Meridian Solar Farm

EN010169

Volume 6

Environmental Statement

6.1 ES Chapter 5: Agriculture and Soils

APFP Regulation 5(2)(a)

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

March 2026

Table of Contents

Tables

5. Agriculture and Soils

5.1. Introduction

5.1.1. This chapter of the Environmental Statement (ES) presents the findings of an assessment of the likely significant effects on agriculture and soils as a result of the Scheme. For more details about the Scheme, refer to **ES Chapter 2: The Scheme** (Doc Ref. 6.1).

5.1.2. This chapter identifies and proposes measures to address the potential impacts and likely significant effects of the Scheme on agriculture and soils, during the construction, operation and decommissioning phases of the Scheme. Impacts on farm holdings have been assessed within **ES Chapter 14: Socio-Economics and Land Use** (Doc Ref. 6.1).

5.1.3. This chapter is supported by the following figures (Doc Ref. 6.2):

- **ES Figure 5-1: Agricultural Land Classification - Auger by Auger Point Survey Results for Solar Development Area;**
- **ES Figure 5-2: Agricultural Land Classification - Soil Type Average Survey Results for Solar Development Area;**
- **ES Figure 5-3: Provisional Agricultural Land Classification for Inter-Array Connections and Grid Connection Route.**

5.1.4. In addition, this chapter is supported by the following technical appendices (Doc Ref. 6.3):

- **ES Appendix 5-1: Agriculture and Soils Legislation, Policy and Guidance;**
- **ES Appendix 5-2: Agricultural Land Survey - Parcels A & D;**
- **ES Appendix 5-3: Agricultural Land Survey - Parcels B & C;**
- **ES Appendix 5-4: Contaminated Land Assessment; and**
- **ES Appendix 5-5: Contaminated Land Assessment for Grid Connection Extension.**

5.2. Legislation and Planning Policy

5.2.1. Full details of the legislation, policy, and guidance of relevance to the assessment of agriculture and soils are provided in **ES Appendix 5-1: Agriculture and Soils Legislation, Policy and Guidance** (Doc Ref 6.3).

5.3. Stakeholder Engagement

5.3.1. A request for an EIA Scoping Opinion, provided in **ES Appendix 1-1: EIA Scoping Report** (Doc Ref. 6.3), was sought from the Secretary of State through the Planning Inspectorate in 2024 as part of the EIA Scoping Process. A summary of consultation responses in relation to agriculture and soils is presented in Table 5-1.

5.3.2. Further pre-application engagement was undertaken through the publication of the Preliminary Environmental Information Report (PEIR) as part of the statutory consultation and subsequent targeted consultation. Table 5-2 outlines the main matters raised by statutory consultees during the statutory consultation stage and two targeted consultations which ran from 24 September 2025 to 22 October 2025, and from 8 January to 5 February 2026, relating to agriculture and soils and how these have been addressed through the ES.

5.3.3. Additionally, Natural England provided advice through its discretionary pre-application advice service on the baseline soil survey and approach to agricultural land classification (ALC) data collection. Table 5-3 provides a summary of further meetings held and key correspondence with Natural England regarding the agriculture and soils assessment.

Table 5-1: Scoping Opinion responses in relation to agriculture and soils assessment

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
Planning Inspectorate (PINS)	Groundwater Page 100 of the Scoping Report proposes to scope out groundwater as an environmental receptor due to the presence of unproductive superficial and bedrock strata which is of negligible sensitivity. The Inspectorate is content that this matter can be scoped out of further assessment.	Noted, no further response required.	n/a
PINS	Soil Resources Page 104 of the Scoping Report proposes to scope out soil resources, Although the Inspectorate notes the proposal for a SMP to be produced, it does not agree this matter can be scoped out of further assessment as page 102 states that there is the potential for impacts on drainage capabilities and restricted rooting for vegetation. It also identifies a potential significant effect due to the large scale of the Scheme. Furthermore, page 101 details how an assessment of effects on soil resources would be undertaken.	Impacts on soil resources for food production have been considered within this chapter. Impacts on flooding and water storage have been considered within **ES Chapter 11: Hydrology and Flood Risk** (Doc Ref. 6.1) and **ES Appendix 11-3: Flood Risk Assessment** (Doc Ref. 6.3).	Section 5.8 Assessment of Potential Impacts and Likely Significant Effects of this chapter. **ES Chapter 11: Hydrology and Flood Risk** (Doc Ref. 6.1) and **ES Appendix 11-3: Flood Risk Assessment** (Doc Ref. 6.3).

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
	The potential impacts on soil resources, including in respect of food production, water storage and flood mitigation, should be assessed within the ES.		
PINS	Geodiversity (Cowbit Wash SSSI) On the basis that the Scoping Report has not identified a likely linkage which may result in impacts to this site, the Inspectorate is in agreement that an assessment of effects on the Cowbit Wash SSSI and geodiversity can be scoped out of further assessment.	Noted, no further response required.	n/a
PINS	Contaminated land The Scoping Report states that a desk study has identified limited issues related to contaminated land which could be controlled (by health and safety measures) if encountered at the construction phase. However, possible sources of contamination have been identified through the desk study and site walkover/further investigations have yet to be undertaken. In addition, the baseline presented at this stage appears to relate only to the PV area. In the absence of	A full PRA covering the Solar Development Area, Inter-Array Connections and the Grid Connection Route is presented within **ES Appendix 5-4: Contaminated Land Assessment** (Doc Ref. 6.3) and **ES Appendix 5-5: Contaminated Land Assessment for Grid Corridor Extension** (Doc Ref. 6.3). The assessment concludes that with the implementation of standard industry practice measures, no likely significant	**ES Appendix 5-4: Contaminated Land Assessment** (Doc Ref. 6.3). **ES Appendix 5-5: Contaminated Land Assessment for Grid Corridor Extension** (Doc Ref. 6.3). **OCEMP** (Doc Ref. 7.10), **OOEMP** (Doc

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
	a full Preliminary Risk Assessment (PRA), the Inspectorate does not agree that contaminated land can be scoped out of further assessment at this stage. The ES should be supported by the findings of a PRA and where land contamination is identified, the ES should assess significant effects where they are likely to occur.	effects with regards to contaminated land are expected to occur. As such, an assessment of likely significant effects with respect to contaminated land remains scoped out of the EIA. Standard industry practice measures to minimise risks associated with contaminated land have been incorporated within the **Outline Construction Environmental Management Plan (OCEMP)** (Doc Ref. 7.10), **Outline Operational Environmental Management Plan (OOEMP)** (Doc Ref. 7.11), and **Outline Decommissioning Environmental Management Plan (ODEMP)** (Doc Ref. 7.12).	Ref. 7.11) and **ODEMP** (Doc Ref. 7.12).
PINS	Baseline information Page 100 of the Scoping Report gives the initial findings of a reconnaissance survey which shows the land to be mainly of Subgrade 3a quality with areas of Grade 1, 2 and Subgrade 3b. However, the rest of the	Updated ALC surveys have been undertaken for the Solar Development Areas and are presented within **ES Appendices 5-2 and 5-3** (Doc Ref. 6.3). Provisional ALC mapping has been continued to be used for the baseline assessment of the Inter-Array Connections and	**ES Appendix 5-2: Agricultural Land Survey - Parcels A&D** (Doc Ref. 6.3) and **ES Appendix 5-3: Agricultural Land Survey - Parcels B & C** (Doc Ref. 6.3).

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
	Scoping Report refers to the land as Grade 1 and 2. The Inspectorate acknowledges that further Agricultural Land Classification (ALC) surveys are proposed, however stresses the importance of ensuring that the ES is consistent in its presentation of the baseline data, in particular where published mapping has been superseded by site specific surveys.	the Grid Connection Route. The baseline assessment presented within Section 5.6 of this chapter reflects the results of the updated ALC surveys for the Solar Development Area and the provisional ALC mapping for the Inter-Array Connections and Grid Connection Route.	Section 5.6 Baseline Conditions of this chapter.
PINS	ALC Surveys Page 102 of the Scoping Report states that ALC surveys of the PV area were undertaken at a 'reconnaissance scale' of 1 point per 4 to 5ha. The Scoping Report proposes a more detailed survey will be undertaken with a density of 1 auger per 2ha, with infill points being surveyed where variation occurs, to confirm the land grade boundaries and identify soil and land types.	Additional ALC surveys of the Solar Development Areas have been undertaken following Natural England's Technical Information Note TIN049[1]. One auger per one hectare survey intensity was used across the Solar Development Areas, with the exception of the survey of Habitat Management Area (HMA) 6 (refer to **ES Figure 2-2** (Doc Ref. 6.2)), where the survey intensity, outside the area	**ES Appendix 5-2: Agricultural Land Survey - Parcels A&D** (Doc Ref. 6.3) and **ES Appendix 5-3: Agricultural Land Survey - Parcels B & C** (Doc Ref. 6.3). **ES Chapter 3: Alternatives and**

[1] Natural England (2012) *Agricultural Land Classification: protecting the best and most versatile agricultural land (TIN049)*. Available at: https://publications.naturalengland.org.uk/publication/35012 [Accessed 7/11/2025]

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
	Natural England advise infill points are surveyed at a full detailed level (1 auger per 1 ha plus representative pits). The Applicant should ensure that a sufficient number of auger locations are used across the Site to accurately inform the assessment in line with relevant guidance and/or standards (e.g., Natural England Technical Information Note TIN049, 2012), or justify why its proposed approach is robust, seeking agreement from relevant statutory bodies. Detailed ALC surveys should be undertaken for any permanent infrastructure (i.e. substations, BESS, cable routes, access tracks, planting mitigation areas and pylons) and should be used to inform the final design of the project, including micro-siting of infrastructure.	of the Scheduled Monument, was reduced to one auger per two hectares. This was because this area is proposed to be retained in arable use with skylark plots, with no physical infrastructure proposed in this area. Areas of Scheduled Monuments and areas where World War II aircraft crash sites have been recorded within Land Parcels A and D were left unsurveyed to avoid impacts from ground disturbance on these sites. A small number of fields also had restricted access due to existing crops and use as horse paddocks, which were left unsurveyed as a result. The locations of auger points and areas surveyed are mapped in detail within **ES Appendices 5-2 and 5-3** (Doc Ref. 6.3). Siting of infrastructure within the Scheme layout has considered a full suite of environmental constraints, including ALC grades. Results from an initial ALC reconnaissance survey and	**Design Evolution** (Doc Ref. 6.1).

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
		then a full field averaged soil type assessment have fed into this consideration. However, as the potential for the Scheme to result in permanent impacts on soils is limited (refer to Section 5.8 of this chapter), excluding use of BMV land was weighed alongside other design and environmental considerations. Both methodological approaches to ALC reporting identified that large areas of the Site comprise BMV agricultural land. As such, it has not been practicable to avoid the use of BMV land. Where BMV land has not been avoided, impacts would be mitigated through the soil management measures set out within the **Outline Soil Management Plan (OSMP)** (Doc Ref. 7.14). Further information is provided within **ES Chapter 3: Alternatives and Design Evolution** (Doc Ref. 6.1).	
PINS	BMV Baseline	Tables with areas of land in each BMV classification to be temporarily or	Section 5.8 Assessment of Potential Impacts

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
	The Applicant's attention is drawn to the Written Ministerial Statement (UIN HCWS466) issued on 15th May 2024. The ES should contain a clear tabulation of the areas of land in each BMV classification to be temporarily or permanently lost as a result of the Scheme, with reference to accompanying map(s) depicting the grades. Specific justification for the use of the land by grade should be provided. Consideration should be given to the use of BMV land in the Applicant's discussion of alternatives (noted in Section 3.7 of the Scoping Report).	permanently lost as a result of the Scheme are provided within Section 5.8 of this chapter, alongside an assessment of the significance of the effect. Information on the consideration of ALC grades as part of alternatives assessment and design evolution is provided within **ES Chapter 3: Alternatives and Design Evolution** (Doc Ref. 6.1).	and Likely Significant Effects of this chapter. **ES Chapter 3: Alternatives and Design Evolution** (Doc Ref. 6.1).
PINS	BMV – operational and decommissioning phases Page 103 of the Scoping Report considers the loss of BMV during the operational phase to be temporary. Given the design life of the Scheme is expected to be 40 years, care should be taken in the assessment not to underplay potential operational effects in this regard. In addition, consideration should be given as to whether there would be	An assessment of the permanence of the Scheme's impacts is provided within Section 5.8 of this chapter, with residual effects summarised within Section 5.10. Whilst following the operational phase, underground cabling may be left in-situ, as set out within **ES Chapter 2: The Scheme** (Doc Ref. 6.1), any underground cabling would be buried at a minimum of 0.9m below ground, to ensure that	Section 5.8 Assessment of Potential Impacts and Likely Significant Effects of this chapter. Section 5.10 Residual Effects of this chapter.

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
	permanent, irreversible loss from any project elements. In particular, the Scoping Report states that off-site cabling would be left in-situ, therefore the feasibility for such land to return to agricultural use should be addressed within the assessment.	agricultural use across this land can be continued.	
PINS	Sterilisation of peat resources The Scoping Report refers to the presence of peat in the wider area. The ES should confirm the presence or absence of peat within the application site itself. If present, the ES should assess the potential for the temporary or permanent sterilisation of peat resources and the potential for presence of ground gas resulting from this (or other superficial deposits containing organic matter), where significant effects are likely.	The ALC surveys presented within **ES Appendices 5-2 and 5-3** (Doc Ref. 6.3) did not identify any peat resource. Soil types identified are presented in Section 5.6 of this chapter.	**ES Appendix 5-2: Agricultural Land Survey - Parcels A&D** (Doc Ref. 6.3) and **ES Appendix 5-3: Agricultural Land Survey - Parcels B & C** (Doc Ref. 6.3). Section 5.6 Baseline Conditions of this chapter.
PINS	Sterilisation of mineral resources The Scoping Report does not describe the baseline conditions in relation to the mineral resources within the Site boundary. The ES should assess the potential for the temporary or permanent sterilisation of	Impacts on Mineral Safeguarding Areas have been assessed within **ES Chapter 14: Socio-Economics and Land Use** (Doc Ref. 6.1), and **Appendix F: Mineral Safeguarding Assessment** of the **Planning Statement** (Doc Ref. 7.1).	**ES Chapter 14: Socio-economics and Land Use** (Doc Ref. 6.1).

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
	mineral resources, where significant effects are likely.		
Natural England	Impacts from the development on soils and BMV agricultural land should be considered in line with the relevant National Policy Statement requirements. Further guidance is set out in the Natural England Guide to assessing development proposals on agricultural land. Natural England also consider that commitment should be made through the DCO to reinstate all BMV land back to its former ALC grade, following decommissioning.	The assessment of impacts and likely significant effects within this chapter has considered the requirements of National Policy Statements relevant to the Scheme and Natural England's (2021) Guide to Assessing Development Proposals on Agricultural Land[2], as further described within **ES Appendix 5-1: Agriculture and Soils Legislation, Policy and Guidance** (Doc Ref. 6.3). The **OSMP** (Doc Ref. 7.14), submitted with the DCO Application, sets out that decommissioning will aim to restore all agricultural land without any degradation of the current ALC grade. Any minor variability from the current ALC grading identified in any post restoration surveys would be	**ES Appendix 5-1: Agriculture and Soils Legislation, Policy and Guidance** (Doc Ref. 6.3). **OSMP** (Doc Ref. 7.14)

[2] Natural England (2021) *Guide to Assessing Development Proposals on Agricultural Land*. Available at: https://www.gov.uk/government/publications/agricultural-land-assess-proposals-for-development/guide-to-assessing-development-proposals-on-agricultural-land. [Accessed 7/11/2025]

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
		acknowledged but may be an artefact of the point-by-point auger sampling. At decommissioning, the methodology using field-averaging by soil type would be more appropriate.	
Natural England	Natural England advise that this more flexible approach to the ALC survey may be suitable in this instance (as opposed to the preferable 1 auger per ha density across the whole site), however, infill pits at a full detailed level (1 auger per 1 ha plus representative pits) would also be expected in all areas BMV land has been identified by the semi-detailed survey. A detailed ALC survey density for any proposed permanent infrastructure (i.e. substations, BESS & Access tracks) is also required.	Detailed ALC survey across the Solar Development Area is presented within **ES Appendices 5-2 and 5-3** (Doc Ref. 6.3). One auger per one hectare survey intensity was used across the Solar Development Areas, with the exception of the survey of the proposed Habitat Management Area (HMA) 6 (refer to **ES Figure 2-2** (Doc Ref. 6.2)), where the survey intensity, outside the area of the Scheduled Monument, was reduced to one auger per two hectares. This was because this area is proposed to be retained in arable use with skylark plots, with no physical infrastructure proposed in this area. Areas of Scheduled Monuments (within Parcels B and C) and areas where World War II aircraft crash	**ES Appendix 5-2: Agricultural Land Survey - Parcels A&D** (Doc Ref. 6.3) and **ES Appendix 5-3: Agricultural Land Survey - Parcels B & C** (Doc Ref. 6.3).

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
		sites have been recorded (within Land Parcels A and D) were left unsurveyed to avoid impacts from ground disturbance on these sites. A small number of fields also had restricted access due to existing crops and use as horse paddocks, which were left unsurveyed as a result. The locations of auger points and areas surveyed are mapped in detail within **ES Appendices 5-2 and 5-3** (Doc Ref. 6.3).	
Natural England	The survey data should inform the soil management plan for the Site, including suitable soil handling methods and appropriate reuse of the soil resource where required (e.g. agricultural reinstatement, habitat creation, landscaping, allotments and public open space). The aim will be to minimise soil handling and maximise the sustainable use and management of the available soil to achieve successful after-uses and minimise off-site impacts.	The detailed ALC survey results have informed the preparation of the **OSMP** (Doc Ref. 7.14) submitted with the DCO Application.	**OSMP** (Doc Ref. 7.14)

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
Natural England	The ALC survey should also be used to inform the final design of the project and inform micro-siting of infrastructure to avoid BMV land. The ES should then set out details of how any adverse impacts on BMV agricultural land have been minimised through site design/masterplan.	Siting of infrastructure within the Scheme layout has considered a full suite of environmental constraints, including ALC grades. Results from an initial ALC reconnaissance survey and then a full field-averaged soil type assessment have fed into this consideration. However, as the potential for the Scheme to result in permanent impacts on soils is limited (refer to Section 5.8 of this chapter), excluding use of BMV land was weighed alongside other design and environmental considerations. Both methodological approaches to ALC reporting identified that large areas of the Site comprise BMV agricultural land. As such, it has not been practicable to avoid the use of BMV land for works involving soil handling. Where BMV land could not be avoided, impacts would be mitigated through the soil management measures set out within the **OSMP** (Doc Ref. 7.14). Further information is provided within **ES Chapter 3:**	**ES Chapter 3: Alternatives and Design Evolution** (Doc Ref. 6.1).

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
		Alternatives and Design Evolution (Doc Ref. 6.1).	
Natural England	Results of the ALC survey should be presented to indicate the land take (including amount of BMV land) for each element of the proposals, i.e. Solar PV areas, cable routes, Access tracks, BESS/substation infrastructure and mitigation/enhancement areas. This should also include clarity regarding any agricultural land to be permanently lost.	Tables with areas of land in each BMV classification to be temporarily or permanently lost as a result of the Scheme are provided within Section 5.8 of this chapter, alongside an assessment of the significance of the effect.	Section 5.8 Assessment of Potential Impacts and Likely Significant Effects of this chapter.
Natural England	During the life of the Scheme, it is likely that there will be a reduction in potential agricultural production over the development area subject to the solar panel arrays and habitat enhancement. If not time limited, the areas subject to a change in land use or land management (i.e. the land under the solar arrays and the land subject to habitat enhancement) have the potential to lead to the permanent reduction in the land's potential agricultural production.	In accordance with Requirement 21 of the **Draft DCO** (Doc Ref. 3.1), the operation of the Scheme would be time limited to 40 years and would need to be decommissioned 40 years after the date of final commissioning. The **OSMP** (Doc Ref. 7.14), submitted with the DCO Application, sets out that decommissioning will aim to restore all agricultural land without any degradation of the current ALC grade. Any minor variability from the	**Draft DCO** (Doc Ref. 3.1) **OSMP** (Doc Ref. 7.14)

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
		current ALC grading identified in any post restoration surveys would be acknowledged and an assessment but may be an artefact of the point-by-point auger sampling. At decommissioning, the methodology using field-averaging by soil type would be more appropriate.	
Lincolnshire County Council (LCC)	The County Council considers that a detailed baseline ALC survey is required. It is highly likely that most of the land will be BMV. A Soil Management Plan should be provided. The loss of land for food production, impacts on soil health, land drainage and the impacts on any agricultural holdings should be assessed. The potential for a significant effect as a result of the cumulative impact of this with other solar proposals must be assessed.	The detailed ALC surveys are presented within **ES Appendices 5-2 and 5-3** (Doc Ref. 6.3), with the results summarised within Section 5.6 of this chapter. An **OSMP** (Doc Ref. 7.14) has been submitted with this DCO Application. An assessment of impacts from the loss of agricultural land and soil health is presented within Section 5.8 of this chapter. Impacts on land drainage are considered within **ES Chapter 11: Hydrology and Flood Risk** (Doc Ref. 6.1).	**ES Appendix 5-2: Agricultural Land Survey - Parcels A&D** (Doc Ref. 6.3) and **ES Appendix 5-3: Agricultural Land Survey - Parcels B & C** (Doc Ref. 6.3). Section 5.6 Baseline Conditions of this chapter. Section 5.8 Assessment of Potential Impacts and Likely Significant Effects of this chapter.

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
		Impacts on agricultural land holdings are assessed within **ES Chapter 14: Socio-Economics and Land Use** (Doc Ref. 6.1). Cumulative impacts, including a quantitative analysis, with other solar proposals in the county are presented in Section 5.11 of this chapter.	Section 5.11 Cumulative Effects of this chapter. **ES Chapter 11: Hydrology and Flood Risk** (Doc Ref. 6.1). **ES Chapter 14: Socio-economics and Land Use** (Doc Ref. 6.1).
LCC	The Scoping Report suggests that the cable and grid connection routes will not be scoped into the ES, but the Council are of the opinion that this should be reconsidered. The cable routes have not been surveyed in detail, but once clearly identified, this should be undertaken. The Council would expect that a soil management plan should also consider the cable route in order to minimise the impact on soil structure, land drainage and ultimately soil quality.	Impacts from the Inter-Array Connections and Grid Connection Route have been considered within Section 5.8 of this chapter. A detailed soil survey of the Inter-Array Connections and the Grid Connection Route is proposed post-DCO consent once detailed design has been undertaken, as set out within the **OSMP** (Doc Ref. 7.14). The **OSMP** (Doc Ref. 7.14) applies to all parts of the Scheme, including the Solar Development Areas, Inter-Array	Section 5.8 Assessment of Potential Impacts and Likely Significant Effects of this chapter. **OSMP** (Doc Ref. 7.14)

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
		Connections and the Grid Connection Route.	
LCC	The potential for a significant effect as a result of the cumulative impact of this with other solar proposals must be assessed.	Cumulative impacts with other solar schemes in Lincolnshire are assessed within Section 5.11 of this chapter.	Section 5.11 Cumulative Effects of this chapter.
South Holland District Council (SHDC)	Request for further detailed ALC surveys and consultation with Natural England.	The detailed ALC surveys are presented within **ES Appendices 5-2 and 5-3** (Doc Ref. 6.3), with the results summarised within Section 5.6 of this chapter. A summary of pre-application engagement with Natural England is provided within Table 5-1, Table 5-2 and Table 5-3 in this chapter.	**ES Appendix 5-2: Agricultural Land Survey - Parcels A&D** (Doc Ref. 6.3) and **ES Appendix 5-3: Agricultural Land Survey - Parcels B & C** (Doc Ref. 6.3). Table 5-1, Table 5-2 and Table 5-3 in this chapter
North Kesteven District Council	The schedule of cumulative projects needs to be significantly expanded given the initial findings of the reconnaissance level ALC survey have shown the land to be mainly of subgrade 3a quality with areas of Grade 1, 2 (all BMV) and some subgrade 3b.	Cumulative impacts with other solar schemes in Lincolnshire are assessed within Section 5.11 of this chapter.	Section 5.11 Cumulative Effects of this chapter.

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
Cowbit Parish Council	The importance of the land for producing food must be considered, and there is concern about the potential destruction of soil structure and quality if only poor-quality couch grasses will be grown.	An assessment of impacts and likely significant effects on agriculture and soils is provided within Section 5.8 of this chapter. An **OSMP** (Doc Ref. 7.14) has been submitted with the DCO Application, setting out measures to minimise impacts on soils. The **Outline Landscape and Ecology Management Plan (OLEMP)** (Doc Ref. 7.16), submitted with the DCO Application, specifies the provision of species rich and semi-improved grassland within areas proposed to be seeded as grassland.	Section 5.8 Assessment of Potential Impacts and Likely Significant Effects of this chapter. **OSMP** (Doc Ref. 7.14) **OLEMP** (Doc Ref. 7.16)
Crowland Parish Council and Deeping St James Parish Council	Sheep grazing is not considered likely. Consideration should be given to interrow cropping.	The option for managing grassland within the Solar Development Area via sheep grazing has been provided for within the **OLEMP** (Doc Ref. 7.16), however, it has not been relied upon as a mitigation measure within this chapter. Interrow cropping is less desirable than having continuous vegetation cover, which provides better soil protection and biodiversity benefits. It is less practicable because	**OLEMP** (Doc Ref. 7.16)

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
		of dust generation during the cropping cycle and impeding access for PV cleaning.	

Table 5-2: Key matters raised by prescribed or statutory consultees in relation to Agriculture and Soils

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
Natural England	Natural England advise that any works involving soil handling and reinstatement are micro-sited away from BMV land, or the highest grade BMV land, wherever possible.	Siting of infrastructure within the Scheme layout has considered a full suite of environmental constraints, including ALC grades. Results from an initial ALC reconnaissance survey and then a full field-averaged soil type assessment have fed into this consideration. However, as the potential for the Scheme to result in permanent impacts on soils is limited (refer to Section 5.8 of this chapter), excluding use of BMV land was weighed alongside other design and environmental considerations. Both methodological approaches to ALC reporting identified that large areas of the Site comprise BMV agricultural land. As such, it has not been practicable to avoid the use of BMV land for works involving soil handling. Where BMV land could not be avoided, impacts would be mitigated through the soil management measures set out within the **OSMP** (Doc Ref. 7.14). Further information is provided within **ES Chapter 3: Alternatives and Design Evolution** (Doc Ref. 6.1).	**ES Chapter 3: Alternatives and Design Evolution** (Doc Ref. 6.1).

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
Natural England / LCC	Request for an ALC survey of the Grid Connection Route and the Inter-Array Connections to be undertaken in the pre-application stage.	Natural England's position regarding the need to minimise impacts on BMV land is acknowledged and the Applicant recognises that the ALC grade of the land is a relevant consideration. However, in the specific context of this Scheme, the influence of ALC grade on both the alignment and micro-siting of the Inter-Array Connections and Grid Connection Route is inherently constrained. A detailed soil survey of the Inter-Array Connections and the Grid Connection Route is proposed post-DCO consent once detailed design has been undertaken. This reflects accepted practice on comparable Nationally Significant Infrastructure Projects (NSIPs) where the precise alignment or construction corridor cannot be fixed prior to consent. Examples include the Tillbridge Solar Project and Sunnica Energy Farm, where detailed soils data for linear elements were to be completed following design refinement.. The approach adopted for the Meridian Scheme is therefore consistent with proportionate, design-led practice for NSIPs that include linear infrastructure elements.	**OSMP** (Doc Ref. 7.14)

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
Natural England	Request for additional laboratory testing of soils to be undertaken.	Laboratory testing of soils across the Solar Development Area has been undertaken, with results provided within **ES Appendices 5-2 and 5-3** (Doc Ref. 6.3).	**ES Appendix 5-2: Agricultural Land Survey - Parcels A&D** (Doc Ref. 6.3) and **ES Appendix 5-3: Agricultural Land Survey - Parcels B & C** (Doc Ref. 6.3).
Natural England	Request for ALC data to be clearly presented as permanent and temporary impacts for each element of the development, and for these to be taken into account within the Soil Management Plan.	Tables with areas of land in each BMV classification to be temporarily or permanently lost as a result of the Scheme are provided within Section 5.8 of this chapter, alongside an assessment of the significance of the effect. The assessment has subsequently informed the measures incorporated within the **OSMP** (Doc Ref. 7.14).	Section 5.8 Assessment of Potential Impacts and Likely Significant Effects of this chapter. **OSMP** (Doc Ref. 7.14).
Natural England	The impact of establishing ecological enhancement areas, including permanent impacts from areas of woodland planting, must be considered within the assessment.	Section 5.8 of this chapter presents the assessment of impacts from all Scheme's land uses, including habitat management areas. No woodland blocks have been proposed as part of the outline landscape masterplan, as set out within the **OLEMP** (Doc Ref. 7.16), to minimise permanent impacts on BMV land. However permanent impacts from the	Section 5.8 Assessment of Potential Impacts and Likely Significant Effects of this chapter. **OLEMP** (Doc Ref. 7.16)

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
		establishment of scattered trees along field boundaries have been considered.	
Natural England	The provisional assessment provided within the PEIR identifies significant adverse effects from the temporary loss of BMV land during construction and operation. This assessment should be updated based on detailed ALC survey results. Any significant adverse effect must also clearly demonstrate that the mitigation hierarchy has been followed, to avoid first, then consider mitigation (i.e. soil management & reinstatement).	An updated assessment, considering the detailed ALC survey results, has been provided within Section 5.8 of this chapter. Siting of infrastructure within the Scheme layout has considered a full suite of environmental constraints, including ALC grades. Results from an initial ALC reconnaissance survey and then a full field-averaged soil type assessment have fed into this consideration. However, as the potential for the Scheme to result in permanent impacts on soils is limited (refer to Section 5.8 of this chapter), excluding use of BMV land was weighed alongside other design and environmental considerations. Both methodological approaches to ALC reporting identified large areas of the Site comprise BMV agricultural land. As such, it has not been practicable to avoid the use of BMV land for works involving soil handing. Where BMV land could not be avoided, impacts would be mitigated through the soil management measures set out within the	Section 5.8 Assessment of Potential Impacts and Likely Significant Effects of this chapter.

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
		OSMP (Doc Ref. 7.14). Further information is provided within **ES Chapter 3: Alternatives and Design Evolution** (Doc Ref. 6.1).	
Natural England	The SMP must cover the full site boundary and incorporate any works that involve soil handling or other activities which may impact the soil. The SMP should detail the involvement of a suitably qualified soil specialist during the construction, operation and decommissioning phases of the development. All soils should only be handled in a dry and friable condition, and it is expected that construction programmes would restrict soil handling to the drier summer period to minimise risk of soil damage (April through September) as far as reasonably practicable. Where this is not possible, clear additional management measures should be outlined, in line with Defra guidance.	The **OSMP** (Doc Ref. 7.14) applies to the entirety of the Site within the Order Limits and for all activities which may impact the soil. The **OSMP** (Doc Ref. 7.14) requires the involvement of a suitably qualified soil specialist during the construction, operation and decommissioning phases of the Scheme. The **OSMP** (Doc Ref. 7.14) sets out that soil handling should be avoided when the moisture content is above the plastic limit, which is more likely to be the case between October and March and should be considered when scheduling the construction works.	**OSMP** (Doc Ref. 7.14
Natural England	Where the Order Limits have been amended as part of targeted consultation, further soil surveys are	Areas of land within the Solar Development Area that were added to the Order Limits as part of targeted consultation were subject to	**ES Appendix 5-2: Agricultural Land Survey - Parcels A&D**

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
	likely required to inform soil handling, reinstatement and the detailed SMP.	the detailed soil surveys presented within **ES Appendices 5-2 and 5-3** (Doc Ref. 6.3).	(Doc Ref. 6.3) and **ES Appendix 5-3: Agricultural Land Survey - Parcels B & C (**Doc Ref. 6.3).
Natural England	At the amended locations of the 400kV substation and BESS site and the 132kV substation, Natural England query whether the ALC grade of the land was considered in the relocations, and whether the areas of BMV to be disturbed for the lifetime of the development have changed.	The location of the 400 kV On-Site Substation and the BESS Compound presented for statutory consultation has not changed, although the overall footprint of the compound has increased. This results in a corresponding increase in the extent of BMV land affected. However, the change reflects a balanced consideration of all relevant environmental and operational constraints. Consolidating all BESS units within a single location in this area provides operational efficiencies, improves emergency response readiness, and reduces impacts associated with traffic and transport and operational noise. It is therefore considered to represent an overall improvement in the Scheme design when assessed across the full suite of environmental factors. Further details are provided within **ES Chapter 3: Alternatives and Design Evolution** (Doc Ref. 6.1).	**ES Chapter 3: Alternatives and Design Evolution** (Doc Ref. 6.1).

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
		In respect of the 132 kV substation, the revised location within Land Parcel C is situated on Grade 3b land based on the detailed ALC survey. As such, the relocation does not result in an increase in the disturbance of BMV land.	
Natural England	The additional area should be subject to ALC survey pre-construction to inform micro-siting & soil management. Ideally the full RLB should be surveyed pre-consent, but we note disagreement on this approach from previous engagement.	As set out within the **OSMP** (Doc Ref. 7.14), a soil survey of the Grid Connection Route will be undertaken pre-construction to inform the soil management measures to be included within the detailed SMP.	**OSMP** (Doc Ref. 7.14)
LCC	Request for detailed ALC survey to be completed.	The detailed ALC surveys for the Solar Development Area are presented within **ES Appendices 5-2 and 5-3** (Doc Ref. 6.3), with the results summarised within Section 5.6 of this chapter.	**ES Appendix 5-2: Agricultural Land Survey - Parcels A&D** (Doc Ref. 6.3) and **ES Appendix 5-3: Agricultural Land Survey - Parcels B & C** (Doc Ref. 6.3). Section 5.6 Baseline Conditions of this chapter.

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
LCC	Request for detailed ALC survey of the Grid Connection Route in order to confirm land quality to ensure soils are properly managed. Comments regarding the impact of the Grid Connection Route not being temporary but permanent. In addition to the land directly underneath the pylons, which would be rendered impossible to farm, the location of a pylon within a field will cause disruption to agricultural operations in the vicinity of the pylon, reducing efficiency and/or rendering additional areas as unproductive.	As set out within the **OSMP** (Doc Ref. 7.14), a soil survey of the Grid Connection Route will be undertaken pre-construction to inform the soil management measures to be included within the detailed SMP. The ES considers the impact of the Grid Connection Route to be long-term temporary, as the overhead line infrastructure will be removed following the operational phase, in accordance with Requirement 21 of the **Draft DCO** (Doc Ref. 3.1). The Scheme seeks to minimise the amount of agricultural land taken out of use, when siting the pylons, and field location may be more important than ALC grade to minimise areas around the pylon bases being rendered unproductive. The assessment of impacts on agricultural land use is provided within Section 5.8 of this chapter.	**OSMP** (Doc Ref. 7.14) Section 5.8 Assessment of Potential Impacts and Likely Significant Effects of this chapter.
LCC	Council would request that the impact on agriculture is also included. The land within the area crossed by the route is reliant on drainage by underground pipes. The location of pylons on this land	An assessment of impacts on agricultural land use is provided in Section 5.8 of this chapter. The land-take associated with each pylon base is small in relation to the overall field areas, and the pylons are typically spaced	Section 5.8 Assessment of Potential Impacts and Likely Significant Effects of this chapter. **OCEMP** (Doc Ref. 7.10)

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
	significantly complicates the potential for future re-draining of the land, by adding a physical obstruction through which it would not be possible to lay a new drainage pipe. This is likely to have an adverse impact on the productivity of the land in question, which cannot be productively farmed without the benefit of good drainage. The ES should therefore consider this impact.	every 350m. As a result, the presence of a pylon base is unlikely to materially constrain the ability to install, maintain, or realign subsurface drainage infrastructure within the wider field. In addition, the **OCEMP** (Doc Ref. 7.10) sets out a series of measures to ensure existing field drainage functionality is maintained during and after construction. These include: • Ensuring existing field drainage systems are not compromised as a result of construction, with drainage maintained during the works and reinstated, so far as reasonably practicable, to a condition that is as effective as before; • Undertaking drainage surveys to establish existing drainage patterns, identifying and marking any drains encountered, and recording the location, condition, characteristics (e.g. depth, pipe type and diameter) of any drains cut or disturbed; and • Reinstating or diverting any affected field drainage where reasonably practicable, with landowners and	

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
		occupiers informed about the design and timing of drainage works, including any changes to pipe layout, falls, dimensions and outfalls. With these measures in place, no significant adverse long-term effects on land drainage capacity or agricultural productivity are anticipated.	
LCC	Confirmation would also be required to ensure that on decommissioning the pylons and substructures would be removed and the land returned to the equivalent grade of land which existed prior to the project.	As set out within **ES Chapter 2: The Scheme** (Doc Ref. 6.1), all above-ground physical infrastructure would be dismantled and removed from the Solar Development Area, Inter-Array Connections and Grid Connection Route. This would include the removal of all PV panels, mounting poles, solar stations, substations, BESS, 400kV overhead line and pylons, cable sealing end compounds (CSEC), 132kV overhead line and H poles. In addition, concrete foundations to these elements would be removed to a depth agreed with the relevant landowner and recycled or disposed of in accordance with good practice and market conditions at that time. The **OSMP** (Doc Ref. 7.14), submitted with the DCO Application, sets out that	**ES Chapter 2: The Scheme** (Doc Ref. 6.1) **OSMP** (Doc Ref. 7.14)

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
		decommissioning will aim to restore all agricultural land without any degradation of the current ALC grade. Any minor variability from the current ALC grading identified in any post restoration surveys would be acknowledged and an assessment made but may be an artefact of the point-by-point auger sampling. At decommissioning, the methodology using field-averaging by soil type would be the more appropriate.	
LCC	Comments regarding the cumulative agriculture and soils assessment provided within the PEIR.	An updated cumulative effects assessment for agriculture and soils is provided within Section 5.11 of this chapter. The assessment considers both temporary and permanent land take from the Scheme and cumulative solar projects within Lincolnshire, including from habitat management areas.	Section 5.11 Cumulative Effects of this chapter.
LCC	It is stated that updated surveys have confirmed that land in the central part of Parcel B where the panels are now proposed, previously assumed to be ALC Grade 1, is predominantly Grade 3a, with small areas of Grade 2. This has resulted in the proposal to move solar panels out of Flood Zone 3b. LCC would highlight	It is correct that further changes in the Scheme layout occurred since statutory consultation. It is also noted that following further engagement with Natural England an alternative approach to analysis of the ALC grading on the Site was undertaken, which resulted in greater site-wide variability, including identification of non-BMV land.	Section 5.6 Baseline Conditions of this chapter. **ES Chapter 3: Alternatives and Design Evolution** (Doc Ref. 6.1).

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
	that although the ALC grade previously assumed to be Grade 1 is of a lower grade classification, grade 2 and 3a are still classified as BMV and LCCs stance remains that development of land classified as BMV should be avoided.	Areas subject to changes in Scheme layouts are discussed at Section 5.6. While these surveys and analysis have continued to influence the Scheme design and layout, the Applicant does not consider it appropriate to avoid all BMV land. As noted above, solar panel infrastructure results in a temporary impact on the use of BMV land and can be appropriately managed via controls in the **OSMP** (Doc Ref. 7.14). While BMV is one matter to consider in the siting of Scheme infrastructure, this must be weighed with the other design and operational requirements of the Scheme. The relocation of panels avoids Flood Zone 3b and does not give rise to any permanent loss of BMV land. No other feasible areas exist within the Order Limits where the panels could be located to avoid Flood Zone 3b. Further explanation of the design evolution and the alternative siting options considered is provided in **ES Chapter 3: Alternatives and Design Evolution** (Doc Ref. 6.1).	**OSMP** (Doc Ref. 7.14)

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
SHDC	Concerns over impacts on BMV land and Grade 1 ALC land. As the operational phase is expected to be 40 years, the claim of a temporary impact for physical infrastructure is not accepted.	An assessment of impacts and effects on agriculture and soils is presented within Section 5.8 of this chapter. As secured through Requirement 21 of the **Draft DCO** (Doc Ref. 3.1) and described within **ES Chapter 2: The Scheme** (Doc Ref. 6.1), all above ground infrastructure associated with the Scheme will be decommissioned at the end of the 40-year operational period. While the duration of operation is long term, the assessment of impacts on agriculture and soils distinguishes between reversible and irreversible land-use change. As no permanent soil sealing is proposed and all infrastructure will be removed, the Scheme does not result in the permanent loss of agricultural land. The **OSMP** (Doc Ref. 7.14) includes measures to protect soil structure and function throughout construction and operation, including careful handling, storage, and reinstatement of soils. These measures are designed to ensure that the soil resource is safeguarded and that agricultural capability is	Section 5.8 Assessment of Potential Impacts and Likely Significant Effects of this chapter. **OSMP** (Doc Ref. 7.14)

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
		not degraded over the lifetime of the Scheme. Following decommissioning, the land will be restored so far as reasonably practicable to its pre-construction condition, with the aim of returning it to its existing ALC grade. Post-restoration monitoring is secured within the **OSMP** (Doc Ref. 7.14), and any minor variability from baseline ALC grades identified at that stage would be investigated and addressed to ensure the land is capable of productive agricultural use once reinstated. On this basis, while a substantial proportion of the Site comprises BMV land, the majority of the effects from land-take are long-term but reversible, and do not constitute a permanent loss of agricultural land.	
SHDC	Agricultural Impact: the "permanent loss of 106.9 hectares of soil" taking Grade 1 "Best and Most Versatile" farmland out of food production threatens national food security.	An assessment of impacts from the loss of agricultural land and soil health is presented within Section 5.8 of this chapter.	Section 5.8: Assessment of Potential Impacts and Likely Significant Effects.

Consultee	Summary of main matters raised	How has the matter been addressed?	Location of response in the ES
	Significant Project Changes: The proposal includes new pylons, overhead lines, and additional Best and Most Versatile (BMV) land without providing specific measurements or sufficient impact assessments. The inclusion of additional BMV land, of which the actual size has not been provided, within the Project boundary to accommodate revised grid connection infrastructure represents a material change to the proposals with insufficient information provided.	Provisional ALC Classification of the Grid Connection Route is set out within Section 5.6: Baseline Conditions. This includes areas within the extended Order Limits. The Scheme seeks to minimise the amount of agricultural land taken out of use, when siting the pylons. The assessment of impacts on agricultural land use is provided within Section 5.8 of this chapter. The ES considers the impact of the Grid Connection Route to be long-term temporary, as the overhead line infrastructure will be removed following the operational phase, in accordance with Requirement 21 of the **Draft DCO** (Doc Ref. 3.1).	Section 5.6: Baseline Conditions. Section 5.8 Assessment of Potential Impacts and Likely Significant Effects of this chapter.

Table 5-3: Stakeholder engagement relating to agriculture and soils assessment

Date of Engagement	Format	Attendees (organisation)	Summary of discussion
8 April 2024	Teams meeting	Natural England	Consultation with Natural England commenced via the Discretionary Advice Service (DAS). The methodology of the initial ALC surveys, ongoing at the time of the meeting, was

Date of Engagement	Format	Attendees (organisation)	Summary of discussion
			shared with Natural England. The role of the initial surveys was to provide high-level ALC data for the Solar Development Area to inform the design and to identify areas where more detailed sampling would need to take place. Results from those areas of the Solar Development Area that had been surveyed at the time of the meeting were shared. Agreement with Natural England on methodology for initial ALC surveys completed within the Solar Development Area. Agreement that the results from the initial ALC surveys would be shared on completion.
5 August 2024	Email	Natural England	ALC survey report issued to Natural England following the completion of the initial series of surveys within the Solar Development Area.
4 September 2024	Teams meeting	Natural England	Natural England confirmed receipt of the ALC survey report and that they held no specific concerns with the report or its findings. The approach to further surveys within the Solar Development Area, and the approach in relation to the Inter-Array Connections and Grid Connection Route was discussed with methodologies to be agreed for these areas at a later stage. Agreement with approach to reporting of initial ALC surveys and that there were no specific concerns with its findings.
15 April 2025	Email	Natural England	Technical note on the detailed ALC survey approach issued to Natural England for comment.

Date of Engagement	Format	Attendees (organisation)	Summary of discussion
24 April 2025	Teams meeting	Natural England	Meeting to discuss the technical note on the detailed ALC survey approach. There was agreement on survey method and intensity for Parcels A, B, C, D. Natural England's preference was expressed for surveying the entirety of the Grid Connection Route and Inter-Array Connections.
29 July 2025	Email	Natural England	Issue of detailed ALC survey results for Land Parcels B & C to Natural England, together with a comparison against the previous reconnaissance survey results.
9 September 2025	Email	Natural England	Natural England issued an advice letter, providing their comments on the detailed ALC survey results. Main comments raised, including how the Applicant has addressed these comments, are summarised below: • Further survey request for areas that were sampled in 1 in 2ha density but are being proposed for use by infrastructure in the revised Scheme layout. Further auger point sampling was undertaken in November 2025 and the survey results are incorporated within **ES Appendices 5-2 and 5-3** (Doc Ref. 6.3). • Request for further clarification on proposals for the habitat management areas in areas of higher BMV grade land. As set out within the **OLEMP** (Doc Ref. 7.16), these areas would include retaining their arable use, however, introducing skylark plots

Date of Engagement	Format	Attendees (organisation)	Summary of discussion
			within the fields, and specifying favourable agricultural management practices. • Request to set out droughtiness and wetness limitations auger-by-auger. **ES Appendices 5-2 and 5-3** (Doc Ref. 6.3) have been updated to set out the auger-by-auger point analysis of ALC grades. • Request to change mapping unit boundaries to contours in between survey points rather than raster. **ES Appendices 5-2 and 5-3** (Doc Ref. 6.3) have been updated to include ALC grade mapping with contours. • Request for laboratory testing to be completed. The Applicant has completed laboratory testing of soils and the results of the analysis are provided within **ES Appendices 5-2 and 5-3** (Doc Ref. 6.3)
30 January 2026	Teams meeting	Natural England	Information was presented to Natural England on: • Development of the applied assessment methodology; • Proposed Scheme layout, including the need for the siting of the 400kV On-Site Substation and BESS Compound on BMV land due to other environmental and engineering constraints (refer to **ES Chapter 3: Alternatives and Design Evolution** (Doc Ref. 6.1) for further details); • ALC survey results for the Solar Development Area;

Date of Engagement	Format	Attendees (organisation)	Summary of discussion
			• Provisional ALC grading of the Inter-Array Connections and Grid Connection Route. A requirement to undertake the surveys of a confirmed route post-DCO consent was discussed; • Summary of effects.

5.4. Assessment Methodology

Study Area

5.4.1. The impacts of the Scheme on agricultural land and soil resources are assessed for land within the Order Limits and no buffer has been applied. Typically, impacts relate to directly affected soils and agricultural land. Interruption to field drainage may occur if fields are severed by development boundaries but this does not apply for the Scheme.

Baseline Methodology

5.4.2. To assess the potential agriculture and soils impacts of the Scheme, it is necessary to determine the baseline conditions. The baseline conditions are the current (at the time of writing the ES) conditions of the Site and surroundings within the defined study area. The current baseline has been determined through desktop study of available data sources and field survey.

5.4.3. Desktop study consulted the following data sources:

- Provisional ALC mapping at 1:250,000;
- Existing post-1988 ALC mapping within the Order Limits; and
- Natural England predictive likelihood of BMV map at 1:250,000.

5.4.4. Field survey followed the technical guidelines for agricultural land classification in England and Wales[3, 4, 5]. ALC provides a method for addressing the versatility, productivity and workability of land based upon inter-related parameters including climate, relief, soil characteristics and drainage. These factors form the basis for classifying agricultural land into one of five grades ranked from excellent (Grade 1) to very poor (Grade 5), and with Grade 3 land divided into Subgrades 3a and 3b.

5.4.5. Whilst a limited area of survey data for the Site exists following the post-1988 survey methodology, individual auger point data was not available. It was

[3] Ministry of Agriculture, Fisheries and Food (1988) *Agricultural Land Classification of England and Wales: revised guidelines and criteria for grading the quality of agricultural land*. Available at: https://publications.naturalengland.org.uk/publication/6257050620264448. [Accessed 7/11/2025]

[4] Ministry of Housing, Communities and Local Government (2025) *Planning Practice Guidance for the Natural Environment*. Available at: https://www.gov.uk/guidance/natural-environment [Accessed 7/11/2025]

[5] Natural England (2012) *Agricultural Land Classification: protecting the best and most versatile agricultural land (TIN049)*. Available at: https://publications.naturalengland.org.uk/publication/35012 [Accessed 7/11/2025]

determined that the new survey should include the areas for which survey results are mapped. The additional auger point data provide not only information on the ALC grades but also an assessment of soil resources, which is relevant to the SMP.

5.4.6. Soil profiles were investigated across the agricultural land of Solar Development Area Parcels A, B, C, and D using a hand-held auger capable of sampling to 1.2 m depth. Soil profile inspections were principally undertaken at a density of one auger per hectare, which is standard methodology. No surveys were conducted in areas of Scheduled Monuments, where no development is proposed. Similarly, no survey work was undertaken at the sites of the World War II aeroplane crash in Parcels A and D.

5.4.7. However, in habitat management areas where agricultural land use was to continue but with operations adjusted to provide environmental benefits, motivated particularly by support for skylark populations, the sample intensity was one auger per two hectares. Changes of practices within agricultural operations does not typically require soil survey but farming practices may change again after decommissioning and having baseline data will help.

5.4.8. Soil survey information was used in conjunction with agro-climatic characteristics for the area, published by the Met Office to determine the ALC grading. The MAFF methodology guidelines[3] include consideration of crop-based parameters for crops of wheat and potatoes, where moisture balance for the ALC consideration of droughtiness is a crop related meteorological variable. It represents the balance between rainfall and potential evapotranspiration from the crop during the growing season.

5.4.9. The methodology is not explicit on spatial application of the data to these crop-based parameters: options are to consider a field-wide approach or to consider the data from each auger point as an independent variable. In keeping with previous studies, the droughtiness limitation was originally applied not on a point-by-point basis but on field-averaged values for each soil type, reflecting the scale at which cropping decisions are based. In response to a Natural England request (refer to Table 5-3), the survey data was additionally analysed on an auger point-by-point basis. The approaches each comply with the published methodology and each is presented in this assessment of agriculture and soils.

5.4.10. Soil series are the lowest category in the soil classification system and are defined based upon particle size distribution, parent material (substrate) type, colour and mineralogical characteristics. The Soil Survey of England and

Wales[6] mapping was used to describe soil associations, which are groupings of related soil series. More detail of soil types was obtained during field survey.

Assessment Approach

5.4.11. Agriculture and soils assessment has been undertaken following relevant guidance, specifically the approach presented by Institute of Environmental Management and Assessment (IEMA) now renamed the Institute of Sustainability and Environmental Professionals (ISEP). The guidance (hereafter referred to as the ISEP guidance) synthesised existing approaches to development on soils and land in '*EIA: A New Perspective on Land and Soil in Environment Impact Assessment*'[7], whilst leaving open the possibility for applying an element of professional judgement. The recently published ISEP (2025) *'Solar PV on Agricultural Land: Essential Components of Environmental Assessments and Reports'*[8] has also been reviewed to ensure that the assessment complies with the latest published guidance.

Sensitivity of Receptors

5.4.12. Table 5-4 identifies the sensitivity criteria that have been used to inform the assessment of effects to agricultural land, these are taken from Table 2 of the IEMA guidance.

Table 5-4: Sensitivity Criteria for Agricultural Land

Sensitivity Value	Value Criteria
Very high	ALC Grade 1 and 2
High	ALC Subgrade 3a
Medium	ALC Subgrade 3b
Low	ALC Grade 4 and 5

5.4.13. Assessing the sensitivity of soil resources to damage (i.e. resistance and resilience of the soil environment, not the importance of the land for agricultural use) is recognised as being complex as soil resources provide a

[6] Hodge, C.A.H. (1984) Soils and Their Use in Eastern England. Soil Survey of England and Wales. ISBN 10: 0708402976 ISBN 13: 9780708402979

[7] ISEP (2022) *A New Perspective on Land and Soils in Environmental Impact Assessment*. Available at: https://www.iema.net/media/3xejdu0u/2022-iema_land_and_soils_guidance.pdf. [Accessed 7/11/2025]

[8] ISEP (2025) Solar PV on Agricultural Land: Essential Components of Environmental Assessments and Reports. Available at: https://www.isepglobal.org/resources/news/2026/january/the-best-and-most-versatile-farmland-should-be-protected-amid-rapid-expansion-of-uk-solar-power-says-new-guidance/ [Accessed 2/2/2026]

range of functions (ecosystem services), such as supporting plant growth (including food and other crops), water filtration and regulation (role in flood control), nutrient transformation (e.g. role in the nitrogen cycle), carbon storage and sequestration, and supporting biodiversity. The sensitivity criteria for soil resources are therefore based on the susceptibility to damage, both temporarily and permanently when handled.

5.4.14. It is recognised within the ISEP guidance that some soils are more sensitive to damage when handled than others. The methodology considers soils of high clay content in wetter climate regions to be most sensitive to damage. For example, the incorrect handling/reinstatement of a heavy (clay rich) soil whilst in a plastic state may result in a reinstated soil profile with reduced natural drainage compared to the natural soil profile and a subsequent increased risk of soil loss (erosion) due to surface water run-off. Soils with high sand fraction are considered to be of low sensitivity as the permeable nature of light sandy soils means that the natural structural recovery and drainage potential of these soils is more easily maintained. The field capacity days (FCDs) are also taken into consideration. FCD is the number of days when a soil is at or above field capacity. Field capacity is the amount of water a soil may hold after excess gravitational water has drained and represents the maximum available water for plants, where the soil is moist but not saturated. Field capacity is a property of the soil resource whilst FCD is a measure of how long the soil is wet and unsuitable for cultivation.

5.4.15. The assessment considers the identified soil resources and their susceptibility to damage when being handled (this is a function of soil type and is related to soil texture and structural development as described below). The sensitivity criteria for Soil Resources are set out in Table 5-5, which is based upon Table 4 of the ISEP guidance. In accordance with the guidance, the sensitivity criteria do not contain a Very High sensitivity rating.

Table 5-5: Sensitivity of Soil Resources

Sensitivity Value	Soil resource criteria
High (low resilience to structural damage)	Soils with high clay and silt fractions (clays, silty clays, sandy clays, heavy silty clay loams and heavy clay loams) and organo-mineral and peaty soils where FCDs are 150 or greater. Medium-textured soils (silt loams, medium silty clay loams, medium clay loams and sandy clay loams), where the FCDs are 225 or greater. All soils in wetness class V or wetness class VI
Medium (medium resilience to structural damage)	Clays, silty clays, sandy clays, heavy silty clay loams, heavy clay loams, silty loams and organo-mineral and peaty soils, where the FCDs are fewer than 150. Medium textured soils (silt loams, medium silty clay loams, medium clay loams and sandy clay loams) where FCDs are fewer than 225. Sandy loamy sands, sandy loams and sandy silt loams where the FCDs are 225 or greater or are in wetness classes III and IV.
Low (high resilience to structural damage)	Soils with high sand fraction (sands, loamy sands, sandy loams and sandy silt loams) where the FCDs are fewer than 225 and are in wetness classes I and II.

Magnitude of Impact

5.4.16. Magnitude of impact criteria used to inform the assessment of effects to agricultural land and to soil resources adopt the same criteria and are presented in Table 5-6. These are taken from Table 3 of the ISEP guidance. These consider the magnitude (or scale) of change from current baseline conditions which could result from the Scheme.

Table 5-6: Magnitude Criteria for Agricultural Land and Soil Resources

Magnitude	Magnitude Threshold
High	Permanent irreversible loss (including permanent sealing or land quality downgrading) or permanent improvement of one or more soil functions or soil volumes (due to remediation or restoration) over >20 hectares (ha) of agricultural land.
Medium	Permanent irreversible loss (including permanent sealing or land quality downgrading) or permanent improvement of one or more soil functions or soil volumes (due to remediation or restoration) over >5 ha <20 ha of agricultural land.
Low	Permanent irreversible loss (including permanent sealing or land quality downgrading) or permanent improvement of one or more soil functions or soil volumes (due to remediation or restoration) over <5 ha. Temporary, reversible loss or reversible improvement (by remediation or restoration) to one or more soil functions
Very Low	No discernible loss / reduction of soil function(s) that restrict current or approved future use.

Significance of Effect

5.4.17. The significance of effect in relation to agriculture and soils has been assessed in accordance with a modification of the criteria provided in **ES Chapter 4: Overview of the EIA Process** (Doc Ref. 6.1). Modification relates principally to the terminology of criteria, with Grades 1 and 2 agricultural land referred to as 'very high' sensitivity, but still differentiating between four sensitivity values. This is to reflect the ISEP guidelines and the significance matrix presented in Table 5-7 is derived from Table 5 of the ISEP guidelines. Effects that are major or moderate are considered to be significant; minor and negligible effects are considered not significant.

Table 5-7: Significance Matrix

Magnitude of Impact	Sensitivity or Value			
	Very high	High	Medium	Low
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Very low	Minor	Negligible	Negligible	Negligible

5.5. Assessment Assumptions and Limitations

5.5.1. The assessment is based on the Scheme design set out in **ES Chapter 2: The Scheme** (Doc Ref. 6.1) and illustrated on **ES Figures 2-2 and 2-4** (Doc Ref. 6.2).

5.5.2. The spatial arrangement of individual design elements has been assessed in relation to the loss of BMV land and the effect on soil resources in terms of volume and function. Principally, effects are attributed to the construction phase because limitation to agricultural use and the risk to soil resources would commence at that point. It is assumed that the land would remain in agriculture post-consent until construction begins.

5.6. Baseline Conditions

5.6.1. This section describes the baseline environmental characteristics for the Scheme and surrounding areas with specific reference to agriculture and soils. The baseline conditions have been summarised on the basis of the ALC survey data presented within **ES Appendices 5-2 and 5-3** (Doc Ref. 6.3).

Current Baseline – Solar Development Area

5.6.2. Soils within the Scheme are described according to their soil association. Soil associations are groups of soil types that occur typically together in the landscape. Published data from the Soil Survey of England and Wales for *Soils and their use in Eastern England*[9] describes all soils within the Scheme and indicates the presence of the following soils within the Solar Development Area:

- Wallasea 2 Association (813g) (within Parcels A, B and C) - These include deep, stoneless clayey soils, calcareous in places and some deep calcareous silty soils; and
- Wisbech Association (812b) (within Parcel D) – These include stoneless calcareous coarse silty soils.

5.6.3. Detailed ALC field survey was conducted sequentially with Land Parcels B and C surveyed in June 2025 and Land Parcels A and D in August 2025. Some non-surveyed areas in Land Parcels B and C were subsequently surveyed in November 2025.

5.6.4. ALC surveys indicated two types of soil in both Land Parcels A & D and Land Parcels B & C. These are summarised within Table 5-8 below. Table 5-8 sets out the field averaged profile depths of the soil types, however, some localised variations were also recorded. Complete soil logs and photographs are provided within **ES Appendix 5-2: Agricultural Land Survey Report (Parcels A&D)** (Doc Ref. 6.3) and **ES Appendix 5-3: Agricultural Land Survey Report (Parcels B&C)** (Doc Ref. 6.3).

[9] Hodge, C.A.H. (1984) Soils and Their Use in Eastern England. Soil Survey of England and Wales. ISBN 10: 0708402976 ISBN 13: 9780708402979

Table 5-8: Summary of Surveyed Soil Types

Depth (mm)	Texture	Colour	Stones (%)	Mottles	Structure
Parcels A & D Soil Type 1AD					
0-350	Heavy Silty Clay Loam (HZCL)	Very Dark Greyish Brown (10YR 3/2)	0	No	Coarse Subangular Blocky
350-800	Silty Clay (ZC)	Dark Brown (7.5YR 3/2)	0	Few Fine Ochreous (2.5YR 4/6) Mottles	Coarse Prismatic
800-1200	Sandy Clay (SC)	Brown (10YR 4/3)	0	Many Ochreous (10YR 4/6) and Grey (2.5Y 5/1) Mottles	Coarse Prismatic
Parcels A & D Soil Type 2AD					
0-400	Medium Silty Clay Loam (MZCL)	Dark Brown (10YR 3/3	0	No	Medium Subangular Blocky
400-900	Very Fine Sandy Silt Loam (vfSZL)	Dark Brown (10YR 3/3)	0	Few Fine Ochreous (7.5YR 5/8) and Grey (7.5YR 6/1) Mottles	Fine Subangular Blocky
900-1200	Silty Clay (ZC)	Dark Yellowish	0	Many Ochreous (7.5YR 5/8) and	Coarse Prismatic

Depth (mm)	Texture	Colour	Stones (%)	Mottles	Structure
		Brown (10YR 4/4)		Grey (7.5YR 6/1) Mottles	
Parcels B & C Soil Type 1BC					
0-300	Coarse sandy silt loam (cSZL)	Dark brown (10YR 3/3)	0	No	Subangular blocky
300-1200	Fine loamy sand (fLS)	Dark yellowish brown (10YR 4/4)	0	Few fine ochreous (7.5YR 5/8) and Grey (7.5YR 6/1) mottles	Fine subangular blocky
Parcels B & C Soil Type 2BC					
0-350	Heavy silty clay loam (HZCL)	Very dark greyish brown (10YR 3/2)	0	No	Subangular blocky
350-700	Silty clay (ZC)	Dark brown (7.5YR 3/2)	0	Few fine ochreous (2.5YR 4/6) mottles	Coarse prismatic
700-1200	Clay (C)	Brown (10YR 4/3)	0	Few fine ochreous (10YR 4/6) and Grey (2.5Y 5/1) mottles	Coarse prismatic

5.6.5. The analysis of ALC grades, averaged across soil types, considered the general soil profiles to assess Wetness Class (WC) following the MAFF decision flow chart Figure 6 from the MAFF ALC guidance[10]. In summary:

- Land Parcel A &D – Soil type 1AD was WC III and soil type 2AD was WC I; and
- Land Parcel B & C - Soil type 1BC was WC I and soil type 2BC was WC III.

5.6.6. The data were applied across the soil types to derive site limitations.

5.6.7. Within Land Parcels A and D soil type 1AD has a wetness limitation. The combination of the heavy silty clay loam topsoil and WC III results in areas of Subgrade 3b but where soils are identified as calcareous, this is elevated to Subgrade 3a. An area of approximately 10 ha has a WC I, resulting in Grade 2.

5.6.8. Soil type 2AD has a lighter topsoil texture of medium silty clay loam and WC I, presents Grade 1 land.

5.6.9. For Land Parcels B and C, soil type 1BC resulted in Grade 2 limitation for wetness based on the combination of the coarse sandy silt loam topsoil texture, WC I and the 93 field capacity days (FCD). The soil type was also Grade 2 with respect to droughtiness in respect of available water for potato crops[11]. For soil type 2BC, the most limiting site factor was the Subgrade 3a wetness grading based on the combination of the heavy silty clay loam topsoil texture, WC III and the 93 FCD.

5.6.10. Application of these results for determining the ALC grades across the Solar Development Area by soil type average is presented in Table 5-9.

Table 5-9: ALC Classification averaged by soil type

ALC Grade	Area (ha)	Area percentage
Land Parcel A		
Grade 1	20.9	10.6
Grade 2	0	0

[10] Ministry of Agriculture, Fisheries and Food (1988) *Agricultural Land Classification of England and Wales: revised guidelines and criteria for grading the quality of agricultural land*. Available at: https://publications.naturalengland.org.uk/publication/6257050620264448. [Accessed 7/11/2025]

[11] An introduction to how the use of a soil moisture balance for crops of potatoes and wheat used to classify ALC droughtiness is provided in Section 5.4 Assessment Methodology.

ALC Grade	Area (ha)	Area percentage
Subgrade 3a	41.9	21.3
Subgrade 3b	123.2	62.7
Grade 4	0	0
Grade 5	0	0
Non-agricultural	2.5	1.3
Not surveyed	8.0	4.1
Land Parcel A Total Land Area	196.5	100.0
Land Parcel A Total Area of BMV	62.8	32.0
Land Parcels B & C		
Grade 1	74.4	13.8
Grade 2	77.4	14.3
Subgrade 3a	129.9	24.0
Subgrade 3b	201.4	37.3
Grade 4	0	0
Grade 5	0	0
Non-agricultural	0	0
Not surveyed	57.1	10.6
Land Parcels B & C Total Land Area	540.6	100.0
Land Parcels B & C Total Area of BMV	281.7	52.1
Land Parcel D		
Grade 1	0	0
Grade 2	0	0
Subgrade 3a	31.0	9.4
Subgrade 3b	241.9	73.2
Grade 4	0	0
Grade 5	0	0

ALC Grade	Area (ha)	Area percentage
Non-agricultural	0.8	0.2
Not surveyed	57.1	17.2
Land Parcel D Total Land Area	330.7	100.0
Land Parcel D Total Area of BMV	31.0	9.4
Overall Solar Development Area		
Grade 1	95.2	8.9
Grade 2	77.4	7.2
Subgrade 3a	202.8	19.0
Subgrade 3b	566.5	53.1
Grade 4	0	0
Grade 5	0	0
Non-agricultural	3.3	0.3
Not surveyed	122.1	11.4
Overall Solar Development Area Total	1067.4	100
Overall Solar Development Area Total BMV	375.4	35.2

5.6.11. Application of field averaged soil profiles, where depths of the topsoil layer varied on a continuum is particularly relevant to agricultural cropping decisions because soil and site limitations are applied at field scale.

5.6.12. Nonetheless, in consultation with the Natural England a second analysis was undertaken where the assessment was based on the individual auger points (refer to Table 5-3 for the timetable of consultation). Individual profiles were then reanalysed and the depth of the topsoil layer within the two soil types presented greater variation of ALC grades. The auger-point sample analysis is presented in Table 5-10.

Table 5-10: ALC Classification by individual auger point

ALC Grade	Area (ha)	Area percentage
Land Parcel A		
Grade 1	22.0	11.2
Grade 2	0	0
Subgrade 3a	54.5	27.7
Subgrade 3b	109.5	55.7
Grade 4	0	0
Grade 5	0	0
Non-agricultural	2.5	1.3
Not surveyed	8.0	4.1
Land Parcel A Total Land Area	196.5	100
Land Parcel A Total Area of BMV	76.5	38.9
Land Parcels B & C		
Grade 1	97.8	18.1
Grade 2	82.8	15.3
Subgrade 3a	127.9	23.7
Subgrade 3b	174.8	32.3
Grade 4	0	0
Grade 5	0	0
Non-agricultural	0	0
Not surveyed	57.1	10.6
Land Parcels B &C Total Land Area	540.5	100
Land Parcels B &C Total Area of BMV	308.6	57.1
Land Parcel D		
Grade 1	0.8	0.2
Grade 2	9.8	3.0

ALC Grade	Area (ha)	Area percentage
Subgrade 3a	22.9	6.9
Subgrade 3b	239.3	72.5
Grade 4	0	0
Grade 5	0	0
Non-agricultural	0.8	0.2
Not surveyed	57.1	17.2
Land Parcel D Total Land Area	330.3	100
Land Parcel D Total Area of BMV	33.5	10.1
Overall Solar Development Area		
Grade 1	120.6	11.3
Grade 2	92.6	8.7
Subgrade 3a	205.4	19.2
Subgrade 3b	523.7	49.1
Grade 4	0	0
Grade 5	0	0
Non-agricultural	3.3	0.3
Not surveyed	122.1	11.4
Overall Solar Development Area	1067.7	100
Overall Solar Development Area Total Area of BMV	418.6	39.2

5.6.13. The outcome of the individual auger point method identifies more Grade 1 and Grade 2 land and a greater proportion of BMV land overall, relative to the field averaged soil type. BMV land is 39.2 % when analysed based on individual auger points versus 35.2 % when field average soil types were applied. The worst-case outcome has been applied in subsequent analysis.

5.6.14. The explanation in paragraph 5.4.9 recognises that both approaches are permissible within the standard ALC methodology and hence both are presented. Consideration is given to each approach to present the worst-case assessment for subsequent analysis. The ALC grades from both approaches are mapped within **ES Figures 5-1 and 5-2** (Doc Ref. 6.2).

5.6.15. Soil resource resilience of the soil types identified has also been assessed.

5.6.16. Within Land Parcels A and D soil type 1AD is a combination of medium silty clay loam and heavy silty clay loam of WC III with FCD 96 and is of medium sensitivity and medium resilience. Soil type 2AD, whilst also a medium silty clay loam is of WC1 and is a low sensitivity soil of high resilience.

5.6.17. Within Land Parcels B and C, soil type 1BC is a fine loamy sand, with WC I and as such is a low sensitivity soil of high resilience. Soil type 2BC is a heavy silty clay loam. Because the number of FCD for the site is 93 (that is below 150) the soil is of medium sensitivity and medium resilience.

Current Baseline – Inter-Array Connections and Grid Connection Route

5.6.18. Within the Inter-Arrays and the Grid Connection Route, Wallasea 2 Association (813g) soils also dominate the area with minor elements of the Wisbech Association (812b), similarly to the Solar Development Area.

5.6.19. The provisional ALC grading[12] of the Inter-Array Connections and the Grid Connection Route is summarised within Table 5-11 and shown on **ES Figure 5-3** (Doc Ref. 6.2).

5.6.20. Mapping of the provisional ALC for the Inter-Array Connections and the Grid Connection Route identifies all land as highly sensitive Grade 1 and Grade 2 BMV land.

[12] Multi Agency Geographic Information for Countryside (MAGIC), Available at: https://magic.defra.gov.uk/ [Accessed 7/12/2025]

Table 5-11: Provisional ALC Classification of Inter-Array Connections and Grid Connection Route

ALC Grade	Area (ha)	Area percentage
Underground Inter-Array Connection[13]		
Grade 2	16.6	100
Underground Inter-Array Connection Total Area and Total Area of BMV	16.6	100
Overhead Inter-Array Connection		
Grade 1	6.9	43.0
Grade 2	9.1	57.0
Overhead Inter-Array Connection Total Area and Total Area of BMV	15.9	100
Grid Connection Route		
Grade 1	468.5	91.9
Grade 2	41.1	8.1
Grid Connection Route Total Area and Total Area of BMV	509.6	100

Future Baseline

5.6.21. Potential changes to the baseline conditions for agriculture and soils might occur over the lifespan of the Scheme, because of climate change. However, the rate and implications of change cannot be reliably modelled at the field scale and landowner decisions on land use are additionally influenced by factors unrelated to the physical soil resource. Therefore, for the purposes of the EIA, the future baseline is assumed to be unchanged.

[13] The area of Inter-Array Connections represents the working area required to construct the Inter-Arrays on the basis of the illustrative design, rather than the total area of Order Limits, which incorporate flexibility for the siting of the Inter-Array Connections.

5.7. Embedded Mitigation

5.7.1. This section summarises the mitigation measures relevant to this chapter that are already incorporated into the Scheme design and the management plans submitted with the DCO Application, as described in **ES Chapter 2: The Scheme** (Doc Ref. 6.1).

5.7.2. The original ALC analysis, using field averaged data, based on soil types, was used to guide design. It has subsequently been refined but originally, the data differentiated only between very highly sensitive land and highly sensitive land classes. That is, all land was initially identified as BMV land and design was guided by avoidance of the more sensitive land class.

5.7.3. As described within the **OLEMP** (Doc Ref. 7.16), over 69 ha of Grade 1 / 2 ALC land within Habitat Management Area 6 has been excluded from physical development and will be kept in arable use, applying methods to provide biodiversity benefits, particularly favouring skylarks. Furthermore, no woodland blocks are proposed as part of the landscape design, in order to minimise permanent loss of BMV land. As such any permanent loss of agricultural land due to landscaping has only been considered for tree and shrub planting proposed along field boundaries.

5.7.4. Good practice environmental management measures have been set out within the **OCEMP** (Doc Ref. 7.10), **OOEMP** (Doc Ref. 7.11) and **ODEMP** (Doc Ref. 7.12). These include measures to minimise the risk of contamination of soils as a result of the Scheme, and measures for the protection of existing land drainage.

5.7.5. The **OSMP** (Doc Ref. 7.14), submitted with the DCO Application, outlines a comprehensive set of measures across the lifetime of the Scheme for the preservation of the soil resource within the Order Limits, avoiding both the loss of soil material from the Order Limits and the loss of soil functional capacity for soil retained within the Order Limits.

5.7.6. Soil management measures set out in the **OSMP** (Doc Ref. 7.14) include the following:

- Details of the soil resources present;
- Roles and responsibilities (and required competencies and training) of on-site personnel responsible for the implementation of the **OSMP** (Doc Ref. 7.14);
- How topsoil and subsoil will be stripped and stockpiled;

- Suitable conditions for when handling soil will be undertaken, for example avoiding handling of waterlogged soil;
- How soil stockpiles will be designed taking into consideration site conditions and the nature/composition of the soil;
- Suitable protective surfacing where soil stripping can be avoided, based on sensitivity of the environment and proposed works;
- Approach to observations to be recorded during the operational phase with regards to soil health; and
- Approach to reinstating soil that has been compacted, where required.

5.8. Assessment of Potential Impacts and Likely Significant Effects

5.8.1. The Scheme as outlined in **ES Chapter 2: The Scheme** (Doc Ref. 6.1) has been considered in assessing the likely impacts and effects on agriculture and soils, whilst considering the embedded mitigation described within this chapter.

Construction Phase

Agricultural Land

5.8.2. From the commencement of construction, land will be excluded from agricultural use. Part of the Scheme will involve the creation of hardstanding for the On-Site Substation and BESS Compounds, Solar Stations and CSEC Compounds. These structures will be removed at decommissioning and the land will be restored, but where this infrastructure is located on ALC Grade 1 or Grade 2 land, there is uncertainty, because of the duration of the operational phase, over whether the land can be returned to its former ALC grade. The ISEP guidance differentiates between irreversible and reversible changes, and as such, for a worst-case assessment any land-take by On-Site Substation and BESS Compounds, Solar Stations and CSEC Compounds will have the hardstanding physically removed and returned to agriculture upon decommissioning. However, professional judgement has been applied with respect to Grade 1 and Grade 2 land where it may not be possible to re-establish that standard of BMV land. For those very highly sensitive receptors, the development of hardstanding has been assessed as though a potentially permanent change. Nonetheless, as the land would be restored to agriculture and over time, soil function would be restored. The **OSMP** (Doc Ref. 7.14) details how topsoil will be first stripped from areas of hardstanding and stored in bunds for re-use and restoration after decommissioning.

5.8.3. The establishment of trees and hedgerows is presented as a permanent change of land use. These habitats are positive for their landscape provision and ecosystem services and for soil function. The withdrawal of BMV land from agriculture represents a potential adverse effect. However, because the planting of trees and hedgerows is confined to the field boundaries, professional judgement has been applied to reduce the effect that application of the ISEP guidelines would generate. The effect has, therefore, been assessed as low magnitude on very highly and highly sensitively land, presenting a **minor adverse** effect which is not significant.

5.8.4. This worst case assessment of irreversible change in ALC grade has not been applied to the areas where solar panel mounting structures, pylons, access

tracks and other structures are proposed. It is considered those activities do not create irreversible impacts as gas exchange and moisture movements within the soil would be unaffected. Any impacts have therefore been assessed as temporary.

5.8.5. The Solar Development Area component elements of the Scheme and their distribution across ALC grades are shown in Table 5-12 for data derived from field averaged soil types. Table 5-13 presents the Solar Development Area component elements of the Scheme for data based on individual auger points. Table 5-14 presents the Inter-Array and Grid Connection elements of the Scheme based on provisional ALC mapping.

Table 5-12: Design elements of the Scheme within ALC grades for the Solar Development Area, based on data that has been derived from field averaged soil type.

Scheme Component	Temporary / Permanent	ALC Grade 1 (ha)	ALC Grade 2 (ha)	ALC Grade 3a (ha)	ALC Grade 3b (ha)	Non-Agricultural Land (ha)	Not Surveyed (ha)	Total (ha)
PV Panels	Temporary	44.6	65.0	166.8	488.9	2.6	35.1	803.0
Solar Stations[14]	Temporary	0.02	0.01	0.03	0.1	0	0.01	0.17
Substation / BESS Compounds[14]	Temporary	5.4	0	6.1	3.0	0	1.4	15.9
New Access Roads	Temporary	0.5	1.4	2.3	8.7	0	1.0	13.9
Construction compounds	Temporary	3.4	0	0.4	5.6	0	0.8	10.2
Proposed trees and shrubs	Permanent	2.6	2.9	11.7	33.4	1.1	0.1	51.8
Proposed Grassland	Temporary	28.6	34.1	94.5	257.2	0.2	16.6	431.2
Retained agricultural land use	Temporary	38.6	8.4	23.6	57.6	0	52.0	180.2
Total (ha)[15]	**Permanent**	8.02	2.91	11.73	33.4	1.1	0.11	51.87
Total (ha)	**Temporary**	115.7	108.9	293.7	821.1	2.8	106.9	1454.5

[14] Although the Scheme component is temporary and will be decommissioned, restoration of land to Grade 1 and 2 has not be guaranteed. For assessment of effect, a permanent impact has been assumed for these grades. The areas are included under permanent land-take within the totals presented in this table.

[15] The total area exceeds that of the Solar Development Area due to overlapping land uses. For instance, at the end of the construction period, the areas used for construction compounds and some temporary access tracks within the illustrative design would then be converted to PV panels and retained agriculture and, therefore, have been accounted under both land-take categories.

Table 5-13: Design elements of the Scheme within ALC grades for the Solar Development Area, based on data that has been derived from individual auger points

Scheme Component	Temporary / Permanent	ALC Grade 1 (ha)	ALC Grade 2 (ha)	ALC Grade 3a (ha)	ALC Grade 3b (ha)	Non-Agricultural Land (ha)	Not Surveyed (ha)	Total (ha)
PV Panels	Temporary	62.5	77.5	162.8	462.9	2.6	35.1	803.4
Solar Stations[16]	Temporary	0.02	0.01	0.04	0.1	0	0.01	0.18
Substation / BESS Compounds[16]	Temporary	5.4	6.1	3.0	1.4	0	0	15.9
New Access Roads	Temporary	0.6	1.8	2.7	7.9	0	1.0	14.0
Construction compounds	Temporary	3.4	0	0.7	5.2	0	0.8	10.1
Proposed trees and shrubs	Permanent	4.5	3.8	10.8	31.5	0.1	1.1	51.8
Proposed Grassland	Temporary	39.6	40.4	91.6	242.9	0.2	16.6	431.3
Retained agricultural land use	Temporary	44.2	11.2	29.9	42.8	0	52.0	180.1
Total (ha)[17]	**Permanent**	9.92	9.91	10.84	31.5	0.1	1.11	51.88
Total (ha)	**Temporary**	150.3	130.9	290.7	763.2	2.81	105.5	1454.9

[16] Although the Scheme component is temporary and will be decommissioned, restoration of land to Grade 1 and 2 has not be guaranteed. For assessment of effect, a permanent impact has been assumed for these grades. The areas are included under permanent land-take are incorporated as permanent within the totals presented in this table.

[17] The total area exceeds that of the Solar Development Area due to overlapping land uses. For instance, at the end of the construction period, the areas used for construction compounds and some temporary access tracks within the illustrative design would then be converted to PV panels and retained agriculture and, therefore, have been accounted under both land-take categories.

Table 5-14: Design elements of the Scheme within ALC grades for the Inter-Array Connections and Grid Connection Route, based on data that has been derived from provisional ALC mapping*

Scheme Component	Temporary / Permanent	ALC Grade 1 (ha)	ALC Grade 2 (ha)
Inter-Array Connections			
Underground Inter-Array Working Area	Temporary	0	16.6
Overhead Inter-Array Working Area	Temporary	6.9	9.1
Overhead Inter-Array H-poles	Temporary	0.02	0.03
Construction Compounds	Temporary	0.2	0.2
Total (ha)	**Temporary**	**7.1**	**25.9**
Grid Connection Route			
Pylon bases	Temporary	0.4	0.1
CSEC Compounds[18]	Temporary	0.4	0
New operational access tracks	Temporary	0.4	0
Temporary working areas and access tracks	Temporary	33.0	2.6
Construction compounds	Temporary	3.1	1.4
Total (ha)	**Temporary**	**37.0**	**4.1**

[18] Although the Scheme component is temporary and will be decommissioned, restoration of land to Grade 1 and 2 has not be guaranteed. For assessment of effect, a permanent impact has been assumed for these grades. The areas are included under permanent land-take within the totals presented in this table.

Scheme Component	Temporary / Permanent	ALC Grade 1 (ha)	ALC Grade 2 (ha)
Total (ha)	**Permanent**	**0.4**	**0**

* Note – only Grade 1 and 2 land has been identified within the Inter-Array Connections and the Grid Connection Route on the basis of provisional ALC mapping.

5.8.6. Significant effects on ALC land would be realised in relation to the very high sensitivity Grade 1 and 2 land (which are not differentiated within the ISEP guidelines). Although Subgrade 3a land is also BMV land (and high sensitivity), the magnitude of impacts is such that effects are minor and not significant, in accordance with the significance criteria defined within Section 5.4 of this chapter. Effects on Subgrade 3b land (non-BMV land) are negligible and not significant.

5.8.7. The Solar Development Area would be established as a grassland sward but the effect of this conversion will limit farming options for BMV land, and in particular affects Grades 1 and 2. The conclusion is the same whether the survey data is attributed (by field-scale soil type or by individual auger points in Table 5-9 or Table 5-10). This represents a long-term reversible land use transition and is a **moderate adverse effect (significant).** Separately, areas of grassland creation without infrastructure and continuation of habitat-led farming represent a negligible, not significant, effect.

5.8.8. Hardstanding will be created on 16.4 ha of the Scheme, for the On-Site Substation and BESS Compounds, Solar Stations and CSEC Compounds. Design evolution, which has included balancing all environmental constraints, engineering and operational feasibility, has resulted in a location of the 400kV Substation and BESS Compound on BMV land and micro-siting would not prevent adverse impacts. Further opportunities may exist at detailed design stage for micro-siting Solar Stations, which have a very low footprint within BMV land. The effect of very low magnitude impact, including for very high sensitivity land results in a minor (not significant) adverse effect. The location of the CSEC Compounds is largely determined by the location of the existing 132kV overhead line, which the Grid Connection Route of the Scheme crosses. The assessment of the CSEC Compounds is based on provisional ALC mapping and assumes Grade 1 / 2 land for a worst-case assessment but to be confirmed by survey, which may identify lower sensitivity land. Surveys would be conducted to inform the detailed SMP, prior to construction.

5.8.9. In these locations, where hardstanding is required, topsoil would be stripped and stored in bunds for restoration. The proposal includes removal and restoration to agricultural land at decommissioning. Some uncertainty exists about the long-term effects to the subsoil from compaction and creation of anaerobic conditions, but the restoration of topsoil over the affected subsoil will allow resumption of agriculture but potentially with land returned at a lower ALC grade. For this reason, while the **OSMP** (Doc Ref. 7.14) does require the restoration as noted above, areas of hardstanding have been assessed as if to experience a permanent effect. Hence this potential long-term reduction to the ALC grade has (as a worst-case and applying professional judgement) been assessed as permanent and represents a **moderate adverse effect (significant)** on highly sensitive ALC land, whether identified as Grade 1 or Grade 2. However, the footprint of the Solar Stations on Grade 1 and 2 land is less than 0.05 ha and, therefore, has been assessed as **minor adverse (not significant)**.

5.8.10. New access roads do not present the same constraint to restoration as the areas of hardstanding and represent a relatively small area (low magnitude). The ISEP guidelines indicate that the effect could be moderate adverse on very highly sensitive land. However, the routing of access has been designed to limit impacts within fields and professional judgement has been applied. The effect although long-term reversible is a **minor adverse effect** on all BMV land and is a non-significant effect.

5.8.11. Planting of trees and shrubs in hedgerows and groups of trees would be considered permanent because, once established, they are anticipated to provide positive ecological and landscape contributions, and would require local authority or Forestry Commission approval for their removal. This would limit the potential for return of highly sensitive land to agriculture upon decommissioning but tree and shrub planting is proposed only along field boundaries and the area of these linear features has been calculated by buffering to each side by 5 m, which may over-estimate the scale of land use change. The measures have beneficial effects in relation to soil function and other environmental services, and the loss of BMV land is limited by strategic location. Within the ISEP guidelines, the application of medium magnitude impacts to very high and high sensitivity land classes would yield major and moderate adverse effects but these assessments over-estimate the effect of planting hedgerows and trees in linear belts along field boundaries. The effect on BMV land has been subject to professional judgement and is **minor adverse** and not significant.

5.8.12. Proposed grassland and habitat-led agricultural land-use (where there is to be no infrastructure) provide no discernible difference to the use of the land for agriculture and the effects are negligible. Whilst this has been incorporated into reporting it falls within standard farming options and the ISEP guidelines have not been applied.

5.8.13. Based on provisional data, agricultural land within the Inter-Array Connections and Grid Connection Route includes BMV land. Short-term temporary withdrawal of working areas from agriculture would be required to install the 400kV overhead line, 132kV overhead line and 132kV underground cable, with any long-term effects associated with above-ground infrastructure that remains on-site for the operational phase, e.g. the pylons and wooden H poles. However, the area occupied by these design elements is small and distributed over a wider area. It is likely that some Grade 1 and 2 land will be withdrawn for this period but based on the low or very low magnitude footprints within fields, professional judgement identifies the effects to be **minor adverse** effect (not significant). All land would be returned to agriculture upon decommissioning. Potential irreversible change in ALC Grade has been assessed for the CSEC Compounds, as set out in paragraph 5.8.1 above, but the area of 0.4 ha represents a **minor adverse** effect (not significant). The determination of the significance of effects is summarised in Table 5 15.

Table 5-15: Significance of effects based on ALC grades, adopting the worst-case outcome of ALC determination, by auger-by-auger reporting. The application of professional judgement to parts of the assessment is explained in the ensuing discussion

Design element	Magnitude of Impact	Significance of effects on Grades 1 and 2 land (very high sensitivity)	Significance of effects on Subgrade 3a land (high sensitivity)	Significance of effects on Subgrade 3b land (medium sensitivity)
Solar Development Area				
PV Panels	Low	Moderate, reversible, significant, long-term (139.9 ha)	Minor, reversible, not significant,	Negligible, reversible, not significant,

Design element	Magnitude of Impact	Significance of effects on Grades 1 and 2 land (very high sensitivity)	Significance of effects on Subgrade 3a land (high sensitivity)	Significance of effects on Subgrade 3b land (medium sensitivity)
			long-term (162.8 ha)	long-term (462.9 ha)
Solar Stations	Low	Minor, reversibility to same ALC grade uncertain and assessed as if permanent, not significant, long-term (0.03 ha)	Negligible, reversible, not significant, long-term (0.04 ha)	Negligible, reversible, not significant, long-term (0.1 ha)
Substation / BESS Compounds	Low	Moderate, reversibility to same ALC grade uncertain and assessed as if permanent, significant, long-term 11.5 ha)	Minor, reversible, not significant, long-term (3.0 ha)	Negligible, reversible, not significant, long-term (1.4 ha)
New access roads (operational and construction)	Low	Minor, reversible, significant, long-term (2.4 ha)	Minor, reversible, not significant, long-term (2.7 ha)	Negligible, reversible, not significant, long-term (7.9 ha)
Proposed trees and shrubs	Low	Minor, assessed as permanent, not significant, long-term (8.3 ha)	Minor, irreversible, not significant, long-term (10.8 ha)	Negligible, irreversible, not significant, long-term (31.5 ha)
Proposed grassland and retained	Very Low	Negligible, reversible, not significant, long-term (135.4 ha)	Negligible, reversible, not significant,	Negligible, reversible, not significant,

Design element	Magnitude of Impact	Significance of effects on Grades 1 and 2 land (very high sensitivity)	Significance of effects on Subgrade 3a land (high sensitivity)	Significance of effects on Subgrade 3b land (medium sensitivity)
agricultural land use			long-term (121.5 ha)	long-term (285.7 ha)
Construction compounds	Low	Minor, reversible, not significant, short-term (3.4 ha)	Negligible, reversible, not significant, short-term (0.7 ha)	Negligible, reversible, not significant, short-term (5.2 ha)
Inter-Array Connections				
Underground and Overhead Inter-Array Working Areas and Construction Compounds	Low	Minor, reversible, significant, short-term (33ha)	n/a	n/a
Overhead Inter-Array H- poles, including agricultural buffer	Very Low	Minor, reversible, not significant, long-term (0.05 ha)	n/a	n/a
Grid Connection Route				
Pylon bases	Low	Minor, reversible, not significant, long-term (0.5 ha)	n/a	n/a
CSEC Compounds	Low	Minor, irreversible, not significant, long-term (0.4 ha)	n/a	n/a

New operational access tracks	Low	Minor, reversible, not significant, long-term (0.4 ha)	n/a	n/a
Temporary working areas, construction compounds and access tracks	Low	Minor, reversible, not significant, short-term (40.1ha)	n/a	n/a

Soil Resource

5.8.14. The impacts on the soil resources have also been assessed and are largely restricted to construction. With the embedded mitigation measures for the sustainable management of soil resources set out in Section 5.7, and the **OCEMP** (Doc Ref. 7.1) and the **OSMP** (Doc Ref. 7.14) in place, there would be no discernible loss or reduction of soil function or soil volume for any of the soil types surveyed. The effect on soil resources and soil function within the PV solar array and habitat mitigation areas would be **negligible (not significant)** for both soil types during the construction of the Scheme.

5.8.15. The Inter-Array and Grid Connection Route corridors identify a much broader area of land than would be required for construction of the Scheme. This allows for a degree of spatial flexibility during final detailed design. The area of soil disturbance and temporary loss of agricultural land would be limited to the bases of H-poles, pylons, CSEC Compounds and their associated working areas, construction compounds and access tracks.

5.8.16. Where soils in the Inter-Array Connections and Grid Connection Route are disturbed, they will be managed to prevent loss of volume or function. Pylons would be located following consideration of a mix of technical and environmental factors, including statutory clearances, which restrict the potential for avoidance of BMV land. The ability to continue its pre-development land use will continue. Detailed soil investigation has not been undertaken throughout the corridors, but medium sensitivity/medium resilience soils are anticipated to be worst case. With the embedded mitigation in place, the significance of change for disturbed soils would be negligible. If some high sensitivity/low resilience soils are identified, their temporary

disturbance would be a **minor adverse effect** and not significant. Hence the effects of construction on soil resources are not significant.

Operational Phase

Agricultural Land

5.8.17. Impacts on agricultural land grades (including restrictions to use of BMV land) within the Solar Development Area have been assessed as part of the construction phase, as this is when the land would initially be removed from agriculture, or a change of agricultural activity would be introduced. Whilst some of these effects would continue into the operational phase, the temporary compounds and working corridors within the Inter-Array Connections and Grid Connection Route would have been returned to agriculture for the operational phase.

Soil Resources

5.8.18. Soil would be protected and managed throughout the operational phase through the application of environmental good practice measures established in documents, such as the **OOEMP** (Doc Ref. 7.11) and **OSMP** (Doc Ref. 7.14).

5.8.19. The disturbance of soil resources within the Solar Development Area is principally during construction. During the operational lifetime of the Scheme, a requirement for maintenance or remedial works, such as repair to on-site cables, is anticipated to be small-scale and localised. For remedial works, work plans and method statements adopting industry standard good practice, as secured through the **OOEMP** (Doc Ref. 7.11) and **OSMP** (Doc Ref. 7.14), would ensure the structure, function and quality of soil resources are maintained.

5.8.20. With the embedded mitigation in place, the magnitude of change would be very low and resulting in **minor adverse** or **negligible effects**, which are not significant.

5.8.21. The change from predominantly arable farming to grassland cover would be beneficial to the structure of soils with the Solar Development Area. Trafficking by agricultural machinery would be reduced. Permanent vegetation cover would protect soils from erosive surface water runoff. Soil organic carbon is anticipated to increase over the operational life of the Scheme (although this would be reversed were cultivation to recommence

upon decommissioning). The British Society of Soil Science[19] identifies that the greatest and most rapid soil carbon gains can be achieved through land use change, such as conversion of arable land to grassland or woodland. The increase to soil carbon stock will increase to a new equilibrium and not increase indefinitely. Whilst improvement to soil structure and increase in soil carbon would be site-wide (large magnitude), professional judgement is applied to moderate the scale of the improvement. The projected operational changes to the soil resource are a **minor beneficial** effect (not significant).

5.8.22. During operation some areas will remain in agricultural production with farming methods tailored to support skylark numbers. These will nonetheless represent normal agricultural operations and as such, there is **no change** from agriculture and soils perspective.

5.8.23. During operation, Inter-Array and the Grid Connection Route corridors will only be subject to routine inspection and reactive maintenance. This would require small-scale and localised works. Again, with the adoption of work plans and method statements, requiring industry standard good practice, as secured through the **OOEMP** (Doc Ref. 7.11) and **OSMP** (Doc Ref. 7.14), the structure, function and quality of soil resources will be maintained. The magnitude of change would be very low and resulting in **minor adverse or negligible effects**, which are not significant.

Decommissioning Phase

5.8.24. Decommissioning methods are not fully established but are anticipated to be of lesser magnitude than the construction effects. The sustainable management of soil resources at decommissioning will be secured through the measures established in the **ODEMP** (Doc Ref. 7.12) and the **OSMP** (Doc Ref. 7.14).

5.8.25. It is anticipated that habitat enhancement involving shrub planting and groups of trees would not be reversed at decommissioning as part of the Scheme. Removal of mature hedgerows and semi-mature trees would require authorisation from the local authority or Forestry Commission. However, decommissioning would include removal of all above ground infrastructure, including the PV arrays, On-Site Substation and BESS Compounds, Solar

[19] British Society of Soil Science (2022) Science Note: Soil Carbon. Available at: https://soils.org.uk/wp-content/uploads/2022/05/BSSS_Science-Note_Soil-Carbon_Final_May22_75YRS_DIGITAL.pdf [Accessed 14/11/2025]

Stations, pylons, CSEC Compounds, access tracks etc. Concrete foundations to these elements would be removed to a depth agreed with the relevant landowner, with the intention of restoring land to its original ALC grade, as set out within the **OSMP** (Doc Ref. 7.14). However, it is acknowledged that there is no observational data for the restoration of land to Grades 1 and 2 farmland, after having been under a concrete base for a period equal to the operational life of the Scheme.

5.8.26. The decommissioning phase will return the land to the landowner for agricultural use. Versatility of land use would be restored upon returning the land to agriculture. Compared to existing baseline, this represents no change.

5.9. Additional Monitoring, Mitigation and Enhancement Measures

5.9.1. There are no further monitoring, mitigation or enhancement measures possible with respect to the significant effects identified in Section 5.8.

5.10. Residual Effects

5.10.1. The residual effects of the Scheme during the construction, operational and decommissioning phases are outlined within Table 5-16.

5.10.2. Effects to Grades 1 and 2 land (very high sensitivity) result in significant outcomes even when the magnitude of effect is low, including temporary impacts. As a result, some residual effects are significant adverse in respect of BMV land. No significant adverse effects are identified on non-BMV land.

5.10.3. Significant residual effects have not been identified on high and medium resilience soil resources.

5.10.4. Moderate adverse (significant) residual effects derive from the long-term sealing of land for On-Site Substation and BESS Compounds, Solar Stations and CSEC Compounds. The adverse effects stem from compaction and anaerobism. However, the adverse effects will be to subsoil, with topsoils having been stripped and stored in bunds.

5.10.5. Laying permeable paving to create operational access roads would be less impactful than the areas of hardstanding referenced above (and the reversibility is more certain). As such, the residual effects associated with the access roads have been assessed as minor adverse (not significant). The restriction to the versatility of BMV land within the Solar Development Area, from construction and during the lifetime of operation, represents a moderate adverse effect but these areas would be restored to agriculture upon decommissioning, with improved soil structure. Should sheep grazing be introduced during operation (using the land for agriculture) then adverse effects could be reduced.

5.10.6. Shrub and tree group planting for habitat creation are assumed to become permanent and represent environmental enhancement. However, their presence will remove some areas of BMV land from agricultural production and with respect to agriculture and soils has been assessed as a minor adverse (not significant) residual effect.

5.10.7. Short-term temporary withdrawal of working areas from agriculture would be required to install the Inter-Array Connections and the Grid Connection Route, with any long-term effects associated with above-ground infrastructure that remains on-site for the operational phase, e.g. the pylons and wooden H poles. Should Grades 1 and 2 land be unavailable for agriculture for this period, this represents a minor adverse (not significant) residual effect,

considering the size of the areas affected and the short duration of any construction works.

Table 5-16: Summary of Residual Effects in relation to Agriculture and Soils

Receptor	Description of Impact	Embedded Mitigation	Significance of Effect Without Additional Mitigation	Additional Mitigation/ Enhancement Measure	Residual Effect
Construction phase					
Grade 1 and 2 (very high sensitivity) agricultural land use within Solar Development Area (PV panels (139.9ha), access roads (2.4ha)) (142.3 ha in total)	Long-term restriction to agricultural use, reversible. Low magnitude of impact.	Good practice measures described in the **OSMP** (Doc Ref. 7.14) and the **OCEMP** (Doc Ref. 7.10)	Moderate adverse	None	Moderate adverse (significant)
Grade 3a (high sensitivity) agricultural land use within Solar Development Area (PV panels (162.8ha), access roads (2.7ha), solar stations (0.04ha), substations (3.0ha)) (168.5 ha in total)	Long-term restriction to agricultural use, reversible. Low magnitude of impact.	Good practice measures described in the **OSMP** (Doc Ref. 7.14) and the **OCEMP** (Doc Ref. 7.10)	Minor adverse	None	Minor adverse (not significant)
Grade 3b (medium sensitivity) agricultural land use within Solar Development Area (PV panels (462.9ha),	Long-term restriction to agricultural use, reversible.	Good practice measures described in the **OSMP** (Doc Ref. 7.14) and the	Negligible	None	Negligible (not significant)

Receptor	Description of Impact	Embedded Mitigation	Significance of Effect Without Additional Mitigation	Additional Mitigation/ Enhancement Measure	Residual Effect
access roads (7.9ha), solar stations (0.1ha), substations (1.4ha)) 472.3 ha in total)	Low magnitude of impact.	**OCEMP** (Doc Ref. 7.10).			
Grade 1 and 2 (very high sensitivity) agricultural land lost to areas of hardstanding (On-Site Substation and BESS Compounds (11.5ha), Solar Stations (0.03ha) and CSEC Compounds (0.4ha)). (11.9ha in total)	Long-term impact of compaction and anaerobic conditions on subsoil. Low magnitude of impact.	Good practice soil handling for topsoil stripping and reuse, described in the **OSMP** (Doc Ref. 7.14).	Moderate adverse	The intended outcome is to restore to the original ALC grade, as set out within the **OSMP** (Doc Ref. 7.14), but there is uncertainty over long-term impacts of soil sealing which may inhibit restoration to the same grade.	Moderate adverse (significant)
Grade 1 and 2 (very high sensitivity) land employed for proposed trees and shrubs (8.3 ha)	Long-term restriction to agricultural use, assessed as permanent. Low magnitude of impact.	Good practice methods for habitat creation described in the **OLEMP** (Doc Ref. 7.16).	Minor adverse	None	Minor adverse (not significant)
Grade 3a (high sensitivity) agricultural land employed for	Long-term restriction to agricultural	Good practice methods for habitat creation	Minor adverse	None	Minor adverse

Receptor	Description of Impact	Embedded Mitigation	Significance of Effect Without Additional Mitigation	Additional Mitigation/ Enhancement Measure	Residual Effect
proposed trees and shrubs (10.8 ha)	use, assessed as permanent. Low magnitude of impact.	described in the **OLEMP** (Doc Ref. 7.16).			(not significant)
Grade 3b (medium sensitivity) agricultural land employed for proposed trees and shrubs (31.5 ha)	Long-term restriction to agricultural use, assessed as permanent. Low magnitude of impact.	Good practice methods for habitat creation described in the **OLEMP** (Doc Ref. 7.16).	Negligible	None	Negligible (not significant)
Proposed grassland and retained agricultural land use on all ALC grades (very high to medium sensitivity). (542.6 ha)	Change in agricultural practice. Low magnitude of impact.	Good practice methods for habitat creation described in the **OLEMP** (Doc Ref. 7.16).	Negligible	None	Negligible (not significant)
Grade 1 and 2 (very high sensitivity) agricultural land use within Inter-Arrays and Grid Connection Route.	Temporary short to long-term restriction to agricultural use, reversible.	Good practice measures described in the **OSMP** (Doc Ref. 7.14) and the	Minor adverse	None	Minor adverse (not significant)

Receptor	Description of Impact	Embedded Mitigation	Significance of Effect Without Additional Mitigation	Additional Mitigation/ Enhancement Measure	Residual Effect
(73.2 ha – short term; 1.3 ha – long term)	Low magnitude of impact.	**OCEMP** (Doc Ref. 7.10).			
Soil resources (soil volumes and functions, low to medium sensitivity)	Damage to soil structure. Low magnitude of impact.	Good practice soil handling described in the **OSMP** (Doc Ref. 7.14)	Minor adverse to negligible	None	Minor adverse to negligible (not significant)
Operational phase					
Effects identified during the construction phase on agricultural land use will continue with the exception of any short-term effects identified for temporary working areas and construction compounds. Any additional effects / changes to effects are listed below.					
Soil resources (soil volumes and functions, low to medium sensitivity)	Operational maintenance works. Low magnitude of impact.	Good practice measures set out in the **OSMP** (Doc Ref. 7.14) and **OOEMP** (Doc Ref. 7.11)	Minor adverse to negligible	None	Minor adverse to negligible (not significant)
Soil resources (soil volumes and functions, low to medium sensitivity)	Improvement to soil structure and carbon sequestration. Low magnitude of impact.	Good practice soil handling described in **OSMP** (Doc Ref. 7.14) and habitat management described in	Minor beneficial	None	Minor beneficial (not significant)

Receptor	Description of Impact	Embedded Mitigation	Significance of Effect Without Additional Mitigation	Additional Mitigation/ Enhancement Measure	Residual Effect
		OLEMP (Doc Ref. 7.16)			
Decommissioning phase					
BMV and non-BMV land restored for agriculture	Returning land to farming.	Good practice measures described in **OSMP** (Doc Ref. 7.14) and **ODEMP** (Doc Ref. 7.12).	No change relative to baseline	None	No change

5.11. Cumulative Effects

5.11.1. Cumulative effects are the combined effects of several development schemes (in conjunction with the Scheme) which may, on an individual basis be insignificant but, cumulatively, have a significant effect. Cumulative effects with other development schemes are also referred to as inter-project cumulative effects. An assessment of the likely significant inter-project cumulative effects in relation to agriculture and soils is provided below.

5.11.2. The assessment of cumulative effects has considered other committed developments outlined within **ES Appendix 4-1: List of Cumulative Schemes** (Doc Ref. 6.3).

5.11.3. Cumulative effects with other solar schemes have been considered within the county of Lincolnshire. Cumulative solar schemes within Lincolnshire are listed within Table 5 17 below

5.11.4. Defra's 'Agricultural facts for the East Midlands region'[20] identifies that the county of Lincolnshire contains approximately 490,000ha of farmland. There is no definitive measure of BMV land in Lincolnshire (because provisional ALC mapping does not differentiate between Subgrades 3a and 3b). Estimates, derived for previous NSIP projects in Lincolnshire, have identified the proportion of BMV land to be in the order of 71%, based on extrapolation from available mapping.

5.11.5. On the basis of the total cumulative land-take calculated within Table 5-17, it is estimated that cumulative solar schemes in Lincolnshire will account for approximately 3% of all agricultural land within Lincolnshire, with above ground infrastructure accounting for approximately 2.3 % of all agricultural land. An estimated 1.1 % of BMV land would be temporarily used and 0.02 % of BMV land permanently used across the identified solar projects in Table 5-17.

5.11.6. Whilst there is a measure of uncertainty around this proportion, it is indicative that the solar schemes represent a small proportion of agricultural and BMV land in the County. Whilst there is an additive effect of multiple cumulative schemes, the regional distribution and relative area of land use change means that the cumulative effects (impact of geographical scaling) from the use of

[20] Defra (2024); Agricultural facts: East Midlands region. Available at: https://www.gov.uk/government/statistics/agricultural-facts-england-regional-profiles/agricultural-facts-east-midland-region [Accessed 17/11/2025]

agricultural land and BMV land are assessed as not significant. This scaling effect is similarly recognised by Defra's UK Food Security Index 2024[21], which captures key indicators, of food security including agricultural land use and agricultural total factor productivity (a measure of the efficiency of production, based on inputs and outputs). Agricultural land use is assessed as broadly stable and agricultural efficiency shows some reduction in risks to food security.

[21] Defra (2024) UK Food Security Index 2024. Available at: https://www.gov.uk/government/publications/uk-food-security-index-2024/uk-food-security-index-2024 {Accessed 5/12/2025]

Table 5-17: Reported agricultural land use for solar NSIP and Town and Country Planning Act 1990 applications in Lincolnshire

Project Name	Application Ref.	Total Site Area (ha)	Total Area of Above Ground Infrastructure (ha)	Permanent Loss of BMV land (ha)	Permanent Loss of non-BMV land (ha)	Temporary change of use of BMV land (ha)	Temporary change of use of non-BMV land (ha)
Scheme (Meridian Solar Project)	EN010169	1,616	834.6	31	31.5	646	763.2
Little Crow Solar Park	EN010101	224.7	224.7	1	0	36.6	188.1
Heckington Fen Solar Park	EN010123	644.79	524	2.8	17.4	254.2	249.6
Gate Burton - Solar & Energy Storage Park	EN010131	824	652	1.31	3.65	72.18	552.88
Mallard Pass Solar Farm	EN010127	852	531	0	0	216	316
Cottam Solar Project	EN010133	1451.23	1179.7	0	0	48.1	1131.6
West Burton Solar Project	EN010132	886.42	769.08	0	0	199.5	557
Tillbridge Solar Project	EN010142	1660	1344.76	0.92	2.54	55.81	1151.08

Project Name	Application Ref.	Total Site Area (ha)	Total Area of Above Ground Infrastructure (ha)	Permanent Loss of BMV land (ha)	Permanent Loss of non-BMV land (ha)	Temporary change of use of BMV land (ha)	Temporary change of use of non-BMV land (ha)
Fosse Green Energy	EN010154	1368	1070	1.5	3.1	282.9	702.4
Springwell Solar Farm	EN010149	1280	675.4	0	0	263.4	412
One Earth Solar Farm	EN010159	1409	1409	0	0	660.9	748.1
Beacon Fen Energy Park	EN010151	757.6	529	23.31	0	226.81	261.43
Vicarage Drove - Solar farm & Battery storage	B/21/0443	80.36	80.36	0	0	80.36	0
Mallows Lane - Solar Farm & Battery Storage	S/152/01297/22	20.24	20.24	0	0	20.24	0
Fen Farm - Solar Park	N/036/00565/24	29.4	29.4	0	0	0	29.4
Belvoir Estate - Solar farm	22/00537/FUL	103.53	103.53	0	0	7.3	96.2

Project Name	Application Ref.	Total Site Area (ha)	Total Area of Above Ground Infrastructure (ha)	Permanent Loss of BMV land (ha)	Permanent Loss of non-BMV land (ha)	Temporary change of use of BMV land (ha)	Temporary change of use of non-BMV land (ha)
Bradley Road - Solar Farm	DM/1156/23/FUL	81.7	73.7	0	0	7.6	66.1
Immingham Solar Farm - Solar Farm	DM/0108/24/FUL	109.55	108	0	0	43	65
Manor Golf Course, Barton Street - Solar Panels	DM/0150/24/FUL	6.5	6.5	0	0	0	6.5
New Earth Solutions West, High Dike - Solar Panels & Battery Storage	22/1646/CCC	11.4	7.8	0	0	0	7.8
Carr Lane - Solar Farm	PA/2021/1359	15.2	15.2	0	0	0	15.2
Sweet Briar Farm - Solar Farm	PA/2022/443	87	87	0	0	62	25
Winterton Road, Roxby - Solar Farm	PA/2024/129	59	59	0	0	59	0

Project Name	Application Ref.	Total Site Area (ha)	Total Area of Above Ground Infrastructure (ha)	Permanent Loss of BMV land (ha)	Permanent Loss of non-BMV land (ha)	Temporary change of use of BMV land (ha)	Temporary change of use of non-BMV land (ha)
Land To The South Of Wittering Ford Road Barnack Stamford - Solar Farm	23/00829/FUL	116	116	0	0	61	55
Cowbridge Road, Bicker Fen - Solar Array	H04-0849-22 / B/22/0356	97.3	97.3	0	0	97.3	0
Moulton Bulb, Long Lane - Solar Array	H13-0190-23	2.24	2.24	0	0	2.24	0
Pilgrims Pride - Solar Array	H16-0871-24	4.9	2.6	0	0	2.6	0
Side Barn, Church Lane - Solar Farm	S24/0360	40.5	40.5	0	0	27.5	13
Welby Solar Farm, Welby - Solar Farm	S24/1040	99.2	99.2	0	0	40.3	58.9

Project Name	Application Ref.	Total Site Area (ha)	Total Area of Above Ground Infrastructure (ha)	Permanent Loss of BMV land (ha)	Permanent Loss of non-BMV land (ha)	Temporary change of use of BMV land (ha)	Temporary change of use of non-BMV land (ha)
Home Farm - Solar PV Farm	S24/2100	54.53	54.53	0	0	53.9	0
Stow Park Farm, Stow Park - Solar Panels	WL/2024/00395	85	85	0	0	15	70
Highgate Lane, Normanby-By-Spital - Solar Photovoltaic Farm	WL/2024/00415	17	17	0	0	2	15
Land off Ealand Road, Keadby/Ealand, Scunthorpe, DN17 4DG	PA/2025/444	80.9	80.9	0	0	75.3	0
Gunthorpe Road, Marsh - Solar Farm	H18-0741-21	73	73	0	0	73	0
Washdyke Farm, Folkingham	S23/0511	27.87	27.87	0	0	14	13.87

Project Name	Application Ref.	Total Site Area (ha)	Total Area of Above Ground Infrastructure (ha)	Permanent Loss of BMV land (ha)	Permanent Loss of non-BMV land (ha)	Temporary change of use of BMV land (ha)	Temporary change of use of non-BMV land (ha)
Limes Farm, Spalding Road, Bourne	S24/2191	72	72	0	0	51	21
Green Lane Gonerby Moor Grantham	S23/1934	57.77	57.77	0	0	8.6	46.5
Holbeach Drove Gate, Solar Panels	H09-0501-23	4.97	1	0	0	1	0
Little Hale Fen	23/1021/FUL	77	77	0	0	77	0
Total:		14,488	11,238	62	58	3,844	7,638