSR 41) 4 Bridge Court	4 Bridge Court (CRC NSR 41) is a noise-sensitive residential receptor, located approximately 25-50 m from the cable route corridor.	Medium
(CRC NSR 42) Properties within Broom	Properties within Broom (CRC NSR 42) are noise-sensitive residential receptors, located approximately 150-175 m from the cable route corridor.	Medium
(CRC NSR 43) Wixford Village Hall	Wixford Village Hall (CRC NSR 43) is a noise-sensitive community receptor, located approximately 50-75 m from the cable route corridor.	Medium
(CRC NSR 44) Properties within Wixford	Properties within Wixford (CRC NSR 44) are noise-sensitive residential receptors, located approximately 25-50 m from the cable route corridor.	Medium
(CRC NSR 45) Properties West of Wixford CP	Properties West of Wixford CP (CRC NSR 45) are noise-sensitive residential receptors, located approximately 125-150 m from the cable route corridor.	Medium
(CRC NSR 46) Kingley Farm	Kingley Farm (CRC NSR 46) is a noise-sensitive residential receptor, located approximately 50-75 m from the cable route corridor.	Medium
(CRC NSR 47) Properties on Froglands Lane	Properties on Froglands Lane (CRC NSR 47) are noise-sensitive residential receptors, located approximately 150-175 m from the cable route corridor.	Medium
(CRC NSR 48) Cleeve Prior	Cleeve Prior (CRC NSR 48) is a noise-sensitive place of worship receptor, located approximately 125-150 m from the cable route corridor.	High
(CRC NSR 49) St Andrew, Manor Court	St Andrew, Manor Court (CRC NSR 49) is a noise-sensitive residential receptor, located approximately 150-175 m from the cable route corridor.	Medium
(CRC NSR 50) Memorial Hall within Cleve Prior	Memorial Hall within Cleve Prior (CRC NSR 50) is a noise-sensitive community receptor, located approximately 200-250 m from the cable route corridor.	Medium
(CRC NSR 51) Sharrow House on Cleeve Road	Sharrow House on Cleeve Road (CRC NSR 51) is a noise-sensitive residential receptor, located approximately 10-25 m from the cable route corridor.	Medium
(CRC NSR 52) Cleeve Prior C of E Primary School	Cleeve Prior C of E Primary School (CRC NSR 52) is a noise-sensitive educational building, located approximately 250-300 m from the cable route corridor.	High
(CRC NSR 53) Properties on Hoden Lane leading to Cleeve Prior	Properties on Hoden Lane leading to Cleeve Prior (CRC NSR 53) are noise-sensitive residential receptors, located approximately 350-400 m from the cable route corridor.	Medium

Receptor name	Description	Value
(CRC NSR 54) Hodenfields on Hoden Lane	Hodenfields on Hoden Lane (CRC NSR 54) is a noise-sensitive residential receptor, located approximately 300-350 m from the cable route corridor.	Medium
(CRC NSR 55) Buckle House B&B	Buckle House B&B (CRC NSR 55) is a noise-sensitive residential receptor (hotel), located approximately 450-500 m from the cable route corridor.	Medium
(CRC NSR 56) Clink Cottage	Clink Cottage (CRC NSR 56) is a noise-sensitive residential receptor, located approximately 250-300 m from the cable route corridor.	Medium
(CRC NSR 57) Park House on Cleeve Road	Park House on Cleeve Road (CRC NSR 57) is a noise-sensitive residential receptor, located approximately 25-50 m from the cable route corridor.	Medium
(CRC NSR 58) The Grange on Cleeve Road	The Grange on Cleeve Road (CRC NSR 58) is a noise-sensitive residential receptor, located approximately 100-125 m from the cable route corridor.	Medium
(CRC NSR 59) 19 Cleeve Road	19 Cleeve Road (CRC NSR 59) is a noise-sensitive residential receptor, located approximately 25-50 m from the cable route corridor.	Medium
(CRC NSR 60) The Homelands on Cleeve Road	The Homelands on Cleeve Road (CRC NSR 60) is a noise-sensitive residential receptor, located approximately 100-125 m from the cable route corridor.	Medium
(CRC NSR 61) Holloway House on Cleeve Road	Holloway House on Cleeve Road (CRC NSR 61) is a noise-sensitive residential receptor, located approximately 300-350 m from the cable route corridor.	Medium
(CRC NSR 62) Rough Cottages on Honeybourne Road	Rough Cottages on Honeybourne Road (CRC NSR 62) are noise-sensitive residential receptors, located approximately 150-175 m from the cable route corridor.	Medium
(CRC NSR 63) Properties on Roberts Lane	Properties on Roberts Lane (CRC NSR 63) are noise-sensitive residential receptors, located approximately 450-500 m from the cable route corridor.	Medium
(CRC NSR 64) 4 Buckle Street	4 Buckle Street (CRC NSR 64) is a noise-sensitive residential receptor, located approximately 200-250 m from the cable route corridor.	Medium
(CRC NSR 65) Ullington House	Ullington House (CRC NSR 65) is a noise-sensitive residential receptor, located approximately 150-175 m from the cable route corridor.	Medium
(CRC NSR 66) Fox Covert Farm on Dorsington Road	Fox Covert Farm on Dorsington Road (CRC NSR 66) is a noise-sensitive residential receptor, located approximately 25-50 m from the cable route corridor.	Medium
(CRC NSR 67) Garden of Heroes and Villains on Dorsington Road (Community space)	Garden of Heroes and Villains on Dorsington Road (Community space) (CRC NSR 67) is a noise-sensitive community receptor, located approximately 300-350 m from the cable route corridor.	Medium
(CRC NSR 68) Collett's Farm on Barton Road	Collett's Farm on Barton Road (CRC NSR 68) is a noise-sensitive residential receptor, located approximately 250-300 m from the cable route corridor.	Medium
(CRC NSR 69) Oak Cottage B&B	Oak Cottage B&B (CRC NSR 69) is a noise-sensitive residential receptor (hotel), located approximately 200-250 m from the cable route corridor.	Medium
(CRC NSR 70) Elmcroft within Dorsington	Elmcroft within Dorsington (CRC NSR 70) is a noise-sensitive residential receptor, located approximately 10-25 m from the cable route corridor.	Medium
(CRC NSR 71) The Grange within Dorsington	The Grange within Dorsington (CRC NSR 71) is a noise-sensitive residential receptor, located approximately 200-250 m from the cable route corridor.	Medium
(CRC NSR 72) Properties on Welford Road	Properties on Welford Road (CRC NSR 72) are noise-sensitive residential receptors, located approximately 350-400 m from the cable route corridor.	Medium

Receptor name	Description	Value
(CRC NSR 73) Meadow Brook on Roberts Lane	Meadow Brook on Roberts Lane (CRC NSR 73) is a noise-sensitive residential receptor, located approximately 175-200 m from the cable route corridor.	Medium
(CRC NSR 74) 1 Clevedon Green	1 Clevedon Green (CRC NSR 74) is a noise-sensitive residential receptor, located approximately 175-200 m from the cable route corridor.	Medium
(CRC NSR 75) Shinehill Farm	Shinehill Farm (CRC NSR 75) is a noise-sensitive residential receptor, located approximately 25-50 m from the cable route corridor.	Medium
(CRC NSR 76) New Barn Cottage on Shinehill Lane	New Barn Cottage on Shinehill Lane (CRC NSR 76) is a noise-sensitive residential receptor, located approximately 100-125 m from the cable route corridor.	Medium
(CRC NSR 77) 38 Withy Trees Road	38 Withy Trees Road (CRC NSR 77) is a noise-sensitive residential receptor, located approximately 300-350 m from the cable route corridor.	Medium
(CRC NSR 78) Properties on Sheenhill Lane	Properties on Sheenhill Lane (CRC NSR 78) are noise-sensitive residential receptors, located approximately 450-500 m from the cable route corridor.	Medium

Arrow Valley Solar