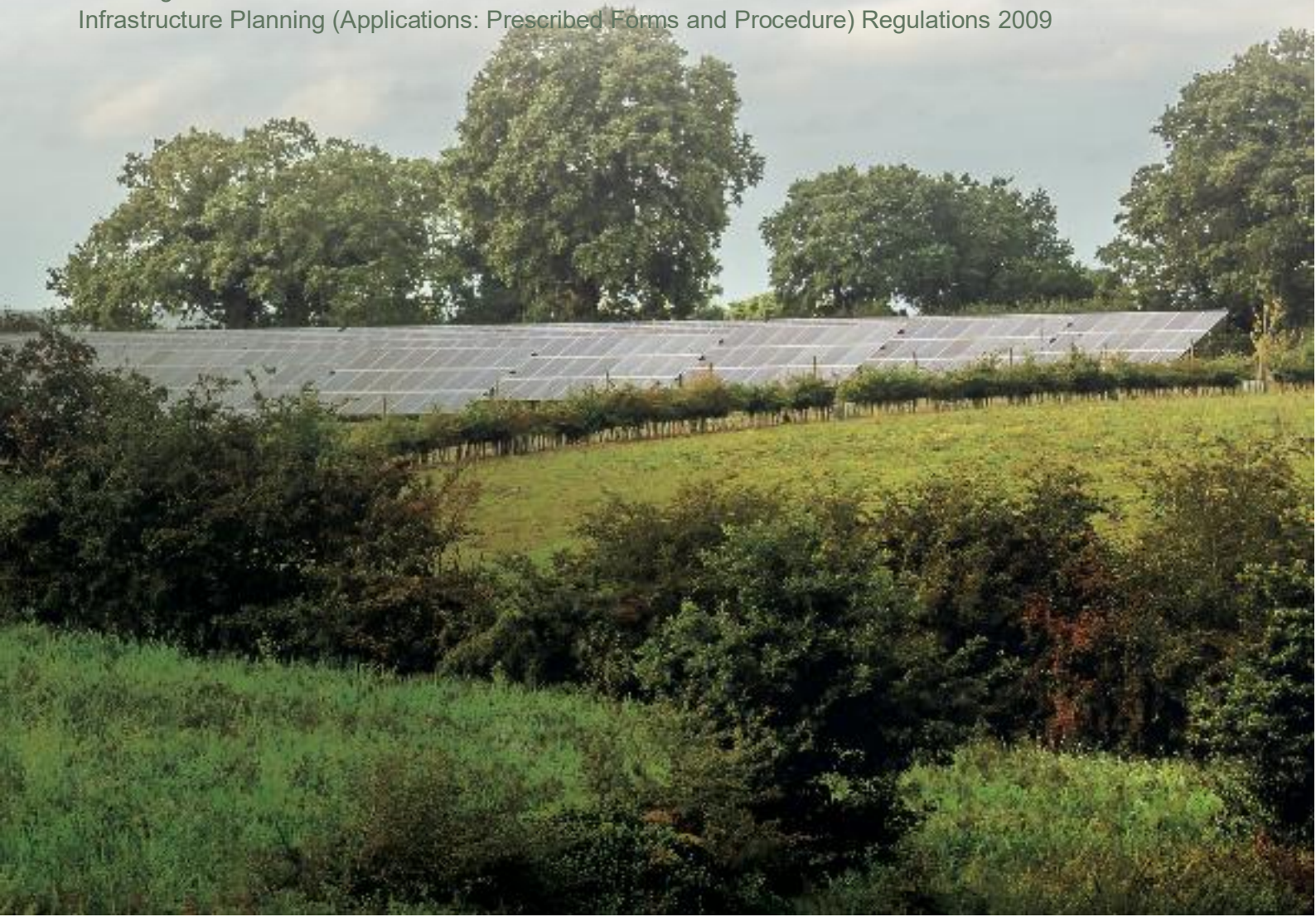
THE DROVES
SOLAR FARM

The Droves Solar Farm

Appendix 10.1: Consultation and Legislation, Planning Policy and Guidance

Prepared by: Hoare Lea
Date: November 2025
PINS reference: EN0110013
Document reference: APP/6.4 (Original)
APFP Regulation Reg 5(2)(a)
Planning Act 2008
Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009



List of Contents

List of Tables

10 Consultation and Legislation, Planning Policy and Guidance

10.1 Consultation

Scoping Opinion

10.1.1 On 8 November 2024, the Applicant submitted a Scoping Opinion Request to PINS (see **ES Appendix 2.1: EIA Scoping Opinion Request [APP/6.4]**) in support of a request for a Scoping Opinion from the Planning Inspectorate on behalf of the Secretary of State pursuant to Regulation 10 of the EIA Regulations.

10.1.2 A Scoping Opinion (see **ES Appendix 2.2: Scoping Opinion [APP/6.4]**) was adopted by the Planning Inspectorate on 18 December 2024.

10.1.3 The issues raised in the Scoping Opinion relating to noise and vibration are summarised and responded to within **Table 10-1** which demonstrates how the matters raised in the Scoping Opinion are addressed in **ES Chapter 10: Noise and Vibration [APP/6.2].**

Table 10-1 Relevant Scoping Opinion Comments from Statutory Bodies relating to Noise and Vibration

Consultee and Date	Comment and Scoping Opinion ID No.	How has the comment been addressed in the ES chapter	Location of response in ES Chapter 10
PINS – Scoping Report – November and December 2024 ID No.3.6.1	3.6.1: Decommissioning traffic noise to be scoped in.	Decommissioning traffic noise effects are expected to be similar or less than those based on construction traffic effects. Therefore, a qualitative assessment of decommissioning traffic noise is undertaken in the noise and vibration chapter of ES based on construction traffic noise effects.	Scope of assessment shown in **Table 10.1** and Paragraph 10.5.7 in **ES Chapter 10: Noise and Vibration [APP/6.2].**
PINS – Scoping Report – November and December 2024 ID No.3.6.2	3.6.2: Traffic vibration scoped out.	No action – agreement to scope out traffic vibration for all phases of development.	Traffic vibration scoped out, reasons outlined in Paragraph 10.5.12 of **ES Chapter 10: Noise and Vibration [APP/6.2].**
PINS – Scoping Report – November and December 2024 ID No.3.6.3	3.6.3: Decommissioning noise from Battery Energy Storage System / National Grid Substation / Customer Substation scoped in based on comparison to construction effects.	These decommissioning noise effects are expected to be similar or less than those based on the equivalent construction effects. Therefore, a qualitative assessment of decommissioning noise is undertaken in **ES Chapter 10: Noise and**	Decommissioning noise scoped in, shown in **Table 10.1** and Paragraph 10.5.7 in **ES Chapter 10: Noise and**

		Vibration [APP/6.2]. based on the equivalent construction noise effects. National Grid Substation to remain in situ upon decommissioning of the Scheme; therefore, decommissioning noise effects for National Grid Substation are not assessed.	**Vibration [APP/6.2].**
PINS – Scoping Report – November and December 2024 ID No.3.6.4	3.6.4 Decommissioning vibration from Battery Energy Storage System / National Grid Substation / Customer Substation / Solar PV scoped in.	Decommissioning vibration effects are expected to be similar or less than those based on construction vibration effects. Therefore, qualitative assessment of decommissioning vibration is undertaken in the noise and vibration chapter of ES based on construction vibration effects. National Grid Substation to remain in situ upon decommissioning of the project; therefore, decommissioning vibration effects for National Grid Substation are not assessed.	Decommissioning vibration scoped in as shown in **Table 10-1** and Paragraph 10.5.7 in **ES Chapter 10: Noise and Vibration [APP/6.2].**
PINS – Scoping Report – November and December 2024 ID No.3.6.5	3.6.5: Operation and decommissioning noise from Grid Connection Infrastructure to be scoped out.	Scoped out – Grid Connection Infrastructure such as Overhead Lines (OHL) to remain in situ upon decommissioning. Operational noise from OHL is expected to be negligible given typical low levels and distances (relative to noise-sensitive receptor).	Operation and Decommissioning noise from Gird Infrastructure scoped out, reasons outlined in Paragraph 10.5.15 in **ES Chapter 10: Noise and**

			Vibration [APP/6.2].
PINS – Scoping Report – November and December 2024 ID No.3.6.6	3.6.6: Operation and decommissioning vibration from Grid Connection Infrastructure scoped out.	Scoped out – Grid Connection Infrastructure such as OHLs to remain in situ upon decommissioning. Operational vibration from Grid Connection Infrastructure is expected to be negligible given the nature of the infrastructure such as OHL, towers, and underground cables, and is therefore not assessed.	Operation and decommissioning noise scoped out, reason provided in Paragraph 10.5.15 in **ES Chapter 10: Noise and Vibration [APP/6.2].**
PINS – Scoping Report – November and December 2024 ID No.3.6.7	3.6.7: Receptors of low sensitivity to be scoped out.	Scoped out – low sensitivity receptors will experience non-significant effects regardless of magnitude of impact, therefore they are scoped-out of the assessment.	Assessment of low sensitivity receptors scoped out, reasons outlined in Paragraph 10.5.16 in **ES Chapter 10: Noise and Vibration [APP/6.2].**
PINS – Scoping Report – November and December 2024 ID No.3.6.8	3.6.8: Noise and vibration effects on Ecological receptors from operation to provide further information for scoping, not requested for construction or decommissioning.	Scoped in for operational phase. Assessment is presented in **ES Chapter 7: Ecology and Biodiversity [APP/6.2]**.	Ecological receptors scoped in, details provided in Paragraph 10.5.7 in **ES Chapter 10: Noise and**

			Vibration [APP/6.2].
PINS – Scoping Report – November and December 2024 ID No.3.6.9	3.6.9: Study area to be justified and agree with consultation bodies.	Consultation sent to the Environmental Health Officer (EHO) of Breckland Council (BC) – outlining the extent of study area for the assessment.	Study area defined in Paragraph 10.5.3 to 10.5.6. **ES Chapter 10: Noise and Vibration [APP/6.2].**
PINS – Scoping Report – November and December 2024 ID No.3.6.10	3.6.10: Noise and vibration from traffic during construction and decommissioning to be assessed.	Construction and decommissioning traffic noise is assessed, but vibration effects from traffic (construction and decommissioning) are unlikely beyond short distances (10 m) based on guidance in the Design Manual for Roads and Bridges (DMRB) (**Ref 10-1**) and are therefore scoped out of the assessment.	Construction and decommissioning traffic noise effects included in assessment, detailed in Paragraph 10.5.7 of **ES Chapter 10: Noise and Vibration [APP/6.2].** Construction and decommissioning traffic vibration effects scoped out, reasons provided in Paragraph 10.5.12 of **ES Chapter 10: Noise and**

			Vibration [APP/6.2].
PINS – Scoping Report – November and December 2024 ID No.3.6.11	3.6.11: Construction noise and vibration to refer to separate distances from pilling or drilling works and likely level of vibration/noise.	Assessment outlines levels at separate distances for Horizontal Directional Drilling (HDD), /pilling/drilling noise and vibration, effects have been presented based on distance to NSRs.	**Table 10.3.3** of **ES Appendix 10.3: Noise Modelling and Assessment [APP/6.4]** outlines vibration levels at separate distances as requested by PINS.
Breckland Council Environmental Health Officer (EHO) – October 2024	Email sent which outlined the proposed survey and operational noise prediction methodology. This included a plan of the proposed survey locations.	Survey undertaken in line with proposed approach, survey locations proposed to BC and assessment undertaken according to outlined methodology.	Assessment methodology shown in **Section 10.5** of **ES Chapter 10: Noise and Vibration [APP/6.2].**
Breckland Council EHO – October 2024	Email received which showed agreement with proposed approach and survey measurement locations, EHO requested consideration of tonality and low frequency noise, including consideration of 1/3 octave band levels and DEFRA / University of Salford method for the assessment of low frequency noise.	Feedback taken into account when considering criteria for the assessment of operational noise, with inclusion of appropriate tonal penalty and DEFRA low frequency assessment.	Assessment methodology shown in **Section 10.5** of **ES Chapter 10: Noise and Vibration [APP/6.2].**

Breckland Council EHO – January 2025	Email sent seeking agreement of scoped in and scoped out elements of the noise and vibration assessment.	Response email received on 8 April 2025, confirming agreement to proposed scope and methodology. Agreed scope summarised in **Table 10-1** of **ES Chapter 10: Noise and Vibration [APP/6.2].**	Incorporated in assessment.

Statutory Consultation and Preliminary Environmental Information Report (PEIR)

10.1.4 Statutory consultation was held between 21 May 2025 and 9 July 2025. Relevant responses to the PEIR relating to noise and vibration and how these have been addressed through **ES Chapter 10: Noise and Vibration [APP/6.2]** are set out **Table 10-2** below.

Table 10-2 Responses to the PEIR relating to Noise and Vibration

Consultee and Date	Comment	How has the comment been addressed in the ES chapter	Location of response in in ES Chapter 10
King's Lynn Borough Council, June 2025	Noise and Disturbance – Based on Chapter 10, construction traffic is the main noise source which may impact on West Norfolk residents. Based on the assessment work carried out to date and considering the proposed mitigation measures, there will likely be a negligible impact. This will be reviewed at application stage, once the ES becomes available.	**ES Chapter 10: Noise and Vibration [APP/6.2]** has assessed construction traffic noise and presents levels of effects to be negligible based on future traffic during the construction phase.	**Section 10.5** Assessment Methodology and **Section 10.8** Assessment of Likely Effects in **ES Chapter 10: Noise and Vibration [APP/6.2]**
Castle Acre Parish Council, June 2025	Noise Pollution – Though we recognise that the solar panels themselves do not emit noise, the infrastructure surrounding the solar farm will create residual noise, particularly from the sub-station, the battery storage, inverters and fans. In this rural and tranquil landscape, such additional noise will be intrusive, affecting the quality of life of residents and all those using the Public Rights of Way and footpaths on or near the solar installations as well as being damaging to local wildlife.	**ES Chapter 10: Noise and Vibration [APP/6.2]** has presented an assessment of effects from operation of the substations (Customer Substation and National Grid Substation) and BESS equipment, including inverters and transformers on the residents and Public Right of Way. Effects on Ecological receptors are considered in **ES Chapter 7: Ecology and Biodiversity [APP/6.2]**. **ES Chapter 10: Noise and Vibration [APP/6.2]** has assessed effects from construction activities including piling works for the Solar PV Site and construction traffic noise. Mitigation measures are set out to control and minimise the associated effects in line with	**Section 10.5** and **Section 10.8** in **ES Chapter 10: Noise and Vibration [APP/6.2]** Embedded mitigation is set out in **Section 10.7** and **Section 10.9** outlines additional mitigation in **ES Chapter 10: Noise and Vibration [APP/6.2].**

	With a two-year construction timescale, the noise generated by piling for the panel supports, the installation of associated infrastructure and from construction traffic on local roads is another reason for objecting to the proposed solar farm.	relevant guidelines and standards to non-significant level of effects.	
Breckland Council, June 2025 ID-6.2	Noise and Vibration – 6.2 The development site is located at a rural location, however, there are clusters and isolated residential receptors vulnerable to potential amenity impacts. The Public Rights of Way across and in the vicinity of the site are also considered to be sensitive receptors. It is considered that the main existing sources of noise are those associated with road traffic associated with the A47, and to a lesser extent, the A1065. Intermittent agricultural noise also forms part of the existing soundscape. It is expected that noise and vibration associated with road traffic would increase as a result of the proposal, especially during the construction period. Accordingly, Chapter 10 of the PEIR deals with noise and vibration.	This chapter includes assessment of traffic noise as agreed with PINS (traffic vibration assessment was scoped out, justifications provided in Paragraph 10.5.12 in **ES Chapter: 10 Noise and Vibration [APP/6.2]**). The existing baseline including agricultural activities was taken into account. Construction traffic assessment includes noise effects on A1065 and impacts on residential receptors from HGV movement on access route. Assessment has shown effects to be negligible and not significant. Traffic noise effects during the operational phase are expected to be negligible and not significant.	Scope summary outlined in **Table 10-1** in **ES Chapter 10: Noise and Vibration [APP/6.2].** Baseline described in **Section 10.6** in **ES Chapter 10: Noise and Vibration [APP/6.2].** **ES Appendix 10.3: Noise Modelling and Assessment [APP/6.4]** presents noise traffic assessment.

Breckland Council, June 2025 ID-6.4	Noise and Vibration – 6.4 Proposed embedded mitigation measures have been incorporated into the Scheme design, with the distance between the proposed Customer Substation, National Grid Substation and Battery Energy Storage System areas and other noise-generating plant and receptors, such as residential properties and PROW being considered, with minimum separation buffers proposed.	**ES Chapter 10: Noise and Vibration [APP/6.2]** outlines embedded mitigation for the National Grid Substation / Customer Substation / Battery Energy Storage System area, which includes separation buffers for NSRs and PRoW from the Solar Conversion Units and acoustic barrier to reduce noise from Battery Energy Storage System and Customer Substation area. Furthermore, since the PEIR, the potential location of these work areas has been refined to maximise separation distances to residential receptors as far as reasonably possible. The measures are set out within the **outline Operational Environmental Management Plan (oOEMP) [APP/7.8]** and secured through a requirement of the **Draft Development Consent Order (dDCO) [APP/3.1]**.	See **Section 10.7** for embedded measures for noise and vibration in **ES Chapter 10 Noise and Vibration [APP/6.2].**
Breckland Council, June 2025 ID-6.5	Noise and Vibration – 6.5 Additional mitigation measures will be implemented as part of a site-specific Noise Management Plan, Construction Environmental Management Plan and Construction Traffic Management Plan.	**ES Chapter 10: Noise and Vibration [APP/6.2]** outlines additional mitigation where necessary to reduce effects to non-significant levels, such as low-noise or attenuated Solar Conversion Units near receptors, and management process for night-time works. These measures are set out within the **outline Construction Environmental Management Plan (oCEMP) [APP/7.6]**, **outline Operational Environmental Management Plan (oOEMP) [APP/7.8]** and **outline Construction Traffic Management Plan**	**Section 10.9** outlines additional measure for noise and vibration in **ES Chapter 10 Noise and Vibration [APP/6.2].**

		(oCTMP) [APP/7.7] and secured through requirements of the **dDCO [APP/3.1]**.	
Breckland Council, June 2025 ID-6.8	Noise and Vibration – 6.8 It is stated that additional mitigation measures will be required to reduce the level of effects to acceptable levels. It is suggested that this be secured via a DCO Requirement and be further explored in the ES.	**ES Chapter 10: Noise and Vibration [APP/6.2]** details additional mitigation measures where necessary to achieve agreed noise limit, the latter to be secured through a requirement of the **dDCO [APP/3.1]**. Detailed OEMP, CEMP, and CTMP will be secured by requirements of the **dDCO [APP/3.1]**, which will be substantially in accordance with the additional mitigation measures detailed within the outline management plans submitted with this DCO Application.	**Section 10.9** outlines additional measure for noise and vibration in **ES Chapter 10 Noise and Vibration [APP/6.2].**
Breckland Council, June 2025 ID-6.10	Noise and Vibration – 6.10 It is noted that noise and vibration during the construction and decommissioning phase will be considered in the environmental impact assessment (EIA), but vibration from traffic is scoped out.	Vibration from traffic is scoped out in the ES with justifications based on relevant guidance in the Design Manual for Roads and Bridges **(Ref 10-1),** reasons outlined in Paragraph 10.5.12 in **ES Chapter 10: Noise and Vibration [APP/6.2].**	Scope summary outlined in **Table 10-1** in **ES Chapter 10: Noise and Vibration [APP/6.2].** Justification outlined in Paragraph 10.5.12 in **ES Chapter 10: Noise and Vibration [APP/6.2].**
Breckland Council, June 2025 ID-6.11	Noise and Vibration – 6.11 It is noted that percussive piling may be utilised for the solar panel installation and that HDD drilling may be required in some areas and may need to continue into nighttime hours.	**ES Chapter 10: Noise and Vibration [APP/6.2]** includes assessment of percussive pilling as well as potential HDD works during night-time. Additional measures have been presented in the ES to reduce impacts to non-significant level of effects.	**ES Appendix 10.3: Noise Modelling and Assessment [APP/6.4]** shows detailed construction noise assessment including pilling activity.

		This additional mitigation measure is included in the **oCEMP [APP/7.6]** and secured through a requirement of the **dDCO [APP/3.1]**.	
Breckland Council, June 2025 ID-6.12	Noise and Vibration – 6.12 This area of noise is transient and can be mitigated by measures outlined in a robust Construction Environmental Management Plan (CEMP) and Construction Traffic Management Plan (CTMP). The officer would be looking to see how Best Practicable Means (BPM) is to be utilised along with traffic routes, phasing of works, methods of work and working hours. Monitoring noise levels at the site boundary near to NSRs would be welcomed. Close noise monitoring and liaison will be required at the most significantly effected NSR, Keepers' cottage. The officer also requests that consideration is given to less intrusive methods of piling, for example press piling.	**ES Chapter 10: Noise and Vibration [APP/6.2]** summarises Best Practicable Means measures for construction noise management (including monitoring) as embedded measures, and further additional mitigation measures, where necessary, have been detailed: these measures are set out within the **oCEMP [APP/7.6]** and **oCTMP [APP/7.7]** that are submitted with the DCO Application. The detailed CEMP and CTMP will be secured by requirements of the **dDCO [APP/3.1]**, which will be substantially in accordance with the measures detailed within the management plans submitted with this DCO Application. Percussive piling has been assessed as worst-case and alternative methods of piling are considered in the additional mitigation section.	Embedded mitigation is set out in **Section 10.7** and **Section 10.9** outlines additional mitigation in **ES Chapter 10: Noise and Vibration [APP/6.2].**
Breckland Council, June 2025 ID-6.16	Noise and Vibration (Operational noise) – 6.16 An analysis of low frequency noise was carried out and determined that noise levels are not predicted to exceed the threshold values of a Salford assessment, however, the author will be aware that low frequency noise can travel further than	The assessment set out in **ES Chapter 10: Noise and Vibration [APP/6.2]** includes analysis of low frequency noise, for which predictions are based on worst-case weather conditions and account for reduced air absorption at low frequencies.	**ES Appendix 10.3: Noise Modelling and Assessment [APP/6.4]** shows low-frequency noise assessment.

	expected in certain weather conditions.		
Breckland Council, June 2025 ID-6.18	Noise and Vibration (Mitigation) – 6.18 The officer believes these noise-levels would be acceptable and achievable and should be secured within the DCO. Cumulative effects of the nearby High Grove Solar Farm will also need to be considered. When selecting plant and any acoustic attenuation, consideration must be taken to ensure that it does not result in any tonal elements, or pure tones that could cause standing waves etc.	Noted agreement on acceptable noise levels. **ES Chapter 10: Noise and Vibration [APP/6.2]** has considered Cumulative Effects during the operational and construction phases, anticipated noise levels from cumulative schemes have been considered in the cumulative assessment. The relevant DCO requirements will be based on achieving rated noise levels at neighbouring dwellings which will take into account any tonal character in the noise and therefore provide the necessary control of tonal elements in the final mitigation, this is outlined in the **oOEMP [APP/7.8]** and secured through a requirement of the **dDCO [APP/3.1].**	**Section 10.11** in **ES Chapter 10: Noise and Vibration [APP/6.2].**
Breckland Council, June 2025 ID-6.19	Noise and Vibration (Monitoring) – 6.19 It is important that on commissioning of the solar farm, compliance with agreed noise limits can be demonstrated. The officer recommends that a compliance monitoring scheme is submitted and approved by the local planning authority by way of a DCO Requirement.	Post-commissioning noise monitoring of operational noise is outlined within the **oOEMP [APP/7.8]**, including protocols and measure for noise monitoring. The final detailed OEMP will be secured through a requirement of the **dDCO [APP/3.1]**.	**Section 10.7** in **ES Chapter 10: Noise and Vibration [APP/6.2].**

Breckland Council, June 2025 ID-6.20	Noise and Vibration (Monitoring) – 6.20 The officer also recommends that a process for receiving, managing and responding to complaints is prepared. This should include clear details of how the public can make contact, how complaints will be managed, liaison with Breckland's Environmental Protection Team and a compliance monitoring scheme as a result of noise complaint. The complaint process should be reviewed annually and revised as appropriate.	The process of complaint management during the operational phase is outlined in the embedded measures described in **ES Chapter 10: Noise and Vibration [APP/6.2]**. These measures are set out as part of the **oOEMP [APP/7.8]** and developed as part of the detailed OEMP which will be secured through a requirement of the **dDCO [APP/3.1]**.	**Section 10.7** in **ES Chapter 10: Noise and Vibration [APP/6.2].**
Breckland Council, June 2025 ID-6.21	Noise and Vibration – 6.21 In summary, Breckland Council has concerns regarding noise but considers that impacts can be made acceptable with suitable mitigation measures established and agreed by the relevant stakeholders.	Noted that there are no significant concerns raised with the approach proposed subject to suitable mitigation put in place. Embedded and additional mitigation measures have been presented in the ES to reduce impacts, where necessary, to non-significant level of effects. The measures are included in the respective outline management plans which will be secured by respective detailed management plans under requirements of the **dDCO [APP/3.1]**.	**Section 10.5** and **Section 10.9** in **ES Chapter 10: Noise and Vibration [APP/6.2].**

10.1.5 Further engagement specific to noise and vibration was not considered to be required following the PEIR responses above.

10.2 Legislation, Planning Policy and Guidance

10.2.1 An overview of the legislation, planning policy and guidance against which the Scheme will be considered for the Noise and Vibration assessment is set out below.

Legislation and Regulations

Environmental Protection Act 1990 (Ref 10-2)

10.2.2 The Environmental Protection Act 1990 describes a statutory nuisance as noise (and vibration) emitted from premises (including land) that is prejudicial to health or a nuisance. Local Authorities are required to investigate any public complaints of noise, and if they are satisfied that a statutory nuisance exists, or is likely to occur or recur, they must serve a noise abatement notice. A notice is served on the person responsible for the nuisance. It requires either simply the abatement of the nuisance or works to abate the nuisance to be carried out, or it prohibits or restricts the activity.

Control of Pollution Act 1974 (Ref 10-3)

10.2.3 The Control of Pollution Act 1974 (CoPA) requires that Best Practicable Means (BPM), as defined in Section 72 of the CoPA, are adopted to control construction noise on any given site. Sections 60 and 61 of the CoPA provide the main legislation regarding enabling works and construction site noise and vibration. If noise complaints are received, a Section 60 notice may be issued by the Local Authority with instructions to cease work until specific conditions to reduce noise have been adopted. Section 61 of the CoPA provides a means to apply for prior consent to carry out noise generating activities during construction. Once prior consent has been agreed under Section 61, a Section 60 notice cannot be served provided the agreed conditions are maintained onsite.

Planning Policy

National Planning Policy

10.2.4 The Energy National Policy Statements (NPSs) are a suite of documents issued by the Secretary of State for Energy Security and Net Zero, setting out the government's policy for delivery of major energy infrastructure. These, together with the Noise Policy Statement for England, set out the primary policy tests against which this DCO Application for the Scheme will be considered. Listed below are details of the elements of these documents considered relevant to the noise and vibration assessment.

Overarching National Policy Statement for Energy (EN-1) (2023) (Ref 10-4)

10.2.5 Section 5.12 (Noise and Vibration) of NPS EN-1 recognises that noise and vibration from energy development can have effects on the quality of human life as well as on wildlife in

some cases. This NPS outlines general principles for the control and management of these effects and relevant factors and standards to consider but do not provide specific guidance.

NPS for Renewable Energy Infrastructure (EN-3) (2023) (Ref 10-5)

10.2.6 Section 2.10 (Solar Photovoltaic Generation) of NPS EN-3 specifically considers solar photovoltaic generation and outlines impact considerations for construction including traffic and transport noise and vibration (Paragraph 2.10.120 – 2.10.126), namely assessing worst-case traffic movements for material deliveries and potential routes to the site. The accompanying text does not, however, identify specific effects related to noise from operation of a solar development. Paragraph 2.10.153 and 2.10.154 of the draft NPS EN-3 (draft version currently for consultation, 2025) comments that, once solar developments are in operation, traffic movements are likely to be light commercial vehicles or infrequent HGV movements, therefore, the Secretary of State is unlikely to give much weight to traffic noise and vibration impacts from the operational phase of a solar development.

NPS for Electricity Networks Infrastructure (EN-5) (2023) (Ref 10-6)

10.2.7 Paragraphs 2.9.26 – 2.9.43 (Noise and Vibration) of NPS EN-5 sets out specific considerations which apply to electricity network infrastructure. Noise can be generated by high-voltage transmission lines under certain conditions due to corona discharge, although this is not considered relevant in this case due to the nature of the Scheme (see paragraph 10.2.11 of **ES Chapter 10: Noise and Vibration [APP/6.2]**). NPS EN-5 also notes the potential for substation equipment such as transformers and other voltage regulation equipment to produce noise.

Noise Policy Statement for England (NPSE) (2010) (Ref 10-7)

10.2.8 The NPSE includes general planning guidance on noise and introduces the principles of adverse noise effects (which should be mitigated and reduced to a minimum) and significant adverse noise effects (which should be avoided). Footnote 72 of the National Planning Policy Framework (NPPF) **(Ref 10-1)** references the NPSE for further explanation related to noise effects. NPSE advises that noise impacts should be assessed based on adverse and significant adverse effect.

10.2.9 The NPSE does not provide any specific guidance on assessment methods or noise limits. However, the concepts detailed below are introduced and can be applied when considering the significance of noise impacts:

- No Observed Effect Level (NOEL): The noise level below which no effect can be detected. Below this level of noise, there is no detectable effect on health and quality of life due to the noise being assessed;
- Lowest observed adverse effect level (LOAEL): This is the level of noise above which adverse effects on health and quality of life can be detected; and

- Significant observed adverse effect level (SOAEL): This is the level of noise above which significant adverse effects on health and quality of life occur.

National Planning Policy Framework (NPPF) (2024 (Ref 10-8)

10.2.10 The NPPF, as revised in December 2024, sets out national planning policies that reflect priorities of the Government for the operation of the planning system and the economic, social, and environmental aspects of the development and use of land. The NPPF has a strong emphasis on sustainable development, with a presumption in favour of such development. The NPPF has the potential to be considered both important and relevant to the Secretary of State's (SoS) consideration of the Scheme. Listed below are details of the elements of the NPPF that are relevant to this chapter, and how and where they are addressed in the ES.

10.2.11 Paragraph 187 of the NPPF states:

"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".

10.2.12 Paragraph 198 of the NPPF states:

"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 impact 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 […]".

10.2.13 Paragraph 200 of the NPPF states that:

"Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed".

Professional Practice Guidance on Planning and Noise (ProPG) (Ref 10-9)

10.2.14 The Professional Practice Guidance on Planning and Noise (ProPG) published by the Association of Noise Consultants, Institute of Acoustics and the Chartered Institute of Environmental Health, provides practitioners guidance on a recommended approach to the management of noise in the context of the planning system. Although the guidance is focused on new residential development, it encourages good acoustic design processes and highlights the importance of considering noise as an early part of development design.

Local Planning Policy

10.2.15 The Scheme is located within the administrative areas of Norfolk County Council (NCC) and Breckland Council (BC) who are the host authorities. The Scheme borders Kings Lynn and West Norfolk Council (KLWNC) but does not extend into KLWNC's boundary. BC's local planning plan policies which are relevant to noise and vibration and have informed the noise assessment are detailed below.

Breckland Local Plan (2023)

10.2.16 The Local Adopted Plan **(Ref 10-10)** and Site-Specific Policies **(Ref 10-11)** of BC promote the use of renewable energy and set out the strategic mechanisms through which an increase in the use of renewable energy can be achieved. Policy ENV 10 (Renewable Energy Development) shows support for commercial scale renewable energy developments unless the environmental impacts (including noise) of allowing the proposal would outweigh the wider social, economic and environmental benefits derived from it.

National Planning Practice and Guidance (PPG) (2024) (Ref 10-12)

10.2.17 The PPG provides more detailed information on the relevance of noise to the planning process and on defining effect thresholds, although these are not precisely defined and need to be considered on a case-by-case basis. The PPG also sets out a hierarchy of noise exposure which relates example responses to the effect levels set out within the NPSE, which is reproduced in **Table 10-3**.

Table 10-3 Example responses to increased noise effect

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

Other Guidance

10.2.18 The assessment has been carried out in accordance with the following guidance documents.

- British Standard (BS) 4142:2014 (amended 2019) (BS 4142): 'Method for rating and assessing industrial and commercial sound' **(Ref 10-13)**, provides a method of assessing the operational noise associated with the National Grid Substation, and Customer Substation
- BS 5228:2009 (amended 2014) Part 1 & 2 (BS 5228): 'Code of Practice for noise and vibration control on construction and open sites' **(Ref 10-14)**, provides detailed guidance on construction noise and vibration (respectively), and its estimation and control
- International Organisation for Standardisation (ISO) 9613-2 'Acoustics - Attenuation of sound during propagation outdoors - Part 2: General method of calculation' (2024) **(Ref 10-15)**, provides a standardised method of calculating sound propagation outdoors
- Calculation of Road Traffic Noise (CRTN), Department of Transport (1988) **(Ref 10-16)**, is used to assess road traffic noise; and
- Design Manual for Roads and Bridges (DMRB), Highways England (2020) **(Ref 10-1)**, contains information about current design standards relating to the design, assessment and operation of motorway and all-purpose trunk roads in the United Kingdom.

10.2.19 Current Government advice to local planning authorities in both England and Wales refers to BS 4142:2014+A1:2019 (BS 4142) as being the appropriate guidance for assessing commercial operations and fixed building services plant noise. The standard provides an objective method for rating the significance of impact from industrial and commercial operations. It describes a means of determining sound levels from fixed plant installations and determining the background sound levels that prevail on a site.

10.2.20 The assessment of the impacts is based on the subtraction of the pre-existing background sound level ($L_{A90,T}$) from the Rating Level ($L_{Ar,Tr}$). This method is only applicable for external noise levels.

10.2.21 The standard does not give a definitive method for determining the background sound level but instead, as a commentary, states that *"the objective is not simply to ascertain a lowest measured background sound level, but rather to quantify what is typical during particular time periods"*. Clause 8.1.4 of the standard, which discusses the monitoring duration, states "there is no "single" background sound level as this is a fluctuating parameter. However, the background sound level used for the assessment should be representative of the period being assessed."

10.2.22 As a note to this clause the following commentary is given on obtaining a representative backgrounds sound level:

"To obtain a representative background sound level a series of either sequential or disaggregated measurements ought to be carried out for the period(s) of interest, possibly on more than one occasion. A representative level ought to account for the range of background sound levels and ought not automatically to be assumed to be either the minimum or modal value."

10.2.23 The rating level is defined objectively as the specific source noise level in question (either measured or predicted) with graduated corrections for tonality (up to +6 decibels (dB) A-weighted sound level (A)), impulsivity (up to +9 dB(A)), intermittency (+3 dB(A)) and other sound characteristics (+3 dB(A)) which may be determined either subjectively or objectively, if necessary.

10.2.24 The background sound level is subtracted from the rating level. The following is considered to evaluate the likelihood of complaint:

- A difference of around +10 dB is likely to be an indication of a significant adverse impact, depending on context;
- A difference of around +5 dB is likely to be an indication of an adverse impact, depending on context; and
- A difference of +0 dB or less is an indication of the specific sound source having a low impact, depending on the context.

10.2.25 Noise and vibration from onsite construction and decommissioning activities have been assessed with the guidance of BS 5228 Parts 1 and 2 'Code of practice for noise and vibration control on construction and open sites' (BSI, 2009, amended 2014). This provides guidance on a range of considerations relating to construction noise and vibration including general control measures, estimating likely levels and example criteria.

10.2.26 The prediction method of CRTN has been used to calculate the possible noise impacts of construction related traffic passing to and from the Site along local surrounding roads. This is assessed with reference to the DMRB, see criteria in **Table 10-4** in **ES Chapter 10: Noise and Vibration [APP/6.2].**

10.2.27 The propagation of operational noise from Scheme was modelled using the standard methodology set out in International Organisation for Standardisation (ISO) 9613-2 'Acoustics - Attenuation of sound during propagation outdoors - Part 2: General method of calculation' (2024) **(Ref 10-15)**. This allowed evaluating the potential noise generated at different distances from the Site on a worst-case basis.

References

Ref 10-1 Highways England (2019): Design Manual for Roads and Bridges (DMRB) – LA111 – Noise and Vibration, (2019).

Ref 10-2 HMSO (1990): Environmental Protection Act, Part III.

Ref 10-3 HMSO (1974): Control of Pollution Act, Part III.

Ref 10-4 Overarching National Policy Statement for Energy (EN-1), Department for Energy Security and Net Zero (2023)

Ref 10-5 National Policy Statement for renewable energy infrastructure (EN-3), Department for Energy Security and Net Zero (2023)

Ref 10-6 National Policy Statement for electricity networks infrastructure (EN-5), Department for Energy Security and Net Zero (2023)

Ref 10-7 Noise Policy Statement for England, Department for Environment, Food and Rural Affairs (2010)

Ref 10-8 National Planning Policy Framework, Ministry of Housing, Communities and Local Government (2024)

Ref 10-9 Professional Practice Guidance on Planning and Noise, Institute of Acoustics, Chartered Institute of Environmental Health & Association of Noise Consultants (2017)

Ref 10-10 Breckland District Council Local Plan, Breckland Council (2023)

Ref 10-11 Adopted Site Specific Policies and Proposals, Breckland Council (2023)

Ref 10-12 Planning Policy Guidance, Ministry of Housing, Communities and Local Government (2024)

Ref 10-13 BS 4142: 2014-A1 2019: Methods for rating and assessing industrial and commercial sound, BSI (2019)

Ref 10-14 BS 5228:2009-A1:2014, Code of practice for noise and vibration control on construction and open sites – Part 1: Noise and Part 2: Vibration, BSI (2014)

Ref 10-15 ISO 9613-2:2014 ‘Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation’, International Standards Organisation

Ref 10-16 Calculation of Road Traffic Noise (CRTN), HMSO Department of Transport (1988)

THE DROVES

SOLAR FARM