

2.21



Volume 2, Chapter 21

Soils and agriculture



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Figure 21.1 National soil map

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21. Soils and agriculture

21.1 Introduction

- 21.1.1 This chapter of the Preliminary Environmental Information Report (PEIR) presents the preliminary results of the assessment of the likely significant effects of Rampion 2 with respect to soils and the agricultural land resource, including loss and potential loss of best and most versatile agricultural land, and loss of or damage to soil resources and soil functions. It should be read in conjunction with the project description provided in **Chapter 4: The Proposed Development** and the relevant parts of the following chapters:
- **Chapter 23: Terrestrial ecology and nature conservation** for the assessment of potentially significant effects with respect to terrestrial ecology and nature conservation sites that may arise from Rampion 2;
 - **Chapter 25: Ground conditions** for the assessment of potentially significant effects with respect to land contamination, geohazards and geodiversity that may arise from Rampion 2; and
 - **Chapter 27: Water environment** for assessment of potentially significant effects on water environment receptors including groundwater, surface water and flood risk that may arise from Rampion 2. In particular, soil compaction and erosion caused by construction activities could impact the water environment.
- 21.1.2 The cultural heritage functions of soil, such as preservation of archaeological remains, are not discussed in this chapter since this function of soil does not interact with the other functions addressed in this chapter. The cultural heritage function of soil in the onshore part of the PEIR Assessment Boundary is covered in **Chapter 26: Historic environment**.
- 21.1.3 This chapter describes:
- the legislation, planning policy and other documentation that has informed the assessment (**Section 21.2: Relevant legislation, planning policy, and other information and guidance**);
 - the outcome of consultation and engagement that has been undertaken to date, including how matters relating to soils and agriculture within the Scoping Opinion received in August 2020 have been addressed (**Section 21.3: Consultation and engagement**);
 - the scope of the assessment for soils and agriculture (**Section 21.4: Scope of the assessment**);
 - the methods used for the baseline data gathering (**Section 21.5: Methodology for baseline data gathering**);
 - the overall baseline (**Section 21.6: Baseline conditions**);

- embedded environmental measures relevant to soils and agriculture and the relevant maximum design scenario (**Section 21.7: Basis for PEIR assessment**);
- the assessment methods used for the PEIR (**Section 21.8: Methodology for PEIR assessment**);
- the assessment of soils and agriculture effects (**Section 21.9: Preliminary assessment: Construction phase** and **Section 21.10: Preliminary assessment: Cumulative effects**);
- consideration of transboundary effects (**Section 21.11: Transboundary effects**);
- consideration of inter-related effects (**Section 21.12: Inter-related effects**);
- a summary of residual effects for soils and agriculture (**Section 21.13: Summary of residual effects**);
- an outline of further work to be undertaken for the Environmental Statement (ES) (**Section 21.14: Further work to be undertaken for ES**);
- a glossary of terms and abbreviations is provided in **Section 21.15: Glossary of terms and abbreviations**; and
- a references list is provided in **Section 21.16: References**.

21.2 Relevant legislation, policy and other information and guidance

Introduction

- 21.2.1 This section identifies the legislation, policy and other documentation that has informed the assessment of effects with respect to soils and agriculture. Further information on policies relevant to the EIA and their status is provided in **Chapter 2: Policy and legislative context** of this PEIR.

Legislation and national planning policy

- 21.2.2 There is no legislation relevant to the assessment of the effects on soils and agriculture receptors. **Table 21-1** lists the national planning policy relevant to the assessment of the effects on soils and agriculture receptors.

Table 21-1 National planning policy relevant to soils and agriculture

Policy description	Relevance to assessment
EN-1 NPS for Energy (Department of Energy and Climate Change, 2011)	
EN-1 NPS sets out guidance and requirements for major energy infrastructure projects and is relevant to	The design of the Proposed Development has been an iterative process that has sought to minimise the potential impact to

Policy description

Rampion 2 as it is an offshore wind project generating more than 100MW.

“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.” (Paragraph 5.10.8).

“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.” (Paragraph 5.10.15)

National Planning Policy Framework (2019) at Paragraph 8 states that:

*“Achieving sustainable development means that the planning system has three overarching objectives...:
c) an environmental objective – to contribute to protecting and enhancing our natural... environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, ... mitigating and adapting to climate change... “*

Paragraph 118 states that:

*“planning policies and decisions should:
b) recognise that some undeveloped land can perform many functions, such*

Relevance to assessment

soil resources and agricultural land through embedded environmental measures presented in **Table 21-9**. The preliminary assessment is outlined in **Sections 21.9 to 21.10**.

The design of the Proposed Development has been an iterative process that has sought to minimise the potential impact to soil resources and agricultural land through embedded environmental measures presented in **Table 21-9**. The preliminary assessment is outlined in **Sections 21.9 to 21.10**.

The policy description provided in this table reflects the range of soil functions and soil ecosystem services, and the interaction of this chapter with other aspects including the water environment, terrestrial ecosystems and ground conditions.

Policy description	Relevance to assessment
<p><i>as for wildlife, recreation, flood risk mitigation...carbon storage or food production</i></p>	
<p>Paragraph 170 states that:</p>	
<p><i>“Planning policies and decisions should contribute to and enhance the natural and local environment by:</i></p>	
<p><i>a) ...protecting and enhancing... valued landscapes, sites of biodiversity... value and soils... (in a manner commensurate with their identified quality in the development plan)</i></p>	
<p><i>b)...recognising the economic and other benefits of the best and most versatile agricultural land.</i></p>	
<p><i>d)...minimising impacts on and providing net gains for biodiversity”</i></p>	
<p><i>e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil... pollution or land instability</i></p>	
<p><i>f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.”</i></p>	
<p>Paragraph 171, footnote 53:</p>	
<p><i>“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.”</i></p>	
<p><i>Note: Best and most versatile land is defined as land in grades 1, 2 and 3a of the Agricultural Land Classification.</i></p>	

Local planning policy

21.2.3 **Table 21-2** lists the local planning policy relevant to the assessment of the potential effects on soils and agriculture receptors.

Table 21-2 Local planning policy relevant to soils and agriculture

Policy description	Relevance to assessment
Adopted Arun Local Plan 2011-2031 (July 2018)	
<p>Section 11 of the Arun Local Plan sets out the requirements for development in relation to soils (Policy SO DM1). In particular:</p> <p><i>“the use of Grades 1, 2 and 3a of the Agricultural Land Classification for any form of development not associated with agriculture, horticulture or forestry will not be permitted unless need for the development outweighs the need to protect such land in the long term.</i></p> <p><i>The requirement to protect the best and most versatile land can be outweighed if it is demonstrated through sustainability and options appraisals that:</i></p> <p><i>a. Preservation of land of lower agricultural quality has greater benefits in terms of ecosystem services (for example carbon storage, flood water retention, support of biodiversity);</i></p> <p><i>b. That any site preferred for development is demonstrated to be the best and most sustainable option, including but not limited to the terms of land quality, ecosystem services, infrastructure and proven need; and [...]</i></p> <p><i>d. The applicant has submitted sustainability and options appraisals, mitigation measures, and a soil resources plan for the development site;</i></p> <p><i>e. Site appraisal documents submitted by the applicant must demonstrate that consideration has been given to DEFRA’s Soil Strategy for England;</i></p> <p><i>f. The productivity of the land is demonstrated using a methodology for assessing gross margins as contained in the Arun Soils and Agricultural Land Assessment Report; and</i></p> <p><i>g. The applicant has submitted a comprehensive soil resources plan for the development site which demonstrates that care will be taken to preserve the soil resource, such that it can be incorporated into</i></p>	<p>The route of the Rampion 2 onshore cable corridor necessarily crosses agricultural land to reach a suitable grid connection option. Where practical, the design of the Proposed Development will seek to avoid areas of best and most versatile (BMV) agricultural land as identified by Ministry of Agriculture Fisheries and Food (MAFF) soils mapping and agricultural land classification field survey in 2021. The nature of the onshore elements of the Proposed Development is such that during the operation and maintenance phase there will be minimal change to the current land use.</p> <p>The design of the Proposed Development has been an iterative process that has considered alternatives and has sought to minimise the potential impact to soil resources, including soils within sites rich in biodiversity and agricultural land through the mitigation measures presented in Table 21-9. This process will continue throughout the EIA and the ES will be updated accordingly.</p> <p>A soil resources plan is being completed in the form of a soil survey including agricultural land classification (ALC) in accordance with the MAFF guidance. This will inform an Outline Soil Management Plan (SMP) to be implemented as part of the Outline Code of Construction Practice (COCP) which will protect soil resources from damage during the construction phase. Soils excavated for Rampion 2 will be reused within the onshore part of the PEIR Assessment Boundary wherever possible.</p>

Policy description	Relevance to assessment
<p><i>a Productive Green Environment following development”.</i></p>	<p>The preliminary assessment is outlined in Sections 21.9 to 21.10.</p>
<p>Mid Sussex District Plan 2014-2031</p>	
<p>Chapter 4 of the Mid Sussex District Plan sets out the district’s policies in relation to developments. DP38 Biodiversity touches on the importance of soils and states that: <i>“Valued soils will be protected and enhanced, including the best and most versatile agricultural land, and development should not contribute to unacceptable levels of soil pollution.”</i></p>	<p>The route of the Rampion 2 onshore cable corridor necessarily crosses agricultural land to reach a suitable grid connection option. Where practical, the design of the Proposed Development will seek to avoid areas of BMV agricultural land as identified by MAFF soils mapping and agricultural land classification field survey in 2021. The nature of the onshore elements of the Proposed Development is such that during the operation and maintenance phase there will be minimal change to the current land use.</p> <p>An Outline SMP will be implemented as part of the Outline COCP which will protect soil resources from damage during the construction phase. This is an embedded environmental measure, as presented in Table 21-9. Soils excavated for Rampion 2 will be reused within the onshore part of the PEIR Assessment Boundary wherever possible.</p> <p>The preliminary assessment is outlined in Sections 21.9 to 21.10.</p>
<p>South Downs Local Plan 2014-2033</p>	
<p>Core Policy SD2 of the South downs Local Plan states that developments should “Conserve and enhance soils, use soils sustainably and protect the best and most versatile agricultural land”.</p> <p>The Local Plan is informed by the South Downs Ecosystems Services map, which shows the relative capacity and demand for ecosystem services including carbon storage. Carbon Storage Management Zones have</p>	<p>Where practical, the design of the Proposed Development will seek to avoid areas of BMV land. BMV agricultural land will be further defined through the field survey in 2021. The results of the survey will be presented in the ES and the assessment updated accordingly.</p> <p>In relation to carbon storage in soil, this is considered in the assessment of soil</p>

Policy description	Relevance to assessment
<p>been identified for areas where people benefit from carbon storage in vegetation and soil. Within the PEIR assessment boundary, most of the land is shown in Carbon Storage Management 'Zone A4. Improve', with localised areas near Warningcamp and south of Sullington Hill shown as 'Zone A1. Protect'. The classifications are based upon mapped habitat types in available literature rather than soil type.</p>	<p>sensitivity in relation to soil functions (e.g., in Table 21-10), peatlands would be classed as very high sensitivity due to their key role in soil organic matter storage, no peat has been identified in the baseline review in Section 21.6 and the soils in the study area are expected to have low to medium organic carbon levels). Soils in the study area are in agricultural use, and activities such as ploughing can result in the loss of organic carbon from arable land. Preservation of soil organic matter during the construction phase of the Proposed Development will be addressed through the implementation of an Outline SMP to enable construction works to be completed in accordance with the of the Department for Environment, Food and Rural Affairs (Defra) advice provided in '<i>Construction Code of Practice for the Sustainable Use of Soils on Construction Sites</i>' (Defra, 2009a) to protect soil resources from damage during the construction phase.</p>
<p>Draft Horsham District Local Plan 2019-2036</p>	<p>The preliminary assessment is outlined in Sections 21.9 to 21.10.</p>
<p>Spatial Objective 9 of 3.17, of the Horsham Local Plan is: <i>To safeguard and enhance the environmental quality of the District, ensuring that development brings forward environmental net gains including biodiversity enhancements, and minimises the impact on environmental quality including air, soil, water quality and the risk of flooding.</i></p>	<p>Safeguarding of soil resources will be achieved through the implementation of the Outline SMP, as part of the Outline COCP, which will protect soil resources from damage during the construction phase. This is an embedded environmental measure, as presented in Table 21-9. Soils excavated for Rampion 2 will be reused within the onshore part of the PEIR Assessment Boundary wherever possible.</p>
	<p>The preliminary assessment is outlined in Sections 21.9 to 21.10.</p>

Other relevant information and guidance

21.2.4 A summary of other relevant information and guidance relevant to the assessment undertaken for soils and agriculture is provided here:

- The Government's Guide to Assessing Development Proposals on Agricultural Land (2021) states that Natural England must be consulted for development proposals that are both: likely to cause the loss (or likely cumulative loss) of 20ha or more of BMV land; and, not in accordance with an approved development plan.
- Natural England's Technical Information Note TIN049 (Natural England, 2012) states that the ALC agricultural land grading system, which takes into account climate, site and soil characteristics, is used by Natural England to give advice to planning authorities when development is proposed on agricultural land or other greenfield sites that could potentially grow crops.
- The Government's Safeguarding our Soils strategy (2009b), aims to help developers and others manage soil sustainably and protect soil functions, and is supported by the Defra *Construction Code of Practice on the Sustainable Use of soils on Construction Sites* (Defra, 2009a), this can inform development design, construction and after-care phases.
- The Government's Planning Practice Guidance (2019) advises that soil is an essential natural capital resource that provides important ecosystem services, for example as a growing medium for food, timber and other crops; as a store for carbon and water; as a reservoir of biodiversity; and as a buffer against pollution (para. 8-002-20190721).
- Policy 3 of the UK Government's 25 Year Plan for the Environment (2018) is to improve soil health and restore and protect the UK's peatlands, and Goal 5 states that the government wants all of England's soils to be managed sustainably by 2030.
- Advice on Soil Management (Natural Capital Committee, 2019) states that once the decision has been taken to develop an area of land, it is important to retain as many healthy soil functions as practicable by careful management of the soils during construction.

21.3 Consultation and engagement

Overview

- 21.3.1 This section describes the outcome of, and response to, the Scoping Opinion in relation to soils and agriculture assessment and also provides details of the ongoing informal consultation that has been undertaken with stakeholders and individuals. An overview of engagement undertaken can be found in **Section 1.5 of Chapter 1: Introduction**.
- 21.3.2 Given the restrictions which have been in place due to the COVID-19 pandemic during this period, all consultation has taken the form of conference calls using Microsoft Teams.

Scoping opinion

- 21.3.3 Rampion Extension Development Limited Limited (RED) submitted a Scoping Report (RED, 2020) and request for a Scoping Opinion to the Secretary of State (administered by the Planning Inspectorate (PINS)) on 2 July 2020. A Scoping Opinion was received on 11 August 2020. The Scoping Report set out the proposed soils and agriculture assessment methodologies, outline of the baseline data collected to date and proposed, and the scope of the assessment. **Table 21-3** sets out the comments received in Section 5 of the PINS Scoping Opinion ‘Aspect based scoping tables – Onshore’ and how these have been addressed in this PEIR. A full list of the PINS Scoping Opinion comments and responses is provided in **Appendix 5.1: Response to the Scoping Opinion, Volume 4**. Regard has also been given to other stakeholder comments that were received in relation to the Scoping Report.
- 21.3.4 The information provided in the PEIR is preliminary and, therefore, not all the Scoping Opinion comments have been able to be addressed at this stage, however, all comments will be addressed within the ES.

Table 21-3 PINS Scoping Opinion responses – soils and agriculture

PINS ID number	Scoping Opinion comment	How this is addressed in this PEIR
5.3.1	The Inspectorate is content that there is unlikely to be a significant loss of agricultural land due to operational and maintenance or decommissioning activities and therefore agrees that this matter can be scoped out of the soils and agriculture assessment.	This comment is acknowledged. Loss of agricultural land due to operation and maintenance or decommissioning activities has been scoped out of this PEIR chapter. It is anticipated that the onshore electrical cables will be left in-situ with ends cut, sealed and buried as outlined in Section 4.7 of Chapter 4: The Proposed Development to minimise environmental effects associated with removal.
5.3.2	The Inspectorate is content that there is unlikely to be a significant loss of soil due to operational and maintenance activities and therefore agrees that this matter can be scoped out of the soils and agriculture assessment.	This comment is acknowledged. Loss of soil resources during operation and maintenance phase has been scoped out of this PEIR chapter as soil resources will be protected by the site-specific Outline SMP to be produced using information gathered in the baseline survey.
5.3.3	The Inspectorate welcomes the use of the Government's policy for the protection of the best and most	The chapter considers the many ecosystem services that soils provide (flood mitigation, food

PINS ID number	Scoping Opinion comment	How this is addressed in this PEIR
	<p>versatile (BMV) agricultural land as set out in paragraph 112 of the National Policy Planning Framework (NPPF). The Inspectorate also expects that 'soils' should be considered under a more general heading of sustainable use of land and the ecosystem services they provide as a natural resource in line with paragraph 109 of the NPPF.</p>	<p>production, supporting biodiversity etc.), these will be protected by embedded environmental measures (Table 21-9).</p>
<p>5.3.4</p>	<p>It is considered that the handling, storage and reinstatement of soil should be conducted in accordance with a Soil Management Plan which sets out good practice mitigation to minimise adverse effects on the soil resource. The Applicant should refer to guidance set out in the Department for Environment, Food and Rural Affairs (Defra) 'Construction Code of Practice for the Sustainable Use of Soils on Construction Sites'. The Scoping Report identifies that a SMP is planned in Chapter 6.2, however, there was no references to this in Chapter 6.4. The Inspectorate welcomes and encourages consistent cross references between the aspect chapters. The ES should address how soils and agriculture will be managed and describe any assumptions made. Any mitigation required should be explained in the ES and appropriately secured.</p>	<p>An Outline SMP will be implemented which will protect soil resources from damage during the construction phase. This is an embedded environmental measure (C-183), as presented in Table 21-9. The Outline SMP will be provided alongside the ES at DCO Application submission. The Outline SMP will make references to relevant guidance from the Defra <i>Construction Code of Practice for the Sustainable use of Soils on Construction Sites</i> (Defra, 2009a).</p> <p>The ES will address how soils and agricultural land will be managed during the construction phase of the Proposed Development and relevant mitigation will be described and secured in the commitments register.</p>
<p>5.3.5</p>	<p>The consideration of the potential impacts on agricultural land should also be assessed in the context of socio-economics, namely those financial effects on productive farmland and small holdings during construction, operation and decommissioning. With this in mind, the Inspectorate welcomes the</p>	<p>The financial effects on productive farmland and small holdings during construction, operation and decommissioning will be considered in the final ES following completion of ongoing landowner engagement and finalisation of the design. Further details are provided in Section 21.14.</p>

PINS ID number	Scoping Opinion comment	How this is addressed in this PEIR
	acknowledgement of the inter-relationship between the socio-economic and soils/agriculture.	
5.3.6	The Scoping Report commits to onsite soil survey/sampling. The Inspectorate welcomes this survey and recommends that efforts should be made to agree the survey locations with relevant consultation bodies.	The proposed survey observations have been shared with Natural England (the statutory consultees) to confirm the proposed locations and density. Further engagement with Natural England in relation to the survey methodology and observation points will be undertaken as the design is refined.
5.3.7	Careful consideration should be given to the siting of the onshore infrastructure in relation to grade 1 and grade 2 agricultural land; the potential temporary and permanent loss of Agricultural Land Classification (ALC) land should be assessed within the ES. The potential effects on soil quality should be considered and relevant mitigation measures proposed where significant effects are likely to occur.	<p>BMV land has been considered as an environmental constraint in the design of the Proposed Development (refer to Chapter 3: Alternatives). BMV agricultural land will be further defined to confirm the ALC grades within the onshore part of the PEIR Assessment Boundary through the field survey planned for 2021.</p> <p>The preliminary assessment is outlined in Section 21.9 and Section 21.10 and embedded environmental measures are provided in Table 21-9.</p>

Evidence Plan Process (EPP)

- 21.3.5 The EPP has been set up to provide a formal, non-legally binding, independently chaired forum to agree the scope of the EIA and HRA, and the evidence required to support the DCO Application.
- 21.3.6 For soils and agriculture, further engagement was undertaken via the EPP Expert Topic Group (ETG) 'Onshore Ecology, Hydrology and Nature Conservation' meeting held by conference calls on 28 October 2020. The conference call were attended by the following stakeholders:
- West Sussex County Council;
 - Environment Agency;
 - Sussex Ornithological Society;
 - South Downs National Park Authority;

- Sussex Wildlife Trust;
- Royal Society for the Protection of Birds;
- Natural England; and
- Ouse and Adur Rivers Trust.

- 21.3.7 The soils and agriculture section of the ETG meeting on 28 October 2020 covered the scope of the soils and agriculture assessment, soil types and potential for damage.
- 21.3.8 A second ETG meeting was held for Onshore Ecology, Hydrology and Nature Conservation on 23 March 2021 with the same key stakeholders as the meeting in October 2020.
- 21.3.9 The soils and agriculture section of the ETG meeting on 23 March 2021 covered an update on progress since scoping, consultation progress, progress update on the PEIR assessment, overview of proposed survey observation points, initial potential embedded environmental measures and effects and next steps in terms of completion of ALC surveys and finalisation of the ES.

Informal consultation and further engagement

Introduction

- 21.3.1 Informal consultation has been ongoing with a number of prescribed and non-prescribed consultation bodies and local authorities in relation to soils and agriculture. A summary of the informal consultation undertaken between the completion of the Scoping Report and up to and including March 2021 is outlined in this section.

Natural England

- 21.3.2 The proposed survey observations have been shared with Natural England to confirm the proposed locations and density. Further engagement with Natural England in relation to the survey methodology and observation points will be undertaken as the design of the Proposed Development is refined.

Informal consultation – January / February 2021

- 21.3.3 RED carried out an Informal Consultation exercise for a period of four weeks from 14 January 2021 to 11 February 2021. This Informal Consultation exercise aimed to engage with a range of stakeholders including the prescribed and non-prescribed consultation bodies, local authorities, Parish Councils and general public with a view to introducing the Proposed Development and seeking early feedback on the emerging designs.
- 21.3.4 There were no key themes emerging from Informal Consultation in January 2021 specifically relating to soils and agriculture.
- 21.3.5 Further detail about the results of the Informal Consultation exercise can be found in **Informal Consultation Analysis**.

21.4 Scope of the assessment

Overview

- 21.4.1 This section sets out the scope of the PEIR assessment for soils and agriculture. This scope has been developed as the Rampion 2 design has evolved and responds to feedback received to date as set out in **Section 21.3**. As outlined in the Planning Inspectorate's (PINS) Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements (Version 7, the Planning Inspectorate, 2020), information presented in the PEIR is preliminary, therefore, this scope will be reviewed and may be refined as Rampion 2 evolves and as a result of ongoing consultation.

Spatial scope and study area

- 21.4.2 The study area of the soils and agriculture assessment is defined as the onshore area (landward of MHWS) within the PEIR Assessment Boundary (see **Figure 21.1, Volume 3**). In **Figure 21.1, Volume 3**, the soil mapping extends 250m from the onshore part of the PEIR Assessment Boundary, this provides some context for the soil in the study area in relation to the immediate surrounding area given the linear nature of the onshore part of the PEIR Assessment Boundary, however the soil assessment relates to the onshore part of the PEIR Assessment Boundary only, see paragraph below.
- 21.4.3 There is no external zone of influence for soils and agriculture beyond the onshore part of the PEIR Assessment Boundary. The rationale for the study area is that soils and agricultural land are geographically discrete and not substantially influenced by changes to the surroundings. Therefore, soils and agricultural land will only be potentially significantly affected by changes or activities (temporary or permanent) taking place on the resource itself and, therefore, no additional buffer around the onshore part of the PEIR Assessment Boundary is required.
- 21.4.4 The study area will be reviewed and amended in response to such matters as ongoing iterative design refinement of the onshore elements of the Proposed Development, the identification of additional impact pathways and in response, where appropriate, to feedback from consultation. The onshore part of the PEIR Assessment Boundary provides a design envelope at the PEIR stage, however the soils and agriculture assessment will reflect the fact that the land directly affected by construction works for the onshore elements of the Proposed Development will be a smaller area, wholly within the onshore part of the PEIR Assessment Boundary.

Temporal scope

- 21.4.5 The temporal scope of the preliminary assessment of soils and agriculture is limited to the construction phase of the Proposed Development following the scoping out of potential effects during the operation and maintenance, and decommissioning phases as outlined in **Table 21-3**.

Potential receptors

- 21.4.6 The spatial and temporal scope of the assessment enables the identification of receptors that may experience a change as a result of Rampion 2. The receptors identified that may experience likely significant effects for soils and agriculture are outlined in **Table 21-4**.

Table 21-4 Receptors requiring assessment for soils and agriculture

Receptor group*	Receptors included within group
Agricultural land	<p>Agricultural land quality and best and most versatile the (Grades 1, 2 and subgrade 3a). Definitions of these ALC grades are provided below:</p> <p>Grade 1 – excellent quality agricultural land: land with no or very minor limitations. A very wide range of agricultural and horticultural crops can be grown and commonly includes: top fruit, for example tree fruit such as apples and pears, soft fruit, such as raspberries and blackberries, salad crops, and winter harvested vegetables. Yields are high and less variable than on land of lower quality.</p> <p>Grade 2 – very good quality agricultural land: Land with minor limitations that affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown. On some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops, such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than grade 1.</p> <p>Subgrade 3a – good quality agricultural land: Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of crops including: cereals, grass, oilseed rape, potatoes, sugar beet, less demanding horticultural crops.</p>
Soils	Soil resources

*No potential has been identified for peat soil >0.3m thickness to be encountered within the maximum excavation depth of the Proposed Development within the onshore part of the PEIR Assessment Boundary (see baseline information in **Section 21.6**) therefore peat is not included as a receptor in this table.

- 21.4.7 The list of receptors will be kept under review during the EIA as more detailed information is obtained through baseline surveys and other forms of data collection by other aspects and will be reflected in the final ES.

Potential effects

21.4.8 Potential effects on soils and agriculture receptors that have been scoped in for assessment are summarised in **Table 21-5**.

Table 21-5 Potential effects on soils and agriculture receptors scoped in for further assessment

Receptor	Activity or impact	Potential effect
Construction phase		
Soil resources and agricultural land quality	Changes to soil structure due to inappropriate storage and/or handling of soils or due to the use of heavy machinery which causes compaction.	Compaction can decrease permeability of the soils and lead to waterlogging of land, and potentially soil erosion and loss of soil organic matter (including carbon). Heavy machinery can also lead to the loss of topsoil resource through mixing with subsoil.
Soil resources and agricultural land quality	Soil erosion due to inappropriate storage and/or construction activities.	Loss of soil resource due to run off from stockpiles and/or runoff from stripped soil. Soil erosion can lead to eutrophication of local waterbodies and loss of soil organic matter (including carbon). The risks to water environment receptors from silty run-off are assessed in Chapter 27: Water environment .
Soil resources and agricultural land quality	Temporary displacement of topsoil due to removal during construction activities (e.g. cable trenching, horizontal directional drill (HDD) launch pits, with potential for temporary storage to result in degradation or loss of topsoil, due to mixing of topsoil with subsoil or other material resulting in soil degradation, damage due to inappropriate storage/handling).	Topsoil susceptible to structural damage, especially if stripped when wet can lead to degradation or permanent loss of resource. Degradation or loss of agricultural land. The land quality of the area affected can be reduced if topsoil is damaged or if topsoil is not restored at all, due to subsoil being of lower quality than topsoil for planting/crop growth (low nutrient/organic matter content).

Receptor	Activity or impact	Potential effect
Soil resources and agricultural land quality	Permanent loss of topsoil due to removal associated with construction activities (e.g. mishandling/poor storage of soil, or surplus soil generated by construction activities with no suitable re-use location identified).	<p>Permanent loss of topsoil resources and soil functions.</p> <p>Permanent loss of agricultural land.</p> <p>The land quality of the area affected can be reduced due to subsoil being of lower quality than topsoil for planting/crop growth (low nutrient/organic matter content).</p>
Soil resources and agricultural land quality	Temporary loss of, or damage to soil/agricultural land during the construction phase.	<p>Reduction or loss of soil functions including food/crop growth capability (other functions also likely to be affected e.g., organic matter storage).</p> <p>Reduction or loss of agricultural land quality through damage to/loss of soil resources during the construction phase can affect the variety of crops that can be grown and reduce the average yield.</p>
Soil resources and agricultural land quality	Permanent loss of topsoil due to removal associated with construction activities (e.g. topsoil damaged irreparably during storage or handling, misplaced or removed as waste).	Removal of topsoil can result in a loss of soil resources for restoration and impaired soil functions in the affected areas. The agricultural land quality of the area affected can be reduced due to subsoil being of lower quality than topsoil for planting/crop growth (low nutrient/organic matter content).
Soil resources and agricultural land quality	Damage to drainage systems due to construction activities	Much of the land is likely to be subject to piped drainage (clay or plastic) which is essential to the maintenance of agricultural land quality. The pipes typically underlie land at between 75-120 cm depth and so without mitigation damage from cable trenching can lead to waterlogging/ponding at the surface of land where drains have been broken.
Soil resources and	Permanent loss of soil/agricultural land due to construction of onshore infrastructure (substation) due to hard	Loss of soil functions and ecosystem services.

Receptor	Activity or impact	Potential effect
agricultural land quality	development – soil sealing or permanent removal	Loss of BMV agricultural land (local and national stock), loss of food/crop growth capability

Activities or impacts scoped out of assessment

21.4.9 A number of potential effects have been scoped out from further assessment, resulting from a conclusion of no likely significant effect. These conclusions have been made based on the knowledge of the baseline environment, the nature of planned works and the wealth of evidence on the potential for impact from similar projects more widely. The conclusions follow (in a site-based context) existing best practice. Each scoped out activity or impact is considered in turn below and an indication given of whether the scope has evolved since Scoping.

Table 21-6 Activities or impacts scoped out of assessment

Activity or impact	Rationale for scoping out
Loss of agricultural land due to operational and maintenance activities (Operation and maintenance)	PINS agreed that there will be no likely significant effect, as any loss of agricultural land will occur during the construction phase. Any disruption due to operation and maintenance activities are likely to be minimal and short lived, with no loss of agricultural land (PINS comment 5.3.1, Table 21-3).
Loss of soil due to operational and maintenance activities (Operation and maintenance)	PINS agreed that there will be no likely significant effect, as any loss of the soil resource will occur during the construction phase. Any disruption due to operation and maintenance activities are likely to be minimal and short lived, with no loss of soil resource (PINS comment 5.3.2, Table 21-3).
Loss of soil resource and agricultural land due to decommissioning activities (Decommissioning)	PINS agreed that there will be no likely significant effect, as any loss of the soil resource and agricultural land will occur during the construction phase. Decommissioning is anticipated to be restricted to the removal and reinstatement of the onshore substation site. Electrical cables will be left in-situ onshore to minimise disruption and environmental

Activity or impact	Rationale for scoping out
	impacts associated with removal (PINS comments 5.3.1 and 5.3.2, Table 21-3).

21.5 Methodology for baseline data gathering

Overview

21.5.1 Baseline data collection has been undertaken to obtain information over the study areas described in **Section 21.4: Scope of the assessment**. The current baseline conditions presented in **Section 21.6: Baseline conditions** sets out currently available data and information for the study area.

Desk study

21.5.2 A desk-based review of literature and existing datasets has been undertaken to gather data and information on soil resources and agricultural land, and to gain an overview of likely conditions and the geographical variability of these across the study area identified in **Section 21.4**. The data sources that have been collected and used to inform this soils and agriculture assessment are summarised in **Table 21-7**.

Table 21-7 Data sources used to inform the soils and agriculture PEIR assessment

Source	Date	Summary	Coverage of study area
National Soils Research Institute data	2021	1:250,000 National Soil Map (Sheet 6).	Full coverage of study area.
Gov.uk open data / Multi-Agency Geographic Information for the Countryside (MAGIC) website	2021	1:250,000 Ministry of Agriculture Fisheries and Food (MAFF) provisional Agricultural Land Classification Map of England and Wales and post-1988 ALC data, Soilscape 1:250,000 scale map, statutory and non-statutory designated sites.	Full coverage of study area.
Ordnance Survey	2021	1:50,000 and 1:25,000 mapping.	Full coverage of study area.
British Geological Survey (BGS)	2021	On-line Geindex 1:50,000 geology.	Full coverage of study area.

Source	Date	Summary	Coverage of study area
Open-access Google Earth aerial imagery	2021	Land use considerations.	Full coverage of study area.

Data limitations

- 21.5.3 The assessment undertaken at PEIR stage mainly utilises the 1:250,000 scale provisional soils and agricultural land classification mapping outlined in **Table 21-8**.
- 21.5.4 There is limited coverage within the onshore part of the PEIR Assessment Boundary by the post 1988 ALC mapping, this data is based on maps and survey reports dating from between 1989 and 1999. It is at a larger scale than the provisional mapping, scales and level of detail from 1:5,000 to 1:50,000 and are typically 1:10,000.
- 21.5.5 As the provisional agricultural land classification and soil maps are not at sufficient resolution to carry out a site-specific assessment, and given that this mapping, and the post 1988 agricultural land classification can be out of date (for example, if land has been developed since the maps were produced), this data should be treated as indicative only, and field surveys are being undertaken in 2021 to inform the assessment at ES.

21.6 Baseline conditions

Current baseline

Geology

- 21.6.1 Near the coast, surface deposits within the onshore part of the PEIR Assessment Boundary are recorded as Thames Group sand and gravels, partially overlain by alluvium and head deposits (brickearth, silt and blown sands) with clay with flints and river terrace deposits in some areas. The onshore part of the PEIR Assessment Boundary crosses chalkland of the South Downs between Arundel and Steyning. Greensand is recorded to outcrop on the upper escarpment north of Steyning. In the Low Weald west of Burgess Hill the Wealden Group (interbedded mudstone, siltstone and sandstone) is recorded. Further information on geology is provided in **Chapter 25: Ground conditions** and **Chapter 27: Water environment**.

Soils

- 21.6.2 The land near the coast, from Littlehampton to Arundel, is recorded (by the National Soil Map) as a mixture of silty soils formed from Brickearth (Hamble 2 Association) and fine loamy soils over gravel (Efford 1 Association). These soils

give mainly high-quality agricultural land (grade 1 or 2). On the South Downs, northeast of Arundel, the soils are mainly shallow over chalk, with deeper soils in dry valleys (Andover 1 and 2 Associations). Deeper clayey soils are found in plateau drift (Carstens Association) on parts of the higher ground. This land often has drought limitations to agriculture resulting from shallow soil depth, but most land is typically of good quality (subgrade 3a and above). Sandy and loamy soils of the Fyfield 1 Association are associated with the Greensand outcrop, giving a mixture of land quality depending on the sandiness. On the Weald, east of Storrington and extending to the northern extent of the onshore part of the PEIR Assessment Boundary, heavier soils over clays are recorded (Wickham 1 Association), which are typically wet and of moderate agricultural quality. The soil types within the onshore part of the PEIR Assessment Boundary are shown on **Figure 21.1, Volume 3** and information on aspects including soil fertility and drainage are detailed in the addendum to this figure.

- 21.6.3 Based on the National Soil Map showing no peat soils within the onshore part of the PEIR Assessment Boundary, and available BGS logs, reviewed in the (**Appendix 25.1: Phase 1 Geo-environmental desk study, Volume 4**) completed to support **Chapter 25: Ground Conditions**, no peat is expected to be present within the onshore part of the PEIR Assessment Boundary within the maximum excavation depths of the onshore elements of the Proposed Development.

Land use

- 21.6.4 The land of the coastal plain, from Littlehampton to Arundel, is dominated by arable farming. The South Downs, northeast of Arundel, has a mixture of arable and livestock farms with woodland plantation. The Weald, east of Storrington and extending to the northern extent of the onshore part of the PEIR Assessment Boundary, is under grassland with variable proportions of cereal rotation. The onshore cable corridor will also cross several roads and watercourses between landfall and the onshore substation search areas.

Hydrology and flood risk

- 21.6.5 Soil on undeveloped land such as agricultural fields plays a key role in the hydrological cycle, including filtering and storing water, drainage, and regulating runoff. Further details of the water environment, including the aquatic environment, water resources and flood risk receptors are presented in **Chapter 27: Water environment**, which has also been used to inform this chapter in relation to soils, notably with regard to the potential for soils to be damaged by flooding and soil's role in flood attenuation. Summary information is also provided below.
- 21.6.6 The onshore part of the PEIR Assessment Boundary extends approximately 36km from the landfall at Climping in the River Arun catchment to the potential onshore substation search areas in the proximity of Wineham and Bolney within the River Adur catchment.
- 21.6.7 The Environment Agency's Flood Zone mapping provides an indication of the likelihood of flooding from fluvial and or tidal sources, with Flood Zones 1, 2, and 3 indicating a low, medium and high annual probability of flooding, respectively.

- 21.6.8 The most significant areas of Flood Zones 2 and 3 are in the lower tidal reaches of the River Arun at Littlehampton at the south west limit of the onshore temporary construction corridor, and on the River Adur and the Cowfold Stream on the north east end of the onshore temporary construction corridor. The central section of the onshore temporary construction corridor between Warningcamp and Ashurst sits within Flood Zone 1.
- 21.6.9 The risk of groundwater flooding is assessed by the Environment Agency to be high across most of the southern and central sections of the onshore part of the PEIR Assessment Boundary underlain by Chalk between landfall and near Sullington Hill, the risk is lower in the north eastern section where the bedrock geology differs (for example Gault Formation and Wealdon Group).

Sites designated for nature conservation

- 21.6.10 The NPPF requires planning policies and decisions to protect and enhance sites of biodiversity value. Soils supporting sites designated for nature conservation are effectively a finite resource and the presence of statutory and other nature conservation designations should, therefore, have a bearing on the sensitivity of the soils to development. Information on nature conservation sites is provided in **Chapter 23: Terrestrial ecology and nature conservation**. A summary of features within the onshore part of the PEIR Assessment Boundary is provided below.
- 21.6.11 Within the onshore part of the PEIR Assessment Boundary there are two sites with a statutory designation, the Climping Beach Site of Special Scientific Interest (SSSI) comprising supralittoral and littoral sediment on the coast at Littlehampton (at the landfall location, impacts on this SSSI will be mitigated by HDD), and the Amberley Mount to Sullington Hill SSSI, its designated features include calcareous grassland.
- 21.6.12 Bines Green, Littlehampton Golf Course and Atherington Beach, Sullington Hill, and Warningcamp Hill and New Down, have non-statutory designations as a Local Wildlife Sites (LWS) and are within the onshore part of the PEIR Assessment Boundary.

Agricultural land quality

- 21.6.13 Provisional Agricultural Land Classification (ALC) mapping shows the land within the onshore part of the PEIR Assessment Boundary on the coastal plain, from Littlehampton to Arundel, to be a mixture of grade 2 and 3 quality, with grade 4 on the Arun floodplain, west of Littlehampton (see **Figure 21.2, Volume 3**). Land on the chalk downs, northeast of Arundel, is shown as mainly grade 3, with grade 4 on steeper slopes. Grade 2 is recorded on the Greensand outcrop. Land of the Low Weald, east of Storrington and extending to the northern extent of the onshore part of the PEIR Assessment Boundary, is recorded as grade 3, with 4 on flood plains. Grades 1, 2 and 3a are 'best and most versatile' agricultural land and this is the land, which is most flexible, productive and efficient in response to inputs (seeds, fertilizers etc.).
- 21.6.14 Where coverage is available within the onshore part of the PEIR Assessment Boundary, the post 1988 ALC mapping shows Grade 3b ALC land northwest of

Littlehampton, and Grade 4 ALC land is located northeast of Washington, West Sussex. East of Washington, West Sussex, to the south of the A283 road, various grades are present including Grade 2, Grade 3a and Grade 3b. The available ALC classifications are shown on **Figure 21.2, Volume 3**.

Future baseline

- 21.6.15 The land is likely to remain in its current use with no significant effects on soil resources and agricultural land anticipated.
- 21.6.16 Soil and agricultural land resources are geographically discrete, and without development, these resources will still be subject to land management effects (e.g., farming activities) which could improve or degrade the resource, however, it is not possible to predict these effects sufficiently to quantify them.
- 21.6.17 Soil and agricultural land will also be subject to the effects of climate change. The MAGIC interactive map shows that the priority habitats within the onshore part of the PEIR Assessment Boundary are in an area assessed to be at medium vulnerability to climate change, based on established climate change adaptation principles. Whilst this assessment does not refer specifically to soils, soils will be affected by climate change, notably by changes to rainfall patterns, such as increased intensity of flooding which can contribute to soil compaction, waterlogging and erosion.

21.7 Basis for PEIR assessment

Maximum design scenario

- 21.7.1 Assessing the use of a parameter-based design envelope approach means that the assessment considers a maximum design scenario whilst allowing the flexibility to make improvements in the future in ways that cannot be predicted at the time of submission of the DCO Application. The assessment of the maximum adverse scenario for each receptor establishes the maximum potential adverse impact and as a result impacts of greater adverse significance would not arise should any other development scenario (as described in **Chapter 4: The Proposed Development**) to that assessed within this chapter be taken forward in the final design of the Proposed Development.
- 21.7.2 The maximum assessment assumptions that have been identified to be relevant to soils and agriculture are outlined in **Table 21-8** below and are in line with the Project Design Envelope (**Chapter 4**).

Table 21-8 Maximum assessment assumptions for impacts on soils and agriculture

Project phase and activity/impact	Maximum assessment assumptions	Justification
Construction		

Project phase and activity/impact	Maximum assessment assumptions	Justification
Changes to soil structure due to inappropriate storage and/or handling of soils or due to the use of heavy machinery which causes compaction	<p>Landfall:</p> <ul style="list-style-type: none"> Construction duration 36 months, Temporary construction compound area 0.75ha including four HDD pits, 	<p>These assessment assumptions represent maximum ground disturbance both in terms of potential area affected and in duration by Rampion 2 during the construction phase. The total extent of ground disturbance is the sum of one onshore substation, the onshore cable corridor and temporary construction compounds.</p>
Soil erosion due to inappropriate storage and/or construction activities	<p>Onshore substation:</p> <ul style="list-style-type: none"> Construction duration: 36 months. 	
Temporary displacement of topsoil due to removal associated with construction activities	<ul style="list-style-type: none"> Onshore substation permanent development area up to a maximum of 5.9ha. 	
Permanent loss of topsoil due to removal associated with construction activities	<ul style="list-style-type: none"> Onshore substation temporary works area up to 2.5ha. Two onshore substation search area options. 	
Temporary loss of, or damage to agricultural land during the construction phase	<p>Onshore cable corridor (including joint bays/link bays and HDD trenchless crossings)</p> <ul style="list-style-type: none"> Construction duration: up to 36 months. Total onshore cable corridor length approximately 36km. Temporary working corridor: 50m wide, approximately 36km long = 180ha (36,000 x 50m) area. 	
	<p>Temporary construction compounds</p>	

Project phase and activity/impact	Maximum assessment assumptions	Justification
	<p>Total area of four temporary construction compounds approximately 17.8ha.</p> <p>Total extent of ground disturbance: 206.95ha (0.75 + 5.9 + 2.5 + 180 + 17.8 ha).</p>	
Damage to drainage systems due to construction activities	<p>Not possible to quantify, therefore an area equal to the maximum extent of the area subject to ground disturbance has been assumed.</p> <p>Total extent of ground disturbance: 206.95ha.</p>	<p>Drainage layouts are not currently known and, although damage to drains within the Rampion 2 temporary cable corridor could affect land beyond this, use of the maximum extent of ground disturbance is considered to provide a sufficiently conservative worst case assessment assumption.</p>
Permanent loss of soil resource and agricultural land due to construction of onshore infrastructure	<p>Onshore substation:</p> <ul style="list-style-type: none"> • Construction duration: 36 months. • Onshore substation permanent development area up to a maximum of 5.9ha. • Total extent of permanent loss of soil/agricultural land: 5.9ha. 	<p>These assessment assumptions represent the maximum extent and duration of ground disturbance during construction activities that will lead to the permanent loss of agricultural land and soil.</p>

- 21.7.3 As effects on soil and agricultural land receptors are generally confined to the land on which construction or development takes place, the assessment in this PEIR takes into account the current stage of the design of the Proposed Development (as outlined in **Chapter 5: Approach to the EIA**) which allows for the selection of a specific 50m onshore temporary construction corridor within a larger approximate 100m corridor which forms the onshore part of the PEIR Assessment Boundary and selection of one of two onshore substation search areas from within the onshore part of the PEIR Assessment Boundary.

- 21.7.4 Therefore, effects that are more significant than those presented in this PEIR are not predicted to occur should any other development scenario within the project design envelope be taken forward in the final design of the Proposed Development.

Embedded environmental measures

- 21.7.5 As part of the Rampion 2 design process, several embedded environmental measures have been adopted to reduce the potential for impacts on soils and agriculture. These embedded environmental measures will evolve over the development process as the EIA progresses and in response to consultation. They will be fed iteratively into the assessment process.
- 21.7.6 These embedded environmental measures typically include those that have been identified as good or standard practice and include actions that would be undertaken to meet existing legislative requirements. As there is a commitment to implementing these embedded environmental measures, and also to various standard sectoral practices and procedures, they are considered inherently part of the design of Rampion 2 and are set out in this PEIR.
- 21.7.7 **Table 21-9** sets out the relevant embedded environmental measures within the design and how these affect the soils and agriculture assessment.

Table 21-9 Relevant soils and agriculture embedded environmental measures

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to soils and agriculture assessment
C-1	The onshore cable route will be completely buried underground for its entire length where practicable.	Scoping	DCO works plans, description of development and requirements	This measure allows the original soils can be replaced on top of the buried cables and the topsoil returned to its original state.
C-5	Main rivers, watercourses, railways and roads that form part of the Strategic Highways Network will be crossed by Horizontal Directional Drill (HDD) or other trenchless technology where this represents the best environment solution and is financially and technically feasible (see C-17).	Scoping	DCO works plans and order limits	This measure avoids the disturbance of trenching in sensitive areas close to watercourses and any associated risks to soil. Details of the road and railway crossings are provided in Chapter 24: Transport . The draft schedule of watercourse crossings is provided in Appendix 4.2, Volume 4 .
C-6	Where practical, sensitive sites will be avoided by the temporary and permanent onshore project footprint including SSSIs, Local Nature Reserves, Local Wildlife Sites, ancient woodland, areas of consented development, areas of historic and authorised landfills and other known areas of potential contamination, National Trust Land, Listed Buildings,	Scoping	DCO work plans and order limits	Soil within areas designated for nature conservation are classed as having higher sensitivity due to their scarcity. Other soil functions, such as preservation of archaeology as covered in Chapter 26: Historic environment .

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to soils and agriculture assessment
	Scheduled monuments, and mineral resources (including existing mineral sites, mineral sites allocated in development plans and mineral safeguarding areas).			
C-7	Post construction, the work area will be reinstated to pre-existing conditions as far as reasonably practical in line with the Outline Materials Management Plan (MMP) (C-69) and Defra 2009 Code of Construction for the Sustainable Use of Soils on Construction Sites PB13298.	Scoping – updated at PEIR	Outline COCP and DCO requirement	This measure ensures, where possible, the original soil will be reinstated and the baseline soil functions restored.
C-11	During construction topsoil and subsoil will be stored within the temporary working corridor of the onshore cable. The topsoil and subsoil will be stored in line with Defra 2009 for the Sustainable Use of Soils on Construction Sites PB13298, including guidance on utilising separate stockpiles and giving due consideration to adverse weather conditions. Any suspected or confirmed contaminated soils will be	Scoping – update at PEIR	Outline COCP and DCO requirement	This measure ensures compliance with the Defra guidance (Defra, 2009a) is recognised as best practice for the protection of soils during development.

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to soils and agriculture assessment
	separated, contained and tested before being removed.			
C-12	During topsoil stripping, machinery with low ground pressure will be used to minimise soil compaction where the soil conditions indicate that compaction is possible. Storage time will be kept to the practicable minimum to prevent the soil deteriorating in quality. Topsoil stripped from different fields will be stored separately, as will soil from hedgerow banks or woodland strips.	Scoping	Outline COCP and DCO requirement	This measure is in accordance with the Defra guidance (Defra, 2009a) and will minimise soil compaction.
C-13	In areas (or during periods of adverse weather) there may be the requirement to import aggregates to create a stable surface for construction traffic movements. Options such as bogmatting and geotextiles will be considered by the principal contractor for sensitive sections of the route to reduce impact.	Scoping	Outline COCP and DCO requirement	This measure ensures the appropriate use of bogmatting and geotextiles which will lower the risk of soils compaction.
C-19	The onshore cable will be constructed in discrete sections. The trenches will	Scoping	Outline COCP and DCO requirement	This measure, in conjunction with implementation of the Outline SMP,

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to soils and agriculture assessment
C-28	<p>Particular care will be taken to ensure that the existing land drainage regime is not compromised as a result of construction. Land drainage systems will be maintained during construction and reinstated on completion. Temporary cut-off drains will be installed parallel to the trench-line, before the start of construction, to intercept soil and groundwater before it reaches the trench. These field drains will discharge to local drainage ditches through silt traps, as appropriate, to minimise sediment release.</p>	Scoping	Outline COCP and DCO requirement	<p>This measures ensures that consideration of drainage is in accordance with the Defra guidance (Defra, 2009a).</p>

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to soils and agriculture assessment
C-29	A depth of cover of 1.2m is assumed. Deeper trenches may be required at specific crossing locations (such as watercourses).	Scoping – updated at PEIR	Outline COCP and DCO requirement	This measure ensures that soil excavation depth is in accordance with the Defra guidance (Defra, 2009a).
C-31	Any disposal off-site of excavated material will be undertaken in consultation with the landowner/occupier and in accordance with the Waste Management Regulations.	Scoping	Outline COCP and DCO requirement	This measure minimises risks of inappropriate reuse of materials during construction. Use of the Outline MMP, in conjunction with the Outline SMP, will ensure that excavated materials identified for reuse are stored appropriately to protect them from damage or cross contamination and that these materials (including soils) have a defined end use to avoid them becoming waste.
C-33	An Outline COCP will be adopted to minimise temporary disturbance to residential properties, recreational users, existing land users. It will provide details of measures to protect environmental receptors.	Scoping	Outline COCP and DCO requirement	This measure ensures that all soil handling and storage will be in accordance with the Outline COCP, and the Outline SMP (C-183).

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to soils and agriculture assessment
C-69	<p>Construction strategies will be implemented that will seek to maximise the reuse of excavated clean materials from the onshore cable construction corridor where practicable and feasible. Prior to construction, an outline Materials Management Plan (MMP) will be prepared that outlines where excavated non-waste materials will be reused in line with the CL:AIRE (2011) Definition of Waste Code of Practice (DoWCoP). The MMP will include a declaration by a Qualified Person that the MMP has been completed in accordance with the DoWCoP and that best practise is being followed.</p>	<p>Scoping – updated at PEIR</p>	<p>Outline COCP and DCO requirement</p>	<p>The re-use of clean soil will be covered in the Outline MMP, in conjunction with the Outline SMP, which will set out specific requirements for soil storage to ensure the resource is conserved for appropriate re-use (C-183). The Outline SMP is the mechanism used to conserve soil structure and soil health to maintain the soil in a condition where it can be reused onsite, and it will inform the specification (e.g. thickness of soil replaced) for the soil restoration. Use of an MMP during construction enables compliance with the Environment Agency regulations for excavated ground materials, and the MMP can be used to show that excavated ground materials (including topsoil and subsoil) are not a waste under the Waste Management Regulations and can therefore be reused onsite in line with the DoWCoP. Any material which is not suitable for use or which is surplus will be disposed offsite in</p>

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to soils and agriculture assessment
				line with the Waste Management Regulations (C-31).
C- 107	Tried and tested invasive species control and biosecurity measures will be used to avoid the spread of infested materials.	Scoping – updated at PEIR	Outline COCP and DCO	This measure enables the risk of cross contamination of soils to be minimised.
C-112	No ground-breaking activity or use of wheeled or tracked vehicles will take place within the Littlehampton Golf Course and Atherington Beach Local Wildlife Site (LWS) unless remedial action is required. Any predicted activity will be restricted to foot access for the purpose of surveying and monitoring of the progress of the horizontal directional drill (HDD).	PEIR	Outline COCP and DCO requirement	This measure assists in minimising the disturbance of soils within sensitive sites.
C-113	The onshore construction corridor through the Warningcamp Hill and New Down Local Wildlife Site (LWS) will be narrowed to no more than 30m for its entire length. A method statement for the Warningcamp Hill and New Down LWS will be written and agreed with the South Downs	PEIR	Outline COCP and DCO	This measure assists in minimising the disturbance of soils within sensitive sites.

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to soils and agriculture assessment
C-114	National Park Authority and West Sussex County Council. Sullington Hill Local Wildlife Site will be crossed using a trenchless method such as Horizontal Directional Drill (HDD).	PEIR	Outline COCP and DCO requirement	This measure assists in minimising the disturbance of soils within sensitive sites.
C-120	Stone access routes/ haul road and working areas will be constructed of semi-permeable aggregate material (similar to compounds as per C-129) where practical.	PEIR	Outline COCP and DCO	The measure assists in minimising changes to local drainage during construction.
C-129	Temporary construction compounds will be surfaced with semi-permeable aggregate material (similar to access roads as per C-120) where practical, with the exception of fuel storage areas and similar where pollution containment in the event of a spillage is the priority. Areas of temporary construction compounds that are used for fuel storage, plant maintenance and refuelling will be surfaced with fully impermeable materials to prevent any infiltration of contaminated runoff	PEIR	Outline COCP and DCO	The measure assists in minimising changes to local drainage during construction.

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to soils and agriculture assessment
	and contain bunding in line with commitment C-8 and C-167.			
C-131	Where potential flood risk receptors could be impacted by a loss of floodplain storage and/or impacts on floodplain conveyance, soil stockpiles (associated with both the cable construction and the temporary haul road) will be located outside of the fluvial floodplain wherever possible. Where not possible, further assessment will be undertaken in the Flood Risk Assessment (FRA) and further measures will be proposed to address this where necessary.	PEIR	Outline COCP and DCO	The measure assists in minimising changes to local drainage during construction.
C-132	Soil stockpiles in the tidal floodplain will have regular gaps to prevent floodplain compartmentalisation. The maximum continuous length of embankment is to be determined in the Flood Risk Assessment (FRA).	PEIR	Outline COCP and DCO	This measure ensures that soil stockpiles will be managed to minimise the risk of soil erosion occurring.
C-133	Stockpiles will be present for the shortest practicable timeframe, with stockpiles being reinstated as the	PEIR	Outline COCP and DCO	This measure, in conjunction with implementation of the Outline SMP, will minimise the storage time for

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to soils and agriculture assessment
	<p>construction work progresses. Stockpiles which remain present for six months or longer will be seeded to encourage stabilisation.</p>			<p>excavated soil, helping to maintain the physical condition of the soil and minimise the effects of storage on soil chemistry/ biology so that reinstated soil can return to normal function as quickly as possible.</p>
C-154	<p>Within the fluvial floodplain and at surface water flow pathways, the permanent cables will be completely buried, with the land above reinstated to pre-construction ground levels (some mounding may be appropriate to allow for settlement).</p>		<p>DCO works plans, description of development and requirements</p>	<p>The Outline SMP will detail how soil is to be reinstated to ensure that the soil's hydrological functions are restored following construction.</p>
C-183	<p>An Outline Soils Management Plan (SMP) will be developed to enable construction works to be completed in accordance with the Defra Code of Construction Practice for the Sustainable Use of Soils on Construction Sites 2009 to protect soil resources from damage during the construction phase.</p>	PEIR	<p>Outline COCP and DCO</p>	<p>Development and implementation of an Outline SMP, based on the findings of a soil survey, reflects the best practice approach outlined in the Defra guidance (Defra, 2009a) to minimising the effects of development on soil and agricultural land quality.</p>

21.8 Methodology for PEIR assessment

Introduction

- 21.8.1 The project-wide generic approach to assessment is set out in **Chapter 5: Approach to the EIA**. The assessment methodology for soils and agriculture for the PEIR has been slightly modified from that provided in the Scoping Report (RED, 2020) in response to the Scoping Opinion in relation to effects on soil ecosystem services, and the sustainable use of land and soil as a natural resource.
- 21.8.2 The soils and agriculture assessment will focus on likely significant effects on:
- soil resources and functions; and
 - agricultural land resources.
- 21.8.3 The preliminary assessment of likely significant effects for soils and agriculture is based on the extent of soils and agricultural land that may be affected and whether the effects will be temporary or permanent. The assessment is informed by:
- information about the construction, operation and maintenance, and decommissioning activities associated with Rampion 2 as set out in **Table 21-8**;
 - relevant national policy, strategy, legislation and guidance documents as set out in **Table 21-1** and **Table 21-2**; and
 - stakeholder engagement feedback.
- 21.8.4 The preliminary assessment takes into consideration the sensitivity of the affected receptor or resource and the magnitude of change from the baseline conditions resulting from the Proposed Development. This results in an evaluation of significance and an indication of likely significant effects. As outlined in **Section 21.5**, field surveys are being undertaken in 2021 to inform the assessment at ES stage, therefore, the PEIR assessment utilises MAFF ALC data. The provisional ALC mapping predates the guideline revision in 1988, that splits grade 3 land into subgrade 3a (best and most versatile) and subgrade 3b, therefore, to ensure potential effects are assessed at a worst-case scenario, it is assumed that land mapped provisionally as grade 3 in reconnaissance ALC mapping is of subgrade 3a quality 'good quality agricultural land' and that is therefore BMV land (see **Table 21-4**). The subgrade 3b category is given to moderate quality agricultural land, capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

Receptor sensitivity

- 21.8.5 Definitions of receptor sensitivity used in the assessment are provided in **Table 21-10**. The receptor sensitivity assessment approach has been updated in response to the Scoping Opinion and is designed to take account of key soil functions and ecosystem services, including as a growing medium for crops, as a store of organic matter including carbon, providing habitat and supporting biodiversity, and soil's role in the hydrological cycle. There are interactions

between soil and receptors covered in other chapters, including those provided in **Chapter 14: Terrestrial ecology and nature conservation**, **Chapter 27: Water environment**, and **Chapter 25: Ground conditions**.

21.8.6 Definitions of receptor sensitivity used in the assessment are provided in **Table 21-10**.

Table 21-10 Sensitivity of receptor / resource

Sensitivity	Criteria / description
Very High	Grade 1 and 2 ALC agricultural land ¹ Soils directly supporting an EU designated site (e.g. Special Area of Conservation (SAC), Special Protection Area (SPA), Ramsar). Peatlands – blanket bog, raised bog, fen peat soils* (mapped peatland and peatland with any statutory designation including SSSI).
High	Grade 3a ALC agricultural land ² Soils (other than peat) directly supporting a UK designated site (e.g. SSSI, Local Nature Reserves (LNR)). Peatland not previously mapped and with no designation**.
Moderate	Grade 3b ALC agricultural land Soils (other than peat) supporting non-statutory designated sites (e.g., Local Wildlife Sites, Ancient Woodland, Open Mosaic Habitat).
Low	Grade 4 and 5 ALC agricultural land Soils (other than peat) supporting non-designated notable or priority habitats, soils on greenfield sites not in agricultural use (e.g., amenity land in urban areas, parks and gardens).
Very low	Other soils, not in agricultural use (e.g., badly damaged or contaminated soils, soils on previously developed land, including soils formerly sealed by development).

¹ Grade 1: Excellent quality agricultural land with no or very minor limitations to agricultural use. Grade 2: Very good quality agricultural land with minor limitations which affect crop yield, cultivation or harvesting.

² Subgrade 3a: Good quality agricultural land capable of producing moderate to high yields of a narrow range of arable crops or moderate yields of a wider range of crops.

Note: *Mapped on National Soils Resources Institute SoilsCapes map

**Site with potential for peat deposits >0.3m thickness, may be identified through survey e.g. Phase 1 Extended Habitat Survey

- 21.8.7 Planning guidance and the National Planning Policy Framework (NPPF) refer to the need to protect Best and Most Versatile (grade 3a) agricultural land (ALC grades 1,2 and 3a). Hence other agricultural land is regarded as of lower sensitivity. In the south of England subgrade 3a land is a relatively common resource and, therefore, is regarded as of lower sensitivity than grade 1 and 2 land, which is the best available both locally and nationally.
- 21.8.8 In accordance with the NPPF which states that undeveloped land can perform many functions, including for wildlife, flood risk mitigation, carbon storage or food production, **Table 21-10** assigns the highest sensitivity to soils performing key agricultural functions, organic matter (including carbon) storage/cycling functions, flood risk mitigation and biodiversity/wildlife supporting functions at a national level.
- 21.8.9 Disturbance of soil cannot be avoided by Rampion 2 and it is acknowledged that soil is vulnerable to damage during handling and storage, even if the effect is only temporary, and that some soil types are less resilient to handling than others. For the purposes of the assessment, soil sensitivity is assessed on a soil function basis. However, it is also acknowledged that during the construction phase of onshore development, the soil type (e.g., topsoil or subsoil, and specific types of each) and its structural qualities can influence its sensitivity to handling, storage and placement.
- 21.8.10 Different soil types have different resilience to structural damage during soil handling (including soil stripping, storage in stockpiles and restoration), and the interaction between soil texture and soil moisture is key. The sensitivity of the soil to handling is likely to vary along the cable corridor of Rampion 2 as a number of different soil types will be encountered from permeable silts over gravel to fine loamy slowly permeable soils.
- 21.8.11 The potential effects of Rampion 2 on soils within the onshore part of the PEIR Assessment Boundary have been assessed using the sensitivity classification relative to the provisional ALC grade of the land. This gives a high sensitivity based on **Table 21-10**. This classification is based upon the soil's function as a medium for growing food and other biomass, however, soils on agricultural land also perform other inter-related soil functions, notably carbon and nitrogen cycle functions, providing habitat and supporting biodiversity, and hydrological cycle functions. Assessment of effects on soil resources using the agricultural classification is, therefore, considered to be appropriate for Rampion 2 based on the current agricultural land use and the nature of the Proposed Development, which following the construction phase, seeks to restore the land, with the exception of the proposed onshore substation, to its current state and use.

Magnitude of change

- 21.8.12 The assessment of the magnitude of change from baseline conditions includes a consideration of the duration and reversibility of the change in the context of

relevant legislation, policy standards and guidance. As the soils within the onshore part of the PEIR Assessment Boundary are located on agricultural land and are likely to constitute BMV land, the approach to the assessment of magnitude of change has been guided by current planning guidance and Natural England guidance (Natural England, 2012) for developments on agricultural land. It is recognised that there may be changes to other soil functions in addition to crop/biomass production as a result of the onshore elements of the Proposed Development, however, in general, adverse effects on soil's biomass function will correspond to adverse effects on other key soil functions, and vice versa. For example, a healthy soil capable of performing its biomass function to a high standard should also be capable of other key functions, such as storing flood water and supporting biodiversity, however, compaction of this soil would lead to a reduction in all of these functions. **Table 21-11** provides examples of how the magnitude of change is determined with respect to soils and agriculture features.

- 21.8.13 Magnitude of change may be either beneficial or adverse. The criteria and examples in **Table 21-11** focus on adverse changes, however, beneficial changes may also occur and will be considered on a case-by-case basis as required.

Table 21-11 Magnitude of change for agricultural land and soils

Magnitude of change	Description example
Very high	Permanent or long term temporary (>5 years) loss or significant degradation* of over 80ha of agricultural land or soil.
High	Permanent or long term temporary (>5 years) loss or significant degradation of between 50ha to 80ha of agricultural land or soil.
Medium	Permanent or long term temporary (>5 years) loss or significant degradation of between 20ha to 50ha of agricultural land or soil.
Low	Permanent or long term temporary (>5 years) loss or degradation of up to 20ha of agricultural land or soil or temporary damage over 20ha which will rectify without mitigation.
Very Low	Temporary damage to areas up to 20ha which will rectify without mitigation.

*Significant degradation in this context means that a key soil function is significantly reduced, an example could be that agricultural land classification is reduced due to changes in the soil's structure (e.g., due to compaction)

- 21.8.14 The magnitude of change on BMV land will depend on the amount to be affected by the onshore elements of the Proposed Development. The Town and Country Planning (Development Management Procedure) (England) Order 2015 only requires Natural England to be consulted on development that involves the loss of greater than 20ha of grades 1, 2 or 3a agricultural land. Consequently, losses smaller than this threshold are considered to have a small magnitude of change on

the national stock of BMV land. Losses of over 80ha of BMV land are equivalent to the size of a medium to large farm and consequently the magnitude of change is considered to be very high. At a national policy level, total farm holdings below 20 hectares in size are generally considered collectively as small farms.

- 21.8.15 The construction phase associated with the onshore elements of the Proposed Development is expected to last for four years. When handled and stored appropriately, soil in temporary storage can be maintained for a period of years and should be reusable shortly after reinstatement. In practice, soil will be reinstated as early as possible, and within one year where possible, such as at cable trenches and HDD construction compounds, and the working area reduced accordingly to protect the reinstated soils. This will be addressed in the Outline Soils Management Plan (SMP).

Evaluation of significance

- 21.8.16 During the assessment of effects for each identified receptor the sensitivity value in **Table 21-10** will be combined with the magnitude of change from **Table 21-11** to produce an overall significance rating based on the evaluation matrix shown in **Table 21-12**. A 'significant' effect is assessed as a Moderate or Major rating at this stage of the EIA process. The latter will be subject to further investigation as part of the ES following refinement of design information. This approach will be based on professional judgement and carried out on a precautionary basis.
- 21.8.17 The evaluation of significance for soils will be undertaken using professional judgement, drawing upon information about the nature and extent of the soil resources present, their environmental setting and the type of construction activity proposed.
- 21.8.18 The evaluation of significance for agricultural land quality will be undertaken using professional judgement, drawing upon information about the area of BMV agricultural land (defined as Grade 1, 2 and 3a of the ALC) which might be lost or damaged together with contextual data about BMV land within the study area.

Table 21-12 Significance evaluation matrix

		Magnitude of change				
		Very high	High	Medium	Low	Very low
Sensitivity/importance/value	Very high	Major (Significant)	Major (Significant)	Major (Significant)	Major (Significant)	Moderate (Potentially significant)
	High	Major (Significant)	Major (Significant)	Major (Significant)	Moderate (Potentially significant)	Minor (Not significant)
	Medium	Major (Significant)	Major (Significant)	Moderate (Potentially significant)	Minor (Not significant)	Negligible (Not significant)
	Low	Major (Significant)	Moderate (Potentially significant)	Minor (Not significant)	Negligible (Not significant)	Negligible (Not significant)
	Very Low	Moderate (Potentially significant)	Minor (Not significant)	Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)

21.9 Preliminary assessment: Construction phase

Change to soil structure due to inappropriate storage and/or handling of soils or due to the use of heavy machinery which causes compaction

Magnitude of change

21.9.1 There is the potential for compaction to occur at the landfall, within all temporary construction compounds, within the onshore cable corridor (typically 50m wide) and at the onshore substation search area, an area of 206.95ha, which is considered of very high magnitude of change. Relevant embedded environmental measures (**Table 21-9**) that will influence the magnitude of change include:

- the avoidance of sensitive sites (C-6), as detailed in **Section 21.6** these include soils within a SSSI and two LWS within the onshore part of the PEIR Assessment Boundary;
- topsoil and subsoil storage within the temporary working corridor in line with Defra guidance (Defra, 2009a) (C-11);
- using machinery with low ground pressure to reduce compaction (C-12);

- use of bogmatting or geotextiles in areas of construction traffic to protect underlying soil resource (C-13);
- the onshore cable will be constructed in discrete sections which will minimise the storage time for excavated soil, helping to maintain the physical condition of the soil and minimise the effects of storage on soil chemistry / biology so that reinstated soil can return to normal function as quickly as possible (C-19);
- implementation of a narrow onshore cable construction corridor of 30m through Warningcamp Hill and New Down Local Wildlife Site (C-113); and
- implementation of an Outline SMP (C-183) which will be informed by the site-specific constraints and soil baseline information gathered during the planned field survey, and will set out further measures to protect soil resources and lower the risk of compaction occurring.

21.9.2 The magnitude of change will be significantly reduced to **low to very low**, based on the implementation of the above commitments, in particular all working areas being covered by the protective measures to be outlined in the Outline SMP and compliant with the Defra guidance (Defra, 2009a).

Sensitivity or value of receptor

21.9.3 The land within the onshore part of the PEIR Assessment Boundary is shown to be a combination of grade 2, grade 3 and grade 4 land on MAFF ALC mapping (see **Figure 21.2, Volume 3**). At least three quarters of the onshore part of the PEIR Assessment Boundary is estimated to be within the best and most versatile category; grade 2 and grade 3, which for the purpose of this assessment is being considered subgrade 3a, and the agricultural land is a **high** sensitivity receptor. The soil is also assigned **high** sensitivity on the basis of its biomass function. Following the planned soil survey to be carried out in 2021, the sensitivity may need to be revised.

Significance of residual effect

21.9.4 The Rampion 2 commitments (as shown in **Table 21-9**) include embedded environmental measures to avoid sensitive sites with soils on land designated for nature / biodiversity conservation (C-6), work in line with the Defra guidance (Defra, 2009a) to handle soils accordingly, including stockpiling resources separately and using machinery with low ground pressure to reduce compaction (C-7, C-11 and C-12). The implementation of an Outline SMP (C-183) will further protect soil resources within the onshore part of the PEIR Assessment Boundary.

21.9.5 As the sensitivity of the receptor is **high**, and the magnitude of change with the implementation of embedded environmental measures (**Table 21-9**) is **low to very low**. The residual effect is anticipated to be of **minor to moderate adverse significance**, with moderate being **Potentially Significant** and minor **Not Significant** in EIA terms. The assessment will be updated in the ES to determine the final significance of the effect based on:

- the result of the planned soil survey to confirm receptors' sensitivity; and

- the refinement of the design of the onshore elements of the Proposed Development to confirm the area of soil / land affected; and
- consideration of the final embedded environmental measures.

Soil erosion due to inappropriate storage and/or construction activities

Magnitude of change

- 21.9.6 There is the potential for soil erosion to occur across all soils that are excavated and stockpiled, soils where vegetation is stripped, at the landfall compound, at all temporary construction compounds, within the temporary onshore cable corridor (typically 50m wide), and at the onshore substation search area, an area of 206.95ha, which is considered to be of very high magnitude of change. Relevant embedded environmental measures (**Table 21-9**) that will influence the magnitude of the change include:
- topsoil and subsoil storage within the temporary onshore cable corridor in line with Defra guidance (Defra, 2009a) (C-11);
 - machinery with low ground pressure will be used to minimise soil compaction which can make soil more vulnerable to erosion (C-12)
 - bogmatting or geotextiles used in areas of construction traffic to protect underlying soil resource (C-13);
 - the onshore cable will be constructed in discrete sections which will minimise the storage time for excavated soil, helping to maintain the physical condition of the soil and minimise the effects of storage on soil chemistry/biology so that reinstated soil can return to normal function as quickly as possible (C-19);
 - stockpiles located within the tidal floodplain will have regular gaps to prevent floodplain compartmentalisation (C-132);
 - stockpiles will be stored for the shortest amount of time possible and seeded where present for longer than six months (C-133); and
 - implementation of an Outline SMP (C-183) which will be informed by the site-specific constraints and soil baseline information gathered during the planned field survey, and will set out further measures to protect soil resources.
- 21.9.7 The magnitude of change taking into account the above embedded environmental measures and the Outline SMP means that the impact that construction activities relating to Rampion 2 will have on soil erosion is significantly reduced to **low to very low**.

Sensitivity or value of receptor

- 21.9.8 The land within the onshore part of the PEIR Assessment Boundary is shown to be a combination of grade 2, grade 3 and grade 4 land on MAFF ALC mapping (see **Figure 21.2, Volume 3**). At least three quarters of the onshore part of the PEIR Assessment Boundary is estimated to be within the best and most versatile category; grade 2 and grade 3, which for the purpose of this assessment is being

considered subgrade 3a, and the agricultural land is a **high** sensitivity receptor. The soil is also assigned **high** sensitivity on the basis of its biomass function. Following the planned soil survey to be carried out in 2021, this sensitivity may need to be revised.

Significance of residual effect

- 21.9.9 The Rampion 2 commitments (as shown in **Table 21-9**) include embedded environmental measures to work in line with the Defra guidance (Defra, 2009a) to handle soils accordingly including stockpiling resources separately and storing stockpiles for as short a time as possible, with seeding where stockpiles are stored for over six months (C-7, C-11, C-12 and C-133) and the implementation of an Outline SMP (C-183).
- 21.9.10 As the sensitivity of the receptor is **high**, and the magnitude of change, with the implementation of embedded environmental measures (**Table 21-9**), is **low to very low**, the residual effect is anticipated to be of **minor to moderate adverse significance**, with moderate being **Potentially Significant** and minor **Not Significant** in EIA terms. The assessment will be updated in the ES to determine the final significance of the effect based on:
- the result of the planned soil survey to confirm receptors' sensitivity; and
 - the refinement of the design of the onshore elements of the Proposed Development to confirm the area of soil / land affected; and
 - consideration of the final embedded environmental measures.

Temporary loss of topsoil due to removal associated with construction activities

Magnitude of change

- 21.9.11 There will be a temporary loss of topsoil as it is removed and stockpiled during onshore cable laying and in areas of access tracks and temporary construction compounds. This makes up a total area of approximately 201.05ha, however, given the phased construction, smaller areas will be exposed at any one time. Relevant embedded environmental measures (see **Table 21-9**) that will influence the magnitude of the change include:
- post construction work areas will be reinstated to pre-existing conditions in line with Defra guidance (Defra, 2009a) (C-7);
 - topsoil and subsoil storage within the temporary working corridor in line with Defra guidance (Defra, 2009a) (C-11);
 - stockpiles in the tidal floodplain will have regular gaps to prevent floodplain compartmentalisation (C-132);
 - stockpiles will be stored for the shortest amount of time possible and seeded where present for longer than six months (C-19 and C-133); and
 - topsoil handling and storage to be detailed in the Outline SMP (C-183), informed by a soil survey to confirm the soil type.

21.9.12 The magnitude of the change is **low to very low**.

Sensitivity or value of receptor

21.9.13 The land within the onshore part of the PEIR Assessment Boundary is shown to be a combination of grade 2, grade 3 and grade 4 land on MAFF ALC mapping (see **Figure 21.2, Volume 3**). At least three quarters of the onshore part of the PEIR Assessment Boundary is estimated to be within the best and most versatile category; grade 2 and grade 3, which for the purpose of this assessment is being considered subgrade 3a, and the agricultural land is a **high** sensitivity receptor. The soil is also assigned **high** sensitivity on the basis of its biomass function. Following the planned soil survey to be carried out in 2021, this sensitivity may need to be revised.

Significance of residual effect

21.9.14 Rampion 2 will involve the temporary loss of topsoil across the working area, though due to the embedded environmental measures outlined in **paragraph 21.9.11** (C-12, C-19 and C-133) this will be across a much smaller area than the total working area at any given time. This is considered a **low to very low** magnitude of change, with the implementation of embedded environmental measures (**Table 21-9**), on a **high** sensitivity receptor equating to a temporary residual effect of **minor to moderate adverse significance**, with moderate being **Potentially Significant** and minor **Not Significant** in EIA terms. The assessment will be updated in the ES to determine the final significance of the effect based on:

- the result of the planned soil survey to confirm receptors' sensitivity; and
- the refinement of the design of the onshore elements of the Proposed Development to confirm the area of soil / land affected; and
- consideration of the final embedded environmental measures.

Permanent loss of topsoil due to removal associated with construction activities

Magnitude of change

21.9.15 There is potential for permanent loss of topsoil as soils are removed and stockpiled during onshore cable laying and in areas of access tracks and temporary construction compounds. There will be a permanent loss of topsoil at the permanent onshore substation location of up to 5.9ha. The total area that could be affected by topsoil loss is approximately 206.95ha. However, the embedded environmental measures to prevent topsoil loss include:

- post construction work areas will be reinstated to pre-existing conditions in line with Defra guidance (Defra, 2009a) (C-7);
- topsoil and subsoil storage within the temporary working corridor will be undertaken in line with the Defra guidance (Defra, 2009a) (C-11);
- bogmatting or geotextiles will be used in areas of construction traffic to protect the underlying soil resource (C-13);

- stockpiles in the tidal floodplain will have regular gaps to prevent floodplain compartmentalisation (C-132);
- stockpiles will be stored for the shortest amount of time possible and seeded where present for longer than six months (C-19 and C-133); and
- all onshore construction works will be covered by an Outline SMP (C-183), which will utilise the site-specific baseline information gathered during the field survey to further protect soil resources.

21.9.16 The magnitude of the change is **very low**.

Sensitivity or value of receptor

21.9.17 The land within the onshore part of the PEIR Assessment Boundary is a combination of grade 2, grade 3 and grade 4 land on MAFF ALC mapping (see **Figure 21.2, Volume 3**). At least three quarters of the onshore part of the PEIR Assessment Boundary is estimated to be within the best and most versatile (grade 2 and grade 3, which for the purpose of this assessment is being considered subgrade 3a quality) category. The onshore substation search areas have a provisional ALC classification of grade 3 and are also assumed to be Grade 3a (BMV agricultural land) rather than 3b (not BMV) to provide a conservative assessment at PEIR stage. For the purposes of this preliminary assessment at PEIR stage, agricultural land within the onshore part of the PEIR Assessment Boundary is therefore considered to be a **high** sensitivity receptor. The soil is also assigned **high** sensitivity on the basis of its biomass function. Following the planned soil survey to be carried out in 2021, this sensitivity may need to be revised.

Significance of residual effect

21.9.18 Rampion 2 is likely to only involve the permanent loss of topsoil at the onshore substation (maximum of 5.9ha), with reinstatement of topsoil at the temporary construction compounds and onshore cable corridor. With the implementation of embedded environmental measures (**Table 21-9**), this is predicted to result in a **very low** magnitude of change on a **high** sensitivity receptor equating to a residual effect of **minor adverse significance** which is **Not Significant** in EIA terms.

Damage to drainage systems due to construction activities

Magnitude of change

21.9.19 There is the potential for drains to be damaged within the onshore cable corridor which will impact the surrounding agricultural land and soil, causing waterlogging, erosion and compaction. As drainage layouts are not yet known, the potential area affected cannot currently be quantified however a worst-case of the total extent of the works, 206.95ha of land, as defined in **Table 21-8**, has been used for the assessment at PEIR stage. Embedded environmental measure C-28 will protect the existing land drainage regimes during construction and ensure existing systems are reinstated on completion. Temporary cut-off drains will be installed parallel to the trench-line, before the start of construction, to intercept soil and

groundwater before it reaches the trench. These field drains will discharge to local drainage ditches through silt traps, as appropriate, to minimise sediment release. This reduces the magnitude of the change to **very low**.

Sensitivity or value of receptor

21.9.20 The land within the onshore part of the PEIR Assessment Boundary is shown to be a combination of grade 2, grade 3 and grade 4 land on MAFF ALC mapping (see **Figure 21.2, Volume 3**). At least three quarters of the onshore part of the PEIR Assessment Boundary is estimated to be within the best and most versatile category; grade 2 and grade 3, which for the purpose of this assessment is being considered subgrade 3a, and the agricultural land is a **high** sensitivity receptor. The soil is also assigned **high** sensitivity on the basis of its biomass function. Following the planned soil survey to be carried out in 2021, this sensitivity may need to be revised.

Significance of residual effect

21.9.21 The construction phase will take care to ensure the existing land drainage regime is not compromised as a result of the construction and reinstatement of any drains that are affected (C-28). Therefore, it is predicted to have a temporarily **very low** magnitude of change, with the implementation of embedded environmental measures (**Table 21-9**), to a **high** sensitivity receptor as a result of onshore cable trenching damaging drains, equating to a temporary residual effect of **minor adverse significance**, which is **Not Significant** in EIA terms.

Temporary loss of, or damage to soil and agricultural land during the construction phase

Magnitude of change

21.9.22 There will be temporary loss of agricultural land and potentially damage to soil and agricultural land quality, across all temporary work compounds, temporary onshore cable corridor and onshore substation location; an area of approximately 206.95ha, which is of very high magnitude of change. Relevant embedded environmental measures (**Table 21-9**) that will influence the magnitude of the change include:

- the avoidance of sensitive sites with soils on land designated for nature / biodiversity conservation where practicable (C-6);
- topsoil and subsoil storage within the temporary cable corridor in line with the Defra guidance (Defra, 2009a) (C-11);
- using machinery with low ground pressure to reduce compaction (C-12);
- bogmatting or geotextiles will be used in areas of construction traffic to protect the underlying soil resource (C-13);
- a narrow construction corridor of 30m will be applied through Warningcamp Hill and New Down Local Wildlife Site (C-113);

- stockpiles in the tidal floodplain will have regular gaps to prevent floodplain compartmentalisation C-132); and
- there will be an Outline SMP produced (C-183) which will utilise the site-specific baseline information gathered during the field survey to further protect soil resources and, therefore, agricultural land quality.

21.9.23 The embedded environmental measures including the Outline SMP would minimise potential effects so that temporary land loss and damage to land is limited to less than 20ha, a **low** to **very low** magnitude of change.

Sensitivity or value of receptor

21.9.24 The land within the onshore part of the PEIR Assessment Boundary is shown to be a combination of grade 2, grade 3 and grade 4 land on MAFF ALC mapping (see **Figure 21.2, Volume 3**). At least three quarters of the onshore part of the PEIR Assessment Boundary is estimated to be within the best and most versatile category; grade 2 and grade 3, which for the purpose of this assessment is being considered subgrade 3a, and the agricultural land is a **high** sensitivity receptor. The soil is also assigned **high** sensitivity on the basis of its biomass function. Following the planned soil survey to be carried out in 2021, this sensitivity may need to be revised.

Significance of residual effect

21.9.25 Rampion 2 will involve the temporary loss of agricultural land and soil, however, due to the embedded environmental measures (C-12, C-19 and C-133) this will be across a much smaller area than the total working area at any given time. Based on the embedded environmental measures (**Table 21-9**), including soils being reinstated as early as possible, and damage to land quality being prevented by the implementation of the Outline SMP, this is a **low** or **very low** magnitude of change on a **high** sensitivity receptor equating to a **minor** to **moderate adverse** residual effect, with moderate being **Potentially Significant** and minor **Not Significant** in EIA terms. The assessment will be updated in the ES to determine the final significance of the effect based on:

- the result of the planned soil survey to confirm receptors' sensitivity;
- the refinement of the design of the onshore elements of the Proposed Development to confirm the area of soil / land affected; and
- consideration of the final embedded environmental measures.

Permanent loss of soil resource and agricultural land due to construction of onshore infrastructure

Magnitude of change

21.9.26 The onshore elements of the Proposed Development will involve the permanent loss of up to 5.9ha of land where the onshore substation will be constructed. This loss is considered to be of **very low** magnitude of change.

Sensitivity or value of receptor

- 21.9.27 Only one onshore substation search area location will be selected, and both onshore substation search areas are located on grade 3 land (see **Figure 21.2, Volume 3**), which for the purpose of this assessment is being considered subgrade 3a quality, therefore the assessment is the same for both onshore substation search areas, but is based on only one being developed (with a footprint of up to 5.9ha). This means that the agricultural land on the onshore substation search areas is a **high** sensitivity receptor. The soil is also assigned **high** sensitivity on the basis of its biomass function. Following the planned soil survey to be carried out in 2021, the sensitivity may need to be revised.

Significance of residual effect

- 21.9.28 The onshore elements of the Proposed Development will involve a predicted **very low** magnitude of change to a **high** sensitivity receptor. This will be a permanent residual effect of **minor adverse significance** which is **Not Significant** in EIA terms.

21.10 Preliminary assessment: Cumulative effects

- 21.10.1 A preliminary cumulative effects assessment (CEA) has been undertaken for Rampion 2 which examines the result from the combined effects of Rampion 2 with other developments on the same single receptor or resource and the contribution of Rampion 2 to those impacts. The overall method followed when identifying and assessing potential cumulative effects in relation to the onshore environment, is set out in **Chapter 5** and **Appendix 5.3: Cumulative effects assessment detailed onshore search and screening criteria, Volume 4**.
- 21.10.2 The onshore screening approach has followed the Planning Inspectorate's Advice Note Seventeen (Planning Inspectorate, 2019) which is an accepted process for NSIPs and will follow the four-stage approach set out in the guidance.
- 21.10.3 The soils and agriculture effects associated with Rampion 2 are localised in extent and will be limited to within the onshore elements of the Proposed Development footprint. With the embedded environmental measures (**Table 21-9**), there will be limited permanent effects on soils and agricultural land from the development. It is, therefore, unlikely there will be effects that may act cumulatively with effects from other developments to contribute to cumulative effects on agriculture and soils receptors in the vicinity.

21.11 Transboundary effects

- 21.11.1 Transboundary effects arise when impacts from a development within one European Economic Area (EEA) state affects the environment of another EEA state(s). A screening of transboundary effects has been carried out and is presented in Appendix B of the Scoping Report (RED, 2020).
- 21.11.2 There are no potential transboundary effects on soils and agricultural land quality arising from Rampion 2, for this reason it is not discussed any further.

21.12 Inter-related effects

- 21.12.1 The inter-related effects assessment considers likely significant effects from multiple impacts and activities from the construction, operation and decommissioning of Rampion 2 on the same receptor, or group of receptors.
- 21.12.1 The potential inter-related effects include:
- **Proposed Development lifetime effects:** i.e., those arising throughout more than one phase of the Proposed Development (construction, operation and maintenance, and decommissioning) to interact to potentially create a more significant effect on a receptor than if just one phase were assessed in isolation; and
 - **Receptor-led effects:** assessment of the scope for all effects to interact, spatially and temporally, to create inter-related effects on a receptor (or group). Receptor-led effects might be short term, temporary or transient effects, or incorporate longer term effects.
- 21.12.2 The potential inter-related effects that could arise in relation to soils and agriculture are presented in **Table 21-13**. A description of the process to identify and assess these effects is presented in **Chapter 5**.

Table 21-13 Inter-related effects assessment for soils and agriculture

Project phase(s)	Nature of inter-related effect	Assessment alone	Inter-related effects assessment
Proposed Development lifetime effects			
Construction, operation and maintenance, and decommissioning	Temporary and/or permanent loss of soil, topsoil and land. Impact on soil quality, erosion and drainage.	Effects range from Potentially Significant to Not Significant.	The temporal scope of the preliminary assessment of soils and agriculture is limited to the construction phase of the Proposed Development following the scoping out of potential effects during the operation and maintenance, and decommissioning phases as outlined in Table 21-3 . Therefore, there is no potential for any soils and agriculture inter-related lifetime effects.
Receptor-led effects			
Impact on agricultural land and soils	Potential for inter-related effects with transport, water environment and ground conditions.	The construction phase has the highest likelihood of receptor-led effects as it is the only phase scoped into the EIA.	

Project phase(s)	Nature of inter-related effect	Assessment alone	Inter-related effects assessment
			<p>Some inter-related effects could arise at some agricultural land/operations for example from effects to water resources associated with land drainage, mobilisation of contaminants and disruption to transport (such as severance effects to accesses). However, embedded environmental measures are designed to reduce these effects. For example, the seasonal timing of the construction works will be planned to minimise risks to water environment and flood risk receptors, terrestrial ecology nature conservation and soils and agricultural land. Relevant measures will also be included in the Outline SMP and the Outline Materials Management Plan (MMP) to minimise effects on the soil resource.</p> <p>Assessments of potential drainage effects drainage for Rampion 2 (refer to Chapter 27: Water environment) ranged from Minor to Negligible (both Not Significant).</p> <p>All assessments of potential severance for Rampion 2 (refer to Chapter 24: Transport) resulted in Negligible (Not Significant) effects.</p> <p>Assessments of potential contamination for Rampion 2 (refer to Chapter 25: Ground conditions) ranged from Minor negative to Negligible (both Not Significant).</p> <p>It is considered unlikely that any inter-related effects will exceed the significance reported in the individual aspect chapters.</p> <p>As the operation and maintenance and decommissioning phases have been scoped out of the EIA for soils and agriculture, significant inter-related effects in these phases are considered to be unlikely.</p>

21.13 Summary of residual effects

- 21.13.1 **Table 21-14** presents a summary of the preliminary assessment of significant impacts, any relevant embedded environmental measures and residual effects on *soils and agriculture* receptors.

Table 21-14 Summary of preliminary assessment of residual effects

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Preliminary assessment of residual effect (significance)
Construction				
Changes to soil structure due to inappropriate storage and/or handling of soils or due to the use of heavy machinery which causes compaction	Low or very low	High	C-6, C-11, C-12, C-13, C-113, C-132, C-183	Minor adverse (Not significant) to Moderate adverse (Potentially significant)
Soil erosion due to inappropriate storage and/or construction activities	Low or very low	High	C-7, C-11, C-12, C-132, C-133, C-183	Minor adverse (Not significant) to Moderate adverse (Potentially significant)
Temporary loss of topsoil due to removal associated with construction activities	Low or very low	High	C7, 11, 12, 13, 183	Minor adverse (Not significant) to Moderate adverse (Potentially significant)
Permanent loss of topsoil due to removal associated with construction activities	Very low	High	C-7, C-11, C-12, C-13, C-19, C-133, C-183	Minor adverse (Not significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Preliminary assessment of residual effect (significance)
Damage to drainage systems due to construction activities	Very low	High	C-28	Minor adverse (Not significant)
Temporary loss of, or damage to agricultural land during the construction phase	Low or very low	High	C-6, C-11, C-12, C-13, C-113, C-183	Minor adverse (Not significant) to Moderate adverse (Potentially significant)
Permanent loss of agricultural land due to onshore infrastructure	Very low	High	C-183	Minor adverse (Not significant)

21.14 Further work to be undertaken for ES

Introduction

21.14.1 Further work that will be undertaken to support the soils and agriculture assessment and presented within the ES is set out below.

Baseline

21.14.2 Agricultural land quality and soil resources will be accurately assessed on site by means of a detailed survey involving observations of soil and land characteristics at the intersects of a 100m grid (where appropriate / feasible) to give a survey density of one observation per hectare. Using the Revised Guidelines and Criteria for Grading the Quality of Agricultural Land, published by MAFF in 1988, each observation point will be assigned a land grade and the classification of land at each location will be translated into maps of land grades and soil resources. This information will then be used to further update and inform the soils and agriculture ES Chapter.

Assessment

- 21.14.3 The assessment will be updated with the additional baseline information and further refinement of the design of the Proposed Development. The assessment will be undertaken in line with the methodology agreed in the Scoping Report and further outlined in **Section 21.1**.

Consultation and engagement

- 21.14.4 Further engagement with Natural England in relation to the survey methodology and observation points will be undertaken as the design of the Proposed Development is further refined.

The financial effects on productive farmland

- 21.14.5 Due to ongoing landowner engagement the data to undertake an assessment of the financial effects on productive farmland is unavailable for PEIR. Data is being collected in 2021 to enable an assessment to be provided at ES.
- 21.14.6 Socio-economic impacts in the farming and related sectors may arise from effects of the onshore elements of the Proposed Development on farmland used for production and on business activities undertaken by farmers and other landowners using land they own and manage (such as shoots or caravan sites).
- 21.14.7 The assessment will consider permanent and temporary impacts arising from effects on land made unavailable or prevented from being as freely used caused by:
- construction works at the same location (for example where cable is buried within a field);
 - access restrictions (for example, where movement of farm machinery is prevented); and
 - other disruption affecting farming production or business activities, such as unsightly views or noise.
- 21.14.8 The receptors will be identified based on the landownership located within the onshore cable corridor and onshore substation locations supported by consultation with potentially affected parties. The assessment of the magnitude of impacts will take into account the nature and duration of the effects caused. Magnitudes will be assessed qualitatively and quantitatively considering the market value of lost farm production based on typical crop values, and on the value of disruption on other business activities according to their type.

21.15 Glossary of terms and abbreviations

Table 21-15 Glossary of terms and abbreviations

Term (acronym)	Definition
ALC	Agricultural Land Classification

Term (acronym)	Definition
Baseline	Refers to existing conditions as represented by latest available survey and other data which is used as a benchmark for making comparisons to assess the impact of development.
Baseline conditions	The environment as it appears (or would appear) immediately prior to the implementation of the Proposed Development together with any known or foreseeable future changes that will take place before completion of the Proposed Development.
BGS	British Geological Survey
BMV	Best and Most Versatile
Code of Construction Practice (COCP)	The code sets out the standards and procedures to which developers and contractors must adhere to when undertaking construction of major projects. This will assist with managing the environmental impacts and will identify the main responsibilities and requirements of developers and contractors in constructing their projects.
Construction effects	Used to describe both temporary effects that arise during the construction phases as well as permanent existence effects that arise from the physical existence of development (for example new buildings).
Cumulative effects	Additional changes caused by a Proposed Development in conjunction with other similar developments or as a combined effect of a set of developments.
Cumulative Effects Assessment (CEA)	Assessment of impacts as a result of the incremental changes caused by other past, present and reasonably foreseeable human activities and natural processes together with the Proposed Development.
DCO Application	An application for consent to undertake a Nationally Significant Infrastructure Project made to the Planning Inspectorate who will consider the application and make a recommendation to the Secretary of State, who will decide on whether development consent should be granted for the Proposed Development.
Decommissioning	The period during which a development and its associated processes are removed from active operation.
DEFRA / Defra	Department of Environment, Food and Rural Affairs

Term (acronym)	Definition
Development Consent Order (DCO)	This is the means of obtaining permission for developments categorised as Nationally Significant Infrastructure Projects, under the Planning Act 2008.
DoWCoP	Definition of Waste Code of Practice
EA	Environment Agency
EEA	European Economic Area
Embedded environmental measures	Equate to 'primary environmental measures' as defined by Institute of Environmental Management and Assessment (2016). They are measures to avoid or reduce environmental effects that are directly incorporated into the preferred masterplan for the Proposed Development.
Environmental Impact Assessment (EIA)	The process of evaluating the likely significant environmental effects of a proposed project or development over and above the existing circumstances (or 'baseline').
Environmental measures	Measures which are proposed to prevent, reduce and where possible offset any significant adverse effects (or to avoid, reduce and if possible, remedy identified effects).
Environmental Statement (ES)	The written output presenting the full findings of the Environmental Impact Assessment.
EU	European Union
Future baseline	Refers to the situation in future years without the Proposed Development.
Horizontal Directional Drill (HDD)	An engineering technique avoiding open trenches.
Impact	The changes resulting from an action.
Indirect effects	Effects that result indirectly from the Proposed Development as a consequence of the direct effects, often occurring away from the site, or as a result of a sequence of interrelationships or a complex pathway. They may be separated by distance or in time from the source of the effects.
Informal consultation	Informal consultation refers to the voluntary consultation that RED undertake in addition to the formal consultation requirements.

Term (acronym)	Definition
Likely Significant Effects	It is a requirement of Environmental Impact Assessment Regulations to determine the likely significant effects of the Proposed Development on the environment which should relate to the level of an effect and the type of effect.
LNR	Local Nature Reserve
LWS	Local Wildlife Site
MAFF	(former) Ministry of Agriculture, Fisheries and Farming
MAGIC	Multi-Agency Geographic Information for the Countryside
Magnitude (of change)	A term that combines judgements about the size and scale of the effect, the extent of the area over which it occurs, whether it is reversible or irreversible and whether it is short term or long term in duration'. Also known as the 'degree' or 'nature' of change.
MMP	Materials Management Plan
Nationally Significant Infrastructure Project (NSIP)	Nationally Significant Infrastructure Projects are major infrastructure developments in England and Wales which are consented by DCO. These include proposals for renewable energy projects with an installed capacity greater than 100MW.
PEIR Assessment Boundary	The PEIR Assessment Boundary combines the search areas for the offshore and onshore infrastructure associated with the Proposed Development. It is defined as the area within which the Proposed Development and associated infrastructure will be located, including the temporary and permanent construction and operational work areas.
Planning Inspectorate (PINS)	The Planning Inspectorate deals with planning appeals, national infrastructure planning applications, examinations of local plans and other planning-related and specialist casework in England and Wales.
Preliminary Environmental Information Report (PEIR)	The written output of the Environmental Impact Assessment undertaken to date for the Proposed Development. It is developed to support formal consultation and presents the preliminary findings of the assessment to allow an informed view to be developed of the Proposed Development, the assessment approach that has been undertaken, and the preliminary conclusions on the likely significant effects of the

Term (acronym)	Definition
	Proposed Development and environmental measures proposed.
Proposed Development	The development that is subject to the application for development consent, as described in Chapter 4.
Receptor	These are as defined in Regulation 5(2) of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 and include population and human health, biodiversity, land, soil, water, air, climate, material assets, cultural heritage and landscape that may be at risk from exposure to pollutants which could potentially arise as a result of the Proposed Development.
SAC	Special Area of Conservation
Scoping Opinion	A Scoping Opinion is adopted by the Secretary of State for a Proposed Development.
Scoping Report	A report that presents the findings of an initial stage in the Environmental Impact Assessment process.
Secretary of State	The body who makes the decision to grant development consent.
Sensitivity	A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value associated to that receptor.
Significance	A measure of the importance of the environmental effect, defined by criteria specific to the environmental aspect.
Significant effects	It is a requirement of the EIA Regulations to determine the likely significant effects of the development on the environment which should relate to the level of an effect and the type of effect. Where possible significant effects should be mitigated.
SMP	Soil Management Plan
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
Temporal scope	The temporal scope covers the time period over which changes to the environment and the resultant effects are predicted to occur and are typically defined as either being temporary or permanent.

Term (acronym)	Definition
Temporary or permanent effects	Effects may be considered as temporary or permanent. In the case of wind energy development the application is for a 30 year period after which the assessment assumes that decommissioning will occur and that the site will be restored. For these reasons the development is referred to as long term and reversible.
The Proposed Development / Rampion 2	The onshore and offshore infrastructure associated with the offshore wind farm comprising of installed capacity of up to 1,200MW, located in the English Channel in off the south coast of England.
Zone of Influence (ZOI)	The area surrounding the Proposed Development which could result in likely significant effects.

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