The Great Grid Upgrade

Sea Link

Preliminary Environmental Information Report

Volume: 1

Part 3 Kent Onshore Scheme

Chapter 7 Agriculture and Soils

Version A

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3.7 Agriculture and Soils

3.7.1 Introduction

3.7.1.1 This chapter of the Preliminary Environmental Information Report (PEIR) presents information about the preliminary environmental assessment of the likely significant agriculture and soils effects identified to date, that could result from Sea Link (hereafter referred to as the Proposed Project) (as described in **Volume 1, Part 1, Chapter 4, Description of the Proposed Project**).

3.7.1.2 This chapter describes the methodology used, the datasets that have informed the preliminary assessment, baseline conditions, mitigation measures and the preliminary agriculture and soils residual significant effects that could result from the Proposed Project.

3.7.1.3 The draft Order Limits, which illustrate the boundary of the Proposed Project, are illustrated on **Figure 1.1.1 Draft Order Limits** and the Kent Onshore Scheme Boundary is illustrated on **Figure 1.1.3 Kent Onshore Scheme Boundary**.

3.7.1.4 This chapter should be read in conjunction with:

- **Volume 1, Part 1, Chapter 4, Description of the Proposed Project;**
- **Volume 1, Part 1, Chapter 5, PEIR Approach and Methodology;**
- **Volume 1, Part 1, Chapter 6, Scoping Opinion and EIA Consultation;**
- **Volume 1, Part 2, Chapter 1, Evolution of the Suffolk Onshore Scheme;**
- **Volume 1, Part 2, Chapter 3, Ecology and Biodiversity;**
- **Volume 1, Part 2, Chapter 5, Water Environment;**
- **Volume 1, Part 2, Chapter 6, Geology and Hydrogeology;** and
- **Volume 1, Part 2, Chapter 12, Health and Wellbeing,**

3.7.1.5 This chapter is supported by the following figures:

- **Volume 3, Part 3, Figure 3.7.1 Soilscapes Mapping;**
- **Volume 3, Part 3, Figure 3.7.2 Provisional Agricultural Land Classification Mapping;**
- **Volume 3, Part 3, Figure 3.7.3 Detailed Agricultural Land Classification Mapping**; and
- **Volume 3, Part 3, Figure 3.7.4 Environmental Stewardship Agreements and Woodland Grant Schemes.**

3.7.1.6 This chapter is supported by the following appendix:

- **Volume 2, Part 1, Appendix 1.4.A, Outline Code of Construction Practice.**

3.7.2 Regulatory and Planning Context

3.7.2.1 This section sets out the legislation and planning policy that is relevant to the preliminary agriculture and soils assessment. A full review of compliance with relevant national and local planning policy will be provided within the Planning Statement that will be submitted as part of the application for Development Consent.

3.7.2.2 Policy generally seeks to minimise agriculture and soils effects from development and to avoid significant adverse effects. This applies particularly to the minimisation of effects on best and most versatile (BMV) land and agricultural operations. BMV land comprises Grades 1, 2 and 3a as defined by the Agricultural Land Classification (ALC) system.

Legislation

3.7.2.3 There is no primary legislation specifically relevant to this topic.

National Policy

National Policy Statements

3.7.2.4 National Policy Statements (NPSs) set out the primary policy tests against which the application for a Development Consent Order (DCO) for the Proposed Project would be considered. A review of the NPS was announced in the 2020 Energy white paper: Powering our net zero future. This review was to ensure the NPSs were brought up to date to reflect the policies set out in the white paper. The below information reflects these updates currently under consultation.

3.7.2.5 Table 3.7.1 and Table 3.7.2 below provide details of the elements of NPS for Energy (EN-1) (Ref. 3.7.1) and NPS for Electricity Networks Infrastructure (EN-5) (Ref. 3.7.2), along with any changes in the drafts going through review/consultation, that are relevant to this chapter, and how and where they are covered in the PEIR or will be covered within the Environmental Statement (ES).

Table 3.7.1: NPS EN-1 requirements relevant to agriculture and soils

NPS EN-1 Section	Where this is covered in the PEIR
5.10.8 Applicants should seek to minimise impacts on the best and most versatile agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification) and preferably use land in areas of poorer quality (grades 3b, 4 and 5) except where this would be inconsistent with other sustainability considerations. Applicants should also identify any effects and seek to minimise impacts on soil quality taking into account any mitigation measures proposed. For developments on previously developed land, applicants should ensure that they have considered the risk posed by land contamination'.	The extent of BMV land within the draft Order Limits is reported in Section 3.7.7 Baseline Conditions of this chapter. A preliminary assessment of the likely impacts on BMV land is presented in Section 3.7.9 and will be fully assessed as part of the Agriculture and Soils Chapter of the Environmental Statement (ES), with mitigation measures set out to minimise the effects. Where practicable, BMV land has been avoided, or

NPS EN-1 Section	Where this is covered in the PEIR
	the extent affected will be minimised through the evolution of the design. Risks posed by land contamination are assessed in **Volume 1, Part 3, Chapter 9, Geology and Hydrogeology**.
5.10.15 The IPC should ensure that applicants do not site their scheme on the best and most versatile agricultural land without justification. It should give little weight to the loss of poorer quality agricultural land (in grades 3b, 4 and 5), except in areas (such as uplands) where particular agricultural practices may themselves contribute to the quality and character of the environment or the local economy.	The extent of BMV land within the draft Order Limits is reported in Section 3.7.7 Baseline Conditions of this chapter. A preliminary assessment of the likely impacts on BMV land is presented in Section 3.7.9 and will be fully assessed as part of the Agriculture and Soils Chapter of the ES with mitigation measures set out to minimise the effects.

3.7.2.6 The draft version of the Overarching National Policy Statement for Energy (EN-1), published in March 2023 (Ref. 3.7.3) also includes factors that should be considered when submitting an application and preparing a soils assessment. However, these remain similar to the adopted version and refers to the Secretary of State as the decision maker, rather than the Infrastructure Planning Commission (IPC).

3.7.2.7 The draft document includes the following section which includes additional elements to the adopted version:

- *"5.11.8 Applicants are encouraged to develop and implement a Soil Management Plan which could help minimise potential land contamination"*

3.7.2.8 The mitigation measures will include the requirement for a Soil Management Plan in line with published guidance; an outline Soil Management Plan will be included in the application for development consent alongside the ES. There are no other new or materially different policy considerations for the agriculture and soils within the Draft EN-1, when compared to the current EN-1.

Table 3.7.2: NPS EN-5 requirements relevant to agriculture and soils

NPS EN-5 Section	Where this is covered in the PEIR
1.7.5 Assessment showed that alternative (b) [adoption of a presumption that electricity lines should be put underground] *would have effects similar to those of EN-5 policies for climate change, but that it was likely to have negative effects on the security of supply and economic objectives. Effects on soil, water, ecology and archaeology are likely to be negative, at least in*	The Proposed Project already incorporates undergrounding for the majority of the route. The potential effects for undergrounding for undergrounding the cables or opportunities for trenchless techniques to be utilised will be

NPS EN-5 Section	Where this is covered in the PEIR
the short term, requiring significant mitigation, but there is uncertainty around long term effects depending on the specific location and the sensitivity of the receiving environment. However, long term effects on landscape, townscape and visual impacts will be positive. It would be possible to reduce the potential negative effects of alternative (b) by applying the presumption of undergrounding to particular types of designated landscape, but this would also reduce the perceived positive effect for those outside such areas. Because of the negative effects on security of supply and economic objectives, as well as the other negative effects listed above, it is considered preferable to adopt the policies in EN-5 because the range of factors to be taken into account means that decisions on undergrounding are best taken within a more flexible policy framework using case by case evaluation.	assessed in the Agriculture and Soils Chapter of the ES. A preliminary assessment of the likely impacts is presented in Section 3.7.9 and will be fully assessed as part of the Agriculture and Soils Chapter of the ES with mitigation measures set out to minimise the effects.
2.8.9….the environmental and archaeological consequences (undergrounding a 400kV line may mean disturbing a swathe of ground up to 40 metres across, which can disturb sensitive habitats, have an impact on soils and geology, and damage heritage assets, in many cases more than an overhead line would).	A preliminary assessment of the likely impacts is presented in Section 3.7.9 and will be fully assessed as part of the Agriculture and Soils Chapter of the ES with mitigation measures set out to minimise the effects.
2.13.8 There is little evidence that exposure of crops, farm animals or natural ecosystems to transmission line EMFs has any agriculturally significant consequences.	As set out in the Scoping Report and agreed by the Planning Inspectorate, the potential effects of EMFs on land use during operation has been scoped out of the assessment (see Section 3.7.3 of this chapter for further detail). The Proposed Project includes design considerations such as providing additional clearance of the conductors if any sensitive land uses (such as horse grazing and riding schools).

3.7.2.9 The draft version of the NPS for Electricity Networks Infrastructure (EN-5) (Ref. 3.7.4) also includes factors that should be considered when submitting an application and preparing a soils assessment. However, these remain similar to the adopted version and refers to the Secretary of State as the decision maker, rather than the IPC.

3.7.2.10 The draft document includes the following section which includes additional elements to the adopted version:

- *includes 2.11.14 "…the developer's commitment, as set out in their ES, to mitigate the potential detrimental effects of undergrounding works on any relevant agricultural land and soils, particularly regarding Best and Most Versatile land. As such a commitment must guarantee appropriate handling of soil, backfilling, and return of the land to the baseline Agricultural Land Classification (ALC), thus ensuring no loss or degradation of agricultural land. Such a commitment should be based on soil and ALC surveys in line with the 1988 ALC criteria and due consideration of the Defra Construction Code".*

3.7.2.11 The extent of BMV land within the draft Order Limits is reported in Section 3.7.7 Baseline Conditions of this chapter. A preliminary assessment of the likely impacts is presented in Section 3,7.9 and will be fully assessed as part of the Agriculture and Soils Chapter of the ES with mitigation measures set out to minimise the effects. Where practicable, BMV land will be avoided or the extent affected will be minimised through the evolution of the design. The mitigation measures will include the submission of an outline Soil Management Plan in line with published guidance.

3.7.2.12 There are no other new or materially different policy considerations for the agriculture and soils within the Draft EN-5, when compared to the current EN-5.

National Planning Policy Framework

3.7.2.13 The National Planning Policy Framework (NPPF) (Ref. 3.7.5) has the potential to be considered important and relevant to the SoS' consideration of the Proposed Project. Table 3.7.3 below provides details of the elements of the NPPF that are relevant to this chapter, and how and where they are covered in the PEIR or will be covered within the ES.

Table 3.7.3: NPPF requirements relevant to agriculture and soils

NPPF Section	Where this is covered in the PEIR
Paragraph 174 *"Planning policies and decisions should contribute to enhance the natural and local environment by…recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of best and most versatile agricultural land, and of trees and woodland".* Paragraph 175 footnote *"Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality".*	Where practicable, BMV land will be avoided or the extent affected will be minimised through the evolution of the design. The extent of BMV land within the draft Order Limits is reported in Section 3.7.7 Baseline Conditions of this chapter. A preliminary assessment of likely impacts on BMV land from undergrounding is presented in Section 3.7.9 and will be fully assessed as part of the Agriculture and Soils Chapter of the ES, with mitigation measures, aligned to

NPPF Section	Where this is covered in the PEIR
	published guidance, set out to minimise the effects.

National Planning Practice Guidance

3.7.2.14 There is one National Planning Practice Guidance publications relevant to agriculture and soils, the requirements of which will be covered within the ES.

3.7.2.15 Agricultural land, soil and brownfield land of environmental value (Ref. 3.7.6) covers the quality of agricultural land as defined by the ALC system. The guidance states the importance of soil as an essential natural capital asset and refers to the Defra Code of Practice for the sustainable use of soils on construction sites (Ref. 3.7.7) as a useful source of advice in soil handling.

Local Planning Policy

3.7.2.16 The Kent Onshore Scheme lies within the jurisdiction of Kent County Council. County planning guidance which is relevant to a study of agriculture and soils and has informed the assessment of preliminary effects in this chapter are as follows:

- Thanet Local Plan
- Dover District Council Core Strategy

3.7.2.17 The Kent Onshore Scheme Boundary lies within the boundary of Thanet Local Plan (Ref. 3.7.8) and Dover District Local Plan (Ref. 3.7.9). Local Plan policies which are relevant to agriculture and soils matters and will inform the assessment in the ES include are detailed in Table 3.7.4 and Table 3.7.5.

Table 3.7.4: Local Planning Policies relevant to agriculture and soils – Thanet Local Plan

Thanet Local Plan – Policy	Where this is covered in the PEIR
SP30: Biodiversity and Geodiversity Assets Development proposals will, where appropriate, be required to make a positive contribution to the conservation, enhancement and management of biodiversity and geodiversity assets resulting in a net gain for biodiversity assets through the following measures: […] 5. protect and enhance valued soils,	Soil and ALC surveys will be undertaken to assess the characteristics of the soils present and the functions that they provide. The mitigation measures will include the submission of an outline Soil Management Plan in line with published guidance to minimise negative effects on soil function and which will support the development of the required ecological mitigation.
E16: Best and Most Versatile Agricultural Land Except on sites allocated for development by virtue of other policies in this Plan, planning permission will not be granted for	Where practicable, BMV land will be avoided or the extent affected will be minimised through the evolution of the design. The extent of BMV land within the draft Order Limits is reported in Section 3.7.7 Baseline Conditions of this chapter. A

Thanet Local Plan – Policy	Where this is covered in the PEIR
significant development which would result in the irreversible loss of best and most versatile agricultural land unless it can be clearly demonstrated that: 1) the benefits of the proposed development outweigh the harm resulting from the loss of agricultural land, 2) there are no otherwise suitable sites of poorer agricultural quality that can accommodate the development, and 3) the development will not result in the remainder of the agricultural holding becoming not viable or lead to likely accumulated and significant losses of high quality agricultural land.	preliminary assessment of the likely impacts on BMV land from undergrounding is presented in Section 3.7.9 and will be fully assessed as part of the Agriculture and Soils Chapter of the ES, with mitigation measures aligned to published guidance (set out to minimise the effects). The mitigation measures will include the submission of an outline Soil Management Plan in line with published guidance.

Table 3.7.5: Local Planning Policies relevant to agriculture and soils – Dover District Local Plan

Dover District Local Plan – Policy	Where this is covered in the PEIR
DM15: Protection of the countryside Development which would result in the loss of, or adversely affect the character or appearance, of the countryside will only be permitted if it is: i. In accordance with allocations made in Development Plan Documents, or ii. justified by the needs of agriculture; or iii. justified by a need to sustain the rural economy or a rural community; iv. it cannot be accommodated elsewhere; and v. it does not result in the loss of ecological habitats.	Where practicable, BMV land will be avoided or the extent affected will be minimised through the evolution of the design to minimise potential changes to the character and appearance of the countryside. The extent of BMV land within the draft Order Limits is reported in Section 3.7.7 Baseline Conditions of this chapter. A preliminary assessment of the likely impacts on BMV land from undergrounding is presented in Section 3.7.9 and will be fully assessed as part of the Agriculture and Soils Chapter of the ES, with mitigation measures aligned to published guidance (set out to minimise the effects). The mitigation measures will include the submission of an outline Soil Management Plan in line with published guidance.

Dover District Local Plan – Policy	Where this is covered in the PEIR
Provided that measures are incorporated to reduce, as far as practicable, any harmful effects on countryside character.	

3.7.3 Scoping Opinion and Consultation

Scoping

3.7.3.1 A Scoping Report (Ref. 3.7.10) for the Proposed Project was issued to the Planning Inspectorate (PINS) on 24 October 2022 and a Scoping Opinion (Ref. 3.7.11) was received from the Secretary of State (SoS) on 1 December 2022. Table 3.7.6 sets out the comments raised in the Scoping Opinion and how these have been addressed in this PEIR or will be addressed within the ES. The Scoping Opinion takes account of responses from prescribed consultees as appropriate.

Table 3.7.6: Comments raised in the Scoping Opinion

ID	Inspectorate's comments	Response
4.6.1	**Temporary removal of land from agricultural production (construction, maintenance and decommissioning)** The Applicant proposes to scope out the temporary removal of land from agricultural production on the basis that all land required temporarily would be reinstated, the footprint of the permanent infrastructure is limited and impacts on agricultural operations will be dealt with through compensation agreements which lie outside of the ES process. The Inspectorate considers that effects of temporary removal may be scoped out from further assessment, however the ES should provide an estimate of the quantity of BMV land to be affected by the temporary works, the duration of such works and any long-term changes in land use introduced by associated easements.	It is noted that impacts resulting from the temporary removal of land from agricultural production can be scoped out on the basis that all land required temporarily would be reinstated and the footprint of the permanent infrastructure is limited. Any impacts on agricultural operations will be dealt with through compensation agreements which lie outside of the EIA process. A preliminary assessment of the extent of BMV land affected by temporary works is presented in Section 3.7.9 and will be fully assessed in the ES, with any land use change identified.
4.6.2	**Permanent removal of land from agricultural production (operation)** The Applicant proposes to scope out the permanent removal of land from agricultural production on the basis that all land required temporarily would be	It is noted that impacts resulting from the permanent removal of land from agricultural production can be scoped out. on the basis that all land required temporarily

ID	Inspectorate's comments	Response
	reinstated, the footprint of the permanent infrastructure is limited and impacts on agricultural operations would be dealt with through compensation agreements which lie outside of the ES process. The Inspectorate agrees this matter can be scoped out on the basis the ES confirms the amount of agricultural land to be permanently lost and explains why this is considered 'limited' and not likely to lead to significant effects. Reinstatement of land, and the proposed soil management and handling measures, should be clearly described in the ES and secured through the dDCO.	would be reinstated and the footprint of the permanent infrastructure is limited. Any impacts on agricultural operations will be dealt with through compensation agreements which lie outside of the EIA process. The extent of permanent land take will be detailed in the ES with an explanation of the mitigation which will be implemented to ensure this does not result in a significant effect. An outline Soil Management Plan (SMP) will be included in the submission to set out a framework for soil handling, storage and reinstatement that can be detailed prior to construction commencing.
4.6.3	**Temporary disruption and disturbance to agricultural operations from noise, fragmentation and disruption to water supplies and land drainage (construction, maintenance and decommissioning)** The Applicant proposes to scope out these matters [temporary disruption and disturbance to agricultural operations from noise, fragmentation and disruption to water supplies and land drainage (construction, maintenance and decommissioning)] on the basis that they will be managed through mitigation measures set out within the outline Code of Construction Practice (CoCP), all land required temporarily would be reinstated and impacts on agricultural operations would be dealt with through compensation agreements which lie outside of the ES process. The Inspectorate agrees to scope out this matter on this basis.	It is noted that these impacts can be scoped out. The CoCP will include sufficient detail to provide confidence that the mitigation measures to be implemented will be sufficient.
4.6.4	**EMFs on land use – operation** The Applicant proposes to scope out the effects of EMFs on land use during operation of the Proposed Development	It is noted that EMF impacts on land use during operation can be scoped out. The relevant

ID	Inspectorate's comments	Response
	on the basis that there is little evidence that exposure of crops, farm animals or natural ecosystems to transmission line EMFs has any agriculturally significant consequences. The Applicant proposes to undertake a walkover survey of the indicative alignment to identify land use and activities that may require additional clearance of the conductors. The Applicant will also provide the relevant information on EMFs in a separate document submitted as part of the application for development consent which will demonstrate compliance in accordance with the ICNIRP guidelines and paragraph 2.10.9 of EN-5. On this basis, the Inspectorate agrees to scope out operational effects from EMFs on land use.	information will be provided in the ES to support this.
4.6.5	**Economic effects on landowners (construction, operation, maintenance, and decommissioning)** Paragraph 3.7.6.12 of the Scoping Report proposes to scope out economic effects on individual landowners and farmers on the basis that most of the land will be reinstated by the end of the construction phase and any claims regarding compensation will be addressed outside of the EIA process. The Inspectorate agrees that significant effects are unlikely and is therefore content that this matter can be scoped out of further assessment.	It is noted that the economic effects on landowners can be scoped out of the EIA. The majority of any financial consequences on individual landowners and farmers will be temporary, as most of the land will be reinstated by the end of the construction phase and any claims regarding compensation will be addressed outside of the EIA process. As such, potential economic effects on individual landowners and farmers have been identified as being scoped out of the EIA.
4.6.6	**Temporary loss of BMV land and temporary disturbance to soils and associated ecosystem services (construction, maintenance, and decommissioning)** Paragraph 3.7.6.6 of the Scoping Report states that until soil surveys have been undertaken to understand sensitivity of soils to handling, storage and reinstatement, construction effects on soils and ALC will be scoped into the ES. The ES should include the necessary information to demonstrate impacts can	A preliminary assessment of the soils and their sensitivity to handling, storage and reinstatement is presented in Section 3.7.9 and will be fully set out in the ES based on available desk-study information and the results from soil surveys.

ID	Inspectorate's comments	Response
	be avoided or reduced to exclude significant effects or provide an assessment where likely significant effects could occur.	
4.6.7	**Permanent loss of BMV land and permanent disturbance to soils and associated ecosystem services (operation)** Paragraph 3.7.6.7 of the Scoping Report states that the land grades and soil types affected would be confirmed through the assessment process and as such, permanent impacts on soils and ALC will initially be scoped into the assessment. It's further stated that if the site survey confirms that the permanent land affected is not BMV land or that the cumulative loss is below the magnitude threshold for a likely significant effect, then permanent loss of agricultural land during operation would be scoped out of the ES. The Inspectorate agrees with this approach and considers that an assessment of the effects arising from the loss of BMV land during operation should be included within the ES, where significant effects are likely to occur.	A preliminary assessment of the soils and their sensitivity to handling, storage and reinstatement is presented in Section 3.7.9 and will be fully set out in the ES based on available desk-study information and the results from soil surveys.
4.6.8	**Temporary loss of BMV land and temporary disturbance to soils and associated ecosystem services (maintenance)** Paragraph 3.7.6.8 of the Scoping Report states that any maintenance or repair works required which would result in disturbance to soils during operation of the project would be undertaken in accordance with good practice soil handling methods. It's further stated that no likely significant effects on soils or ALC during operational maintenance or repair activities are therefore concluded and this aspect is scoped out of the ES. This is in contradiction to the information contained within Table 3.7.1 which proposes to scope in the temporary loss of BMV land and temporary disturbance to soils and associated ecosystem services from maintenance activities (to be reviewed once soil surveys are	A preliminary assessment of the soils and their sensitivity to disturbance during maintenance and the presence of BMV land is presented in Section 3.7.9 and will be fully assessed in the ES based on available desk-study information and the results from soil surveys.

ID	Inspectorate's comments	Response
	complete).The ES should clearly define the scope for the aspect and the Inspectorate considers that an assessment of the effects arising from the temporary loss of BMV land and temporary disturbance to soils and associated ecosystem services should be included within the ES, where significant effects are likely to occur.	

Consultation and Project Engagement

3.7.3.2 Engagement with consultees has been primarily through the Scoping Opinion and through the data requests made to consultees to inform the baseline conditions.

3.7.3.3 Additional engagement with Natural England to agree the agriculture and soils assessment methodology will be undertaken and reported in the ES.

3.7.4 Approach and Methodology

3.7.4.1 **Volume 1, Part 1, Chapter 5, PEIR Approach and Methodology** sets out the overarching approach which has been used in developing the preliminary environmental information. This section describes the technical methods used to determine the baseline conditions, sensitivity of the receptors and magnitude of effects and sets out the significance criteria that have been used for the preliminary agriculture and soils assessment.

Guidance Specific to the Agriculture and Soils Assessment

3.7.4.2 The preliminary agriculture and soils assessment has been carried out in accordance with the following good practice guidance documents:

- Department for Environment, Food and Rural Affairs (Defra, 2009) Safeguarding our Soils: A strategy for England (Ref. 3.7.12);
- Natural England Technical Information Note 049. Agricultural Land Classification. Protecting the Best and Most Versatile Agricultural Land (Ref. 3.7.13);
- Natural England Guide to assessing development proposals on agricultural land (Ref. 3.7.14);
- The British Society of Soil Science Guidance Note: Working with Soil Guidance Note on Benefitting from Soil Management in Development and Construction (Ref. 3.7.15);
- British Standard Specification for Topsoil and Requirements for Use (BS3882:2015) (Ref. 3.7.16);
- Defra Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Ref. 3.7.7);
- Ministry of Agriculture, Fisheries and Food (MAFF) Good Practice Guide for Handling Soils (Ref. 3.7.17);

- MAFF Agricultural Land Classification of England and Wales. Revised Guidelines and Criteria for Grading the Quality of Agricultural Land (Ref. 3.7.18); and
- IEMA A new perspective on land and soil in Environmental Impact Assessment (Ref. 3.7.19).

Baseline Data Gathering and Forecasting Methods

3.7.4.3 The agriculture and soils baseline assessment presented in this chapter has been informed by a desk study which has drawn on the following key information sources:

- Ordnance Survey mapping and aerial photography to establish land use and settlement patterns;
- Soilscape mapping showing the distribution of main soil types was assessed on the Land Information System website[1];
- ALC mapping, including provisional and (where available) detailed ALC mapping from the MAGIC website[2]; and
- Extent of agri-environmental and woodland schemes from the MAGIC website.

3.7.4.4 In addition, the ES will be informed by the following additional third-party data and data obtained through survey. This would include:

- Detailed agricultural land classification surveys of relevant areas. It is proposed that soils and ALC surveys, in accordance with published guidance, would be undertaken where there would be disturbance to the soils, for example where significant permanent infrastructure is proposed (this would exclude individual pylon locations based on the very limited footprint of the tower feet), land use change for Biodiversity Net Gain, sections of haul route, and construction compound locations through particularly sensitive soils (such as heavy soils prone to compaction) and where undergrounding is proposed.
- Climatic data and Land Information System Soil Site Report for land within the draft Order Limits for the Kent Onshore Scheme.

Assessment Criteria

3.7.4.5 The assessment is based on guidance set out by IEMA on how land and soil should be assessed in EIA.

3.7.4.6 The IEMA guidance seeks to move practice away from a narrow focus on quantifying and financially compensating impacts on agricultural land and advocates a new and wider approach to assessing the soil functions, ecosystem services, and natural capital provided by land and soils.

3.7.4.7 The key parameters and assumptions will be reviewed based on the final design and, where required, updated or refined. The ES will present the final key parameters and assumptions used within that assessment, particularly drawing attention to any areas that may have changed from what is presented in this preliminary assessment.

[1] LandIS - Land Information System

[2] Intranet - Home (defra.gov.uk)

3.7.4.8 For this preliminary assessment, it is assumed that all areas temporarily disturbed during construction would be reinstated and the existing land use resumed. The exception being the areas of permanent land use change.

Sensitivity

3.7.4.9 The criteria used to determine the value and sensitivity of receptors specific to agriculture and soils are set out in Table 3.7.7.

Table 3.7.7: Value and Sensitivity criteria for the agriculture and soils assessment

Receptor sensitivity	Soil resource and soil functions
Very High	**Biomass production**: ALC Grades 1 and 2. **Ecological habitat, soil biodiversity and platform for landscape**: soils supporting protected features within a European site (e.g., Special Area of Conservation (SAC), Special Protection Area (SPA), Ramsar); peat soils; soils supporting a National Park, or ancient woodland. **Soil carbon**: peat soils; soils with potential for ecological/landscape restoration. **Soil hydrology**: very important catchment pathway for water flows and flood risk management. **Archaeology, cultural heritage, community benefits and geodiversity**: scheduled monuments and adjacent areas; World Heritage and European designated sites; soils with known archaeological interest; soils supporting community/recreational/educational access to land covered by National Park designation. **Source of materials**: important surface mineral reserves that would be sterilised (i.e., without future access).
High	**Biomass production**: ALC Grade 3a. **Ecological habitat, soil biodiversity and platform for landscape**: soils supporting protected features within a UK designated site (e.g. United Nations Educational, Scientific and Cultural Organization (UNESCO) Geoparks, Site of Special Scientific Interest (SSSI) or Areas of Outstanding Natural Beauty (AONB), Special Landscape Area (SLA) and Geological Conservation Review sites); native forest and woodland soils; unaltered soils supporting semi-natural vegetation. **Soil carbon**: organo-mineral soils (e.g. peaty soils). **Soil hydrology**: important catchment pathway for water flows and flood risk management. **Archaeology, cultural heritage, community benefits and geodiversity**: soils with probable but as yet unproven (prior to being revealed by construction) archaeological interest; historic parks and gardens; Regionally Important Geological Site (RIGS); soils

Receptor sensitivity	Soil resource and soil functions
	supporting community/recreational/educational access to RIGS and AONBs. **Source of materials**: surface mineral reserves that would be sterilised (i.e., without future access).
Medium	**Biomass production**: ALC Grade 3b. **Ecological habitat, soil biodiversity and platform for landscape**: soils supporting protected or valued features within non-statutory designated sites (e.g. Local Nature Reserves (LNR), Local Geological Sites (LGSs), Sites of Nature Conservation Importance (SNCIs), SLA; non-native forest and woodland soils. **Soil carbon**: mineral soils with elevated soil carbon. **Soil hydrology**: important minor catchment pathway for water flows and flood risk management. **Archaeology, cultural heritage, community benefits and geodiversity**: soils with possible but as yet unproven (prior to being revealed by construction) archaeological interest; soils supporting community/recreational/educational access to land. **Source of materials**: surface mineral reserves that would remain accessible for extraction.
Low	**Biomass production**: ALC Grade 4 and 5. **Ecological habitat, soil biodiversity and platform for landscape**: soils supporting valued features within non-designated notable or priority habitats/landscapes. Agricultural soils **Soil carbon**: mineral soils. **Soil hydrology**: pathway for local water flows and flood risk management. **Archaeology, cultural heritage, community benefits and geodiversity**: soils supporting no notable cultural heritage, geodiversity nor community benefits; soils supporting limited community/recreational/educational access to land. **Source of materials**: surface mineral reserves that would remain accessible for extraction.
Negligible	As for low sensitivity, but with only indirect, tenuous, and unproven links between sources of impact and soil functions.

Magnitude

3.7.4.10 The criteria used to determine the magnitude of impact for soils and agriculture are set out in Table 3.7.8.

Table 3.7.8: Magnitude of impact criteria for the soils and agriculture assessment

Magnitude of impact (change)	Description of impacts restricting proposed land use
Large	Permanent, irreversible loss of one or more soil functions or soil volumes (including permanent sealing or land quality downgrading), over an area of more than 20 ha or loss of soil-related features set out in Table 3.7.7, as advised by other topic specialists in EIA Team (including effects from 'temporary developments'). or Potential for permanent improvement in one or more soil functions or soil volumes due to remediation or restoration over an area of more than 20 ha or gain in soil-related features set out in **Table 3.7.7**, as advised by other topic specialists (including effects from 'temporary developments').
Medium	Permanent, irreversible loss of one or more soil functions or soil volumes, over an area of between 5 and 20 ha or loss of soil-related features set out in Table 3.7.7, as advised by other topic specialists in EIA Team (including effects from 'temporary developments'). or Potential for permanent improvement in one or more soil functions or soil volumes due to remediation or restoration over an area of between 5 and 20 ha or gain in soil-related features set out in Table 3.7.7, as advised by other topic specialists.
Small	Permanent, irreversible loss over less than 5 ha or a temporary, reversible loss of one or more soil functions or soil volumes), or temporary, reversible loss of soil-related features set out in Table 3.7.7, as advised by other topic specialists in EIA Team. or Potential for permanent improvement in one or more soil functions or soil volumes due to remediation or restoration over an area of less than 5 ha or a temporary improvement in one or more soil functions due to remediation or restoration or off-site improvement, or temporary gain in soil-related features set out in Table 3.7.7, as advised by other topic specialists.
Negligible	No discernible loss or reduction or improvement of soil functions or soil volumes that restrict current or proposed land use.

*Temporary developments can result in a permanent impact if resulting disturbance or land use change causes permanent damage to soils

Significance of effects

3.7.4.11 As set out in **Volume 1, Part 1, Chapter 5, PEIR Approach and Methodology** the general approach taken to determining the significance of effect in this preliminary assessment is only to state whether effects are likely or unlikely to be significant, rather than assigning significance levels.

3.7.4.12 The assessment has been undertaken based on preliminary design information for the Proposed Project. The assessment is an iterative process and would be updated for the ES as the design evolves and relevant changes are accounted for.

Assumptions and Limitations

3.7.4.13 No limitations have currently been identified. The assessment presented in this chapter is based on publicly available data.

3.7.4.14 The full assessment presented in the ES will be reliant on land access to enable focussed soil and ALC surveys; the extent of surveys undertaken will be fully detailed in the assessment reported in the ES.

3.7.5 Basis of Assessment

3.7.5.1 This section sets out the assumptions that have been made in respect of design flexibility maintained within the Proposed Project and the consideration that has been given to alternative scenarios and the sensitivity of the preliminary assessment to changes in the construction commencement year.

3.7.5.2 Details of the available flexibility and assessment scenarios are presented in **Volume 1, Part 1, Chapter 4 Proposed Project Description** and **Volume 1, Part 1, Chapter 5, PEIR Approach and Methodology**.

Flexibility assumptions

3.7.5.3 The main preliminary assessments have been undertaken based on the description of the Proposed Project provided in **Volume 1, Part 1, Chapter 4, Description of the Proposed Project**. To take account of the flexibility allowed in the Proposed Project, consideration has been given to the potential for preliminary effects to be of greater or different significance should any of the permanent or temporary infrastructure elements be moved within the Limits of Deviation (LoD) or draft Order Limits.

3.7.5.4 The assumptions made regarding the use of flexibility for the main assessment, and any alternatives assumptions are set out in Table 3.7.9 below.

Table 3.7.9: Flexibility Assumptions

Element of flexibility	Proposed Project assumption for initial preliminary assessment	Flexibility assumption considered
Lateral LoD HVDC cables	Change to the cable route within the draft Order Limits, assuming installation technique is open cut.	Lateral deviation of the route would not be expected to result in new impacts on agriculture and soils; the soil conditions across the full draft order limits have been assessed and therefore the maximum flexibility has been assessed under the preliminary assessment.

Lateral LoD Minster Converter Station and Minster Substation	Footprint of Minster Converter Station as described in **Volume 1, Part 1, Chapter 4, Description of the Proposed Project**.	Changes to the footprint of the Converter Station and Minster Substation would not be expected to result in new impacts on agriculture and soils; the soil conditions across the full draft order limits have been assessed and therefore the maximum flexibility has been assessed under the preliminary assessment.
Vertical LoD Minster Converter Station and Minster Substation	Vertical LoD for Minster Converter Station may increase in height or depth.	The vertical LoD does not change the assessment presented in this chapter as they remain inside the draft Order Limits.
Lateral LoD overhead line	Overhead line alignment as shown on **Figure 1.4.9 Kent Onshore Scheme HVAC Connection Option 1, Figure 1.4.10 Kent Onshore Scheme HVAC Connection Option 2 and Figure 1.4.11 Kent Onshore Scheme HVAC Connection Option 3**.	Changes to the overhead line alignment would not be expected to result in new impacts on agriculture and soils, though different soil types or land grades may be affected.
Vertical LoD overhead line	Vertical LoD for overhead line may increase in height or depth described in **Volume 1, Part 1, Chapter 4, Description of the Proposed Project**.	The vertical LoD does not change the assessment presented in this chapter as they remain inside the draft Order Limits and the low height option should not restrict normal agricultural operations.

Consideration of Scenarios and Options

3.7.5.5 Two alternative scenarios have been considered within each of the technical assessment chapters in Part 3. These are:

- The use of either low height or standard height pylons for the HVAC connection. Within this scenario there are three options as explained in **Volume 1, Part 1, Chapter 4, Description of the Proposed Project**; and
- Permanent access to Minster Converter Station and Substation is either taken off the A256 (through bellmouth BM02) or off Jutes Lane through bellmouth BM03 but with bellmouth BM02 being retained for any abnormal indivisible load (AIL) movements during maintenance and operation as explained in **Volume 1, Part 1, Chapter 4, Description of the Proposed Project**.

3.7.5.6 Table 3.7.10 details where these scenarios are relevant to the preliminary agriculture and soils assessment and how they have been assessed and reported in Section 3.7.9 Preliminary Assessment of Effects.

Table 3.7.10: Consideration of Scenarios

Assessment scenario	How it has been considered within the preliminary assessment
Pylon types	There is no material difference between the different options with regard to the potential impacts on agricultural and soil receptors. Whilst the low height option would require more pylons and therefore more land take, pylon footprints are very limited and so there would be no material change in the overall impact.
Permanent access to Minster Converter Station and Substation	The two access routes have been reviewed to determine any differences in the effects on agricultural and soil receptors. It is considered that there is no material difference between the two options subject to confirmation of any differences in soil type or land grade in these locations (which will be confirmed through soil and ALC surveys). The entire draft Order Limits are being assessed in relation to the potential impacts on agriculture and soils and this includes both permanent access options.

Sensitivity Test

3.7.5.7 It is likely that under the terms of the draft DCO, construction could commence in any year up to five years from the granting of the DCO which is assumed to be 2026. Consideration has been given to whether the preliminary effects reported would be any different if the works were to commence in any year up to year five. Where there is a difference this is reported in Section 3.7.9 Preliminary Assessment of Effects.

3.7.6 Study Area

3.7.6.1 The study area for agriculture and soils comprises the land which would be directly affected within the draft Order Limits for the Kent Onshore Scheme (through disturbance or temporary covering of the soils). This is illustrated in **Figure 3.7.1 Soilscapes Mapping.** This is based on consideration of the distance over which likely significant effects can reasonably be expected to occur and technical knowledge of similar schemes.

3.7.7 Baseline Conditions

Soils

3.7.7.1 The solid geology underlying the study area is described as comprising the Thanet Formation. This comprises sand, silt and clay sedimentary rocks formed approximately 56 to 59 million years ago in the Palaeogene Period. This solid geology is in the main overlain by tidal flat deposits within the study area. This material comprises clay and silt and was deposited around 2 million years ago in the Quaternary Period. Along the alignment of Richborough Way these superficial deposits are absent. Further detail is provided in **Volume 1, Part 3, Chapter 6 Geology and Hydrogeology**.

3.7.7.2 The soil types present within the study area are predominantly described as loamy and clayey soils of coastal flats with naturally high groundwater (**Figure 3.7.1 Soilscapes Mapping**). These soils are formed in the tidal flat deposits. Where these drift deposits are absent (along the alignment of Richborough Way) the soils are described as freely draining slightly acid loamy soils formed directly on the solid geology.

Agricultural land classification

3.7.7.3 Provisional ALC mapping (**Figure 3.7.2 Provisional Agricultural Land Classification Mapping**) shows that the study area comprises Grade 2 land. This mapping, at a scale of 1:250,000, does not distinguish between Grades 3a and 3b (and cannot be used to inform site-specific assessments) but provides an indication of the likely land classification.

3.7.7.4 There is some detailed ALC mapping available for the study area, based on surveys undertaken in 1993. The land east of Ebbsfleet Lane and to the west of Ebbsfleet Farmhouse/Great Oaks Small School has been mapped as a mix of Grade 2 and Grade 3a (as shown in **Figure 3.7.3 Detailed Agricultural Land Classification Mapping**).

3.7.7.5 Topography is unlikely to pose a limitation to land grade. Flood risk is likely to pose a limitation to land grade along the coastal strip and in the lowest lying areas. The limitation may be reduced by the presence of the drainage ditch network and this would be assessed during the ALC surveys.

3.7.7.6 Climate is unlikely to pose an overall limitation on ALC grade in relation to the criteria set out in the ALC Guidelines (Ref. 3.7.18). Climate does, however, have an important influence on the interactive limitations of soil wetness and soil droughtiness, which is the balance between rainfall and water losses from the soil. The study area has both relatively low rainfall and a long growing season, acting to decrease the severity of any potential soil wetness limitation, but increasing the severity of any potential soil droughtiness limitation.

Land Use

3.7.7.7 A desk-based study using aerial photographs, along with information from other survey visits, has shown that the land use appears to be principally arable, with small areas of pasture on either side of the River Stour, and St Augustine's golf course east of Richborough Way.

3.7.7.8 There are areas of land within the study area under Countryside Stewardship (Higher Tier) Agreements and areas south of the River Stour under Entry Level plus Higher Level Environmental Stewardship agreements. Small areas of land east of Richborough Way (associated with the golf course) are also under Woodland Grant schemes (see **Figure 3.7.4 Environmental Stewardship Agreements and Woodland Grant Schemes**).

Future Baseline

3.7.7.9 It is considered that the baseline in relation to soils and ALC grades will not change from that described within the timeframe for the construction of this Project. Whilst there may be potential changes in relation to climate change, including greater rainfall intensity and droughts, that could affect soil conditions, land grade and farming practices, it is likely that these would only be visible over longer time frames.

3.7.7.10 There could potentially be changes to land management practices and business approaches across the landowners/land managers.

3.7.8 Mitigation

3.7.8.1 As set out in **Volume 1, Part 1, Chapter 5, PEIR Approach and Methodology**, mitigation measures typically fall into one of the three categories: embedded measures; control and management measures; and mitigation measures.

Embedded Measures

3.7.8.2 Embedded measures have been integral in reducing the agriculture and soils effects of the Proposed Project. Measures that that have been incorporated are:

- Sensitive routeing and siting of infrastructure and temporary works;
- Rationalisation of the design to minimise permanent land take requirement;
- Commitments made within **Volume 2, Part 1, Appendix 1.4.F, Outline Schedule of Environmental Commitment and Mitigation Measures**; and
- The temporary nature of many construction activities and the subsequent restoration of the land and its return to the preconstruction use is likely to result in the avoidance of long-term impacts on agricultural and soil receptors.

Control and Management Measures

3.7.8.3 The following measures have been included within **Volume 2, Part 1, Appendix 1.4.A, Outline Code of Construction Practice** relevant to the control and management of impacts that could affect agriculture and soils receptors:

- GG03: A CEMP, a Landscape and Ecoligcal Management Plan (LEMP) and an Construction Traffic Management Plan (CTMP) will be produced prior to construction. The CEMP shall include measures to manage dust, waste, water, noise, vibration and soil during construction. The contractor(s) shall undertake daily site inspections to check conformance to the Management Plans.
- GG19: Earthworks and stockpiled soil will be protected by covering, seeding or using water suppression where appropriate.
- AS01: Soil management measures will be included within the CEMP. Measures would be set out in a Soil Management Plan (based on soil and ALC survey information) and would include but not be limited to the following:
  - Based on the soil resources present;
  - how the topsoil and subsoil will be stripped and stockpiled;
  - suitable conditions for when soil handling will be undertaken, for example avoiding handling of waterlogged soil;
  - indicative soil storage locations;
  - how soil stockpiles will be designed taking into consideration site conditions and the nature/composition of the soil;
  - specific measures for managing sensitive soils;

  - suitable protective surfacing where soil stripping can be avoided, and weed suppression encouraged, based on sensitivity of the environment and proposed works;
  - approach to reinstating soil that has been compacted, where required; and
  - details of measures required for soil restoration.

- AS02: Where land is being returned to agricultural use, the appropriate soil conditions (for example through the replacement of stripped layers and the removal of any compaction) will be recreated. This will be achieved to a depth of 1.2m (or the maximum natural soil depth if this is shallower) except over the buried cables where the reinstated soil depth will be approximately 0.9m.
- AS03: Access to and from residential, commercial, community and agricultural land uses will be maintained throughout the construction period or as agreed through landowner discussions. This may require signed diversions or temporary restrictions to access. The means of access to affected properties, facilities and land parcels will be communicated to affected parties at the start of the project, with any changes communicated in advance of the change being implemented. Where field-to-field access points require alteration as a result of construction, alternative suitable field access will be provided in consultation with the landowner/occupier.
- AS04: Existing water supplies for livestock will be identified pre-construction. Where supplies will be lost or access compromised by construction works, temporary alternative supplies will be provided. Water supplies will be reinstated following construction.
- AS05: Consultation with affected landowners will be carried out to investigate the current extent of land drainage. A scheme of pre-construction land drainage will be designed with the intent of maintaining the efficiency of the existing land drainage system and to assist in maintaining the integrity of the working area during construction. The project may include a system of ‘cut-off’ drains which feed into a new header drain and the project will also take into account surface water runoff measures.
- AS06: Should animal bones be discovered during construction, which may indicate a potential burial site, works will cease, and advice will be sought from the Animal Health Regional Office on how to proceed, relevant to the origin and age of the materials found.
- AS07: All movement of plant and vehicles between fields will cease in the event of a notification by Defra of a disease outbreak in the vicinity of the site that requires the cessation of activities. Advice will be sought from Defra in order to develop suitable working methods required to reduce the biosecurity risk associated with the continuation of works.
- AS08: Clay bungs or other vertical barriers will be constructed within trench excavations where deemed necessary by a suitably experienced person, to prevent the creation of preferential drainage pathways.

Mitigation Measures

3.7.8.4 Mitigation measures are additional topic and site-specific measures that have been applied to mitigate or offset any likely significant effects. No specific mitigation measures have been identified in relation to agriculture and soils receptors which would be additional to the measures listed above.

3.7.9 Preliminary Assessment of Effects

3.7.9.1 The preliminary assessment of the effects of the Kent Onshore Scheme described in this section considers the embedded, control and management and mitigation measures described in Section 3.7.8.

3.7.9.2 The preliminary agriculture and soils assessment of the effects of the Kent Onshore Scheme is presented in the following tables.

3.7.9.3 Table 3.7.11 presents the preliminary assessment of the temporary loss of BMV land.

Table 3.7.11: Preliminary assessment of the temporary loss of BMV land

	Preliminary assessment
Receptor	BMV land
Potential Impact	Temporary removal and loss of BMV land from agricultural production within areas required for construction, maintenance and decommissioning works.
Proposed Project phase	Construction, Maintenance, Decommissioning
Duration	Temporary (short term)
Mitigation	GG03, GG19, AS01, AS02, AS03, AS05
Preliminary sensitivity	Very High (Grades 1 and 2) to High (Grade 3a)
Preliminary magnitude	Negligible The measures set out in Section 3.7.8 would ensure good practice soil handling, storage and reinstatement approaches such that land would be returned to the preconstruction condition and grade and thus would continue to provide the soil functions present pre-construction. This would primarily be achieved through the implementation of the Soil Management Plan.
Preliminary likely significance of effect	Likely **Not Significant**
Sensitivity Test	No difference in significance of effect
Confidence in prediction	Moderate – magnitude of impact to be confirmed through ALC surveys

3.7.9.4 Table 3.7.12 provides the preliminary assessment of the permanent loss of BMV land.

Table 3.7.12: Preliminary assessment of the permanent loss of BMV land

	Preliminary assessment
Receptor	BMV land
Potential Impact	Permanent removal of BMV land from agricultural production
Proposed Project phase	Operation
Duration	Permanent (long term)
Mitigation	Rationalisation of the design to minimise permanent land take requirement
Preliminary sensitivity	Very High (Grades 1 and 2) to High (Grade 3a)
Preliminary magnitude	Medium / Large Based on the description of the Proposed Project set out in **Volume 1, Part 1, Chapter 4, Description of the Proposed Project**, it is likely that the extent of BMV land permanently lost will exceed the thresholds for a medium or large magnitude impact. Whilst implementation of good practice soil handling, storage and re-use approaches as set out in the soil Management Plan would maximise the re-use of the soil from these areas and thus ensure the continuation of a range of soil functions, it is not possible to mitigate for the permanent loss of BMV land.
Preliminary likely significance of effect	Likely **Significant**
Sensitivity Test	No difference in significance of effect
Confidence in prediction	Moderate – magnitude of impact to be confirmed through ALC surveys

3.7.9.5 Table 3.7.13 provides the preliminary assessment of the temporary loss of soil quality and associated ecosystem services.

Table 3.7.13: Preliminary assessment of the temporary loss of soil function

	Preliminary assessment
Receptor	Soil quality and ecosystem services
Potential Impact	Changes to one or more soil function (biomass production; supporting ecological habitat, soil biodiversity or landscape areas; soil carbon; soil hydrology; supporting archaeological or cultural heritage resources) within the areas required for construction, maintenance and decommissioning works.
Proposed Project phase	Construction, Maintenance, Decommissioning
Duration	Temporary (short term)

	Preliminary assessment
Mitigation	GG03, GG19, AS01, AS02, AS03, AS05
Preliminary sensitivity	High (due to likelihood of soils providing important soil functions)
Preliminary magnitude	Negligible The measures set out in Section 3.7.8 would ensure good practice soil handling, storage and reinstatement approaches such that land would be returned to the preconstruction condition and thus minimise potential impacts on the range of soil functions provided. This would primarily be achieved through the implementation of the Soil Management Plan
Preliminary likely significance of effect	Likely **Not Significant**
Sensitivity Test	No difference in significance of effect
Confidence in prediction	Moderate – magnitude of impact to be confirmed through soil surveys

3.7.9.6 Table 3.7.14 provides the preliminary assessment of the permanent loss of soil quality and associated ecosystem services.

Table 3.7.14: Preliminary assessment of the permanent loss of soil function

	Preliminary assessment
Receptor	Soil quality and ecosystem services
Potential Impact	Changes to one or more soil function (biomass production; supporting ecological habitat, soil biodiversity or landscape areas; soil carbon; soil hydrology; supporting archaeological or cultural heritage resources).
Proposed Project phase	Operation
Duration	Permanent (long term)
Mitigation	GG03, GG19, AS01, AS02, AS03, AS05
Preliminary sensitivity	High (due to likelihood of soils providing important soil functions)
Preliminary magnitude	Negligible The measures set out in Section 3.7.8 would ensure good practice soil handling, storage and reinstatement approaches such that the soil resources from land required permanently could be sustainably used and thus continue to provide a range of soil functions. This would primarily be achieved through the implementation of the Soil Management Plan.

	Preliminary assessment
Preliminary likely significance of effect	Likely **Not Significant**
Sensitivity Test	No difference in significance of effect
Confidence in prediction	Moderate – magnitude of impact to be confirmed through soil surveys

3.7.10 Summary

3.7.10.1 The preliminary assessment has concluded that effects of the Proposed Project, during its construction, operation, maintenance and decommissioning, would be limited to temporary and permanent impacts in relation to BMV land and soil quality and function. The preliminary assessment has shown that there is the potential for significant effects in relation to the permanent loss of BMV land.

3.7.10.2 This will be confirmed through detailed ALC surveys which will enable the actual extent of BMV land affected to be determined.

3.7.10.3 The assessment undertaken in the ES would consider any design changes (e.g., as a result of stakeholder engagement, following public consultation or development of the design) since the completion of the PEIR.

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