Chapter 20:
Land and Agriculture

ORIEL WINDFARM
OFFSHORE RENEWABLE ENERGY

A TETRA TECH COMPANY

PARK WIND
JERA GROUP

Energy for generations

ORIEL WIND FARM PROJECT

Environmental Impact Assessment Report
Chapter 20: Land and Agriculture

MDR1520B
EIAR – Chapter 20
A1 C01
March 2024

Contents

Figures

Tables

20 CHAPTER 20 – LAND AND AGRICULTURE

20.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) provides an assessment of the potential impacts of the Oriel Wind Farm Project (hereafter referred to as "the Project") on land and agriculture. Specifically, this chapter considers the potential impact of the onshore infrastructure (i.e. the onshore cable and associated infrastructure and the onshore substation) during the construction, operational and maintenance, and decommissioning phases.

The requirement to consider and assess the effects of a project on the elements of which agriculture may be considered to comprise of, namely material assets and land, are prescribed in Directive 2011/92/EU as amended by Directive 2014/52/EU and S.I. No. 296 of 2018. Land is introduced as a factor to be identified, described, and assessed in an EIAR in the 2014 Directive and information to be submitted and assessed as part of an EIAR in respect of land should include details of 'land take' and land use requirements of the whole project during the construction, operational and decommissioning phases (DHPLG, 2018).

The assessment presented is informed by the following technical chapters:

- Chapter 23: Air Quality;
- Chapter 25: Noise (Airborne) and Vibration;
- Chapter 28: Traffic and Transport; and
- Chapter 29: Material Assets.

The details and competencies of the specialist who prepared this chapter can be found in volume 2A, chapter 1: Introduction.

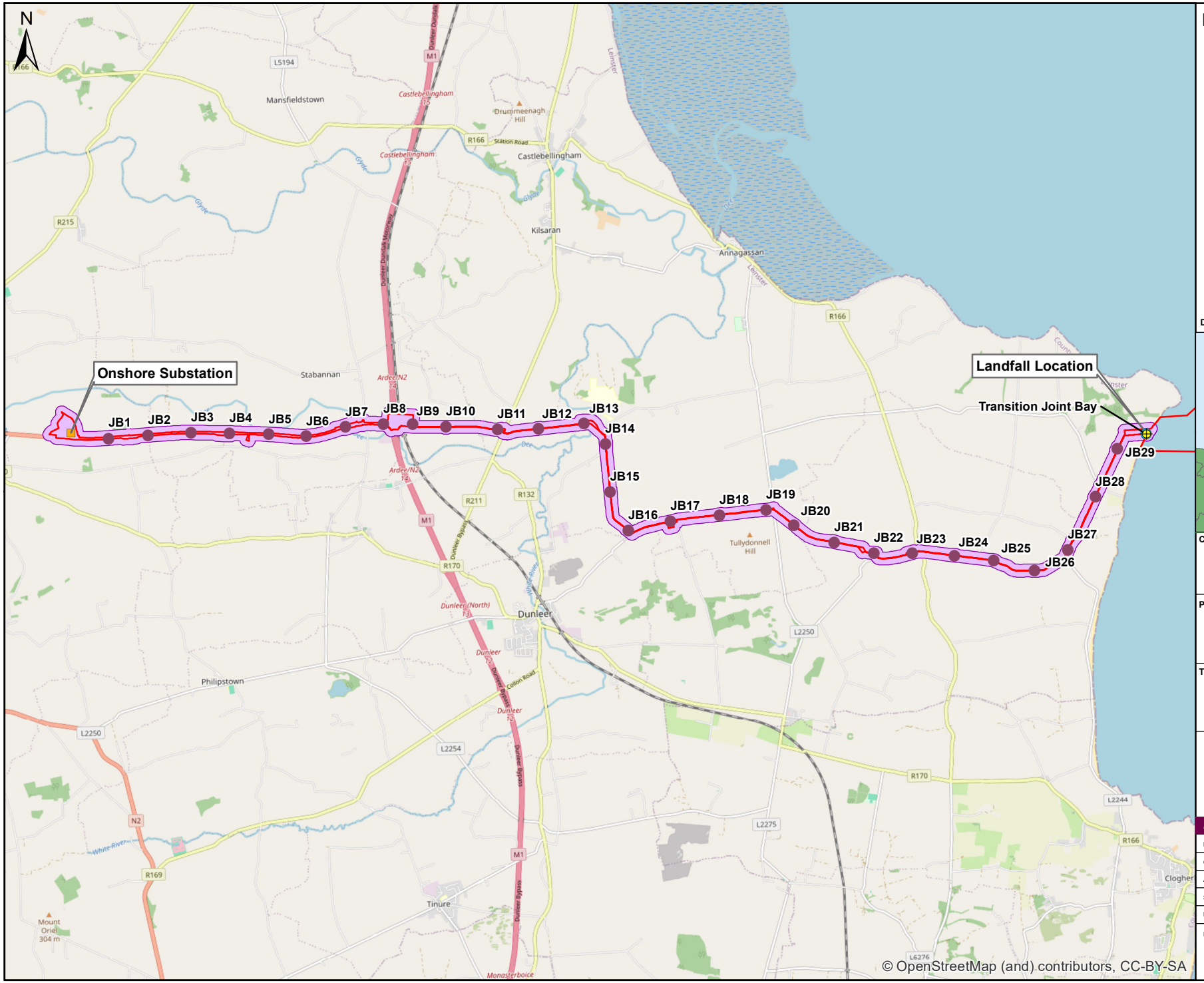
20.2 Purpose of this chapter

The primary purpose of this EIAR chapter is to provide an assessment of the likely direct and indirect significant effects of the Project on land and agriculture. In particular, this EIAR chapter:

- Presents the existing environmental baseline data established from desk studies and site-specific surveys (section 20.7);
- Identifies any assumptions and limitations encountered in compiling the environmental information (section 20.7.4); and
- Presents an assessment of the potential likely significant effects on land and agriculture arising from the Project (section 20.10), based on the information gathered and the analysis and assessments undertaken. An assessment of potential cumulative impacts is provided in section 20.11 and an assessment of transboundary effects is outlined in section 20.12 and
- Highlights any necessary monitoring (section 20.10.7) and/or measures (see section 20.8.2 and 20.10.6) to prevent, minimise, reduce or offset the likely significant environmental effects identified in the assessment (section 20.10).

20.3 Study area

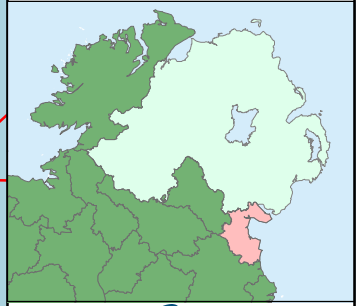
Two study areas are considered in this assessment. A Regional Land and Agriculture Study Area (hereafter referred to as the "Regional Study Area") is considered to examine those lands and agricultural practices within the county of Louth that may potentially be affected by the Project activities. A Local Land and Agriculture Study Area (hereafter referred to as the "Local Study Area") considers those lands traversed by the Project and is within 100 m of the centreline of the cable route (see Figure 20-1).



Legend

- Planning Application Boundary
- Study Area (100m Buffer)
- Landfall Location
- Joint Bay Locations
- Transition Joint Bay
- Onshore Substation

Data Sources: OWL, OSi



Client

ORIEL WINDFARM
OFFSHORE RENEWABLE ENERGY

Project

Oriel Wind Farm Project

Title

Figure 20-1: Local Land and Agriculture Study Area

RPS
A TETRA TECH COMPANY

West Pier Business Campus,
Dun Laoghaire,
Co Dublin,
Ireland.

Tel: +353 (0) 1 4882900
Email: ireland@rpsgroup.com
Web Page: rpsgroup.com/ireland

Issue Details

Drawn By: NR	**Project No.** MDR1520b
Checked By: CC	**File Ref:** MDR1520bArc3102F02
Approved By: CC	
Scale: 1:80,000 @A4	**Projection:** ITM (IRENET95) Geographic Co-ordinates: ETRS89
Date: 01/03/2024	

20.4 Policy context

Planning policy on renewable energy infrastructure is presented in volume 2A, chapter 2: Policy and Legislation. This section presents planning policy that specifically relates to land and agriculture.

The Louth County Development Plan 2021-2027 recognises the importance of agriculture in the county and furthermore recognises the need for agriculture to adopt to climate change (see chapter 5 of the Plan (section 5.19.1 Agriculture)). There are also a number of polices that support agriculture and the rural communities such as:

- EE 57 – To secure vibrant and viable rural communities by supporting the development of rural based enterprises;
- EE 58 – To continue to support the agricultural sector and to facilitate the development of environmentally sustainable agricultural activities;
- EE 59 – To facilitate the diversification of the agricultural sector by supporting alternative farm enterprises subject to the nature and use of any enterprise being compatible with the environment in which it is located; and
- ENV 14 – To ensure that adequate soil protection measures are undertaken where appropriate. Adequate and appropriate investigations shall be carried out into the nature and extent of any soil and groundwater contamination and the risks associated with site development work, where brownfield development is proposed.

Rural communities are the custodians of the soils and good land management and provide recognition of the need to support agriculture.

20.5 Consultation

Table 20-1 summarises the issues raised during consultation activities to date, which are relevant to land and agriculture, together with how these issues have been considered in the preparation of this EIAR chapter. Volume 2A, chapter 6: Consultation provides details on the types of consultation activities undertaken for the Project between 2019 and 2024 and the consultees that were contacted.

Table 20-1: Summary of key issues raised during consultation relevant to land and agriculture.

Date	Consultee and type of response	Issues raised	Response to issue raised and/or where considered in this chapter
2019 – May 2023	Landowners; meetings	• Landowners expressed some concerns regarding the area of lands that would be required for the Project, permanently and temporarily; • A number of landowners (and house holders) expressed concerns regarding how access to their land would be maintained during the construction phase; • Concerns regarding impacts from noise; and • Queries regarding compensation.	• The Project team has made every effort to minimise the area to be acquired; • The land to be temporarily and permanently acquired by the Project is assessed in section 20.10.1; • Access will be maintained during the construction phase; • Severance of access during the construction of the Project is assessed in section 20.10.2; • The impacts of the Project on noise and vibration are outlined in chapter 25: Noise (Airborne) and Vibration; and • Compensation is not a matter which is addressed in the EIAR.

Date	Consultee and type of response	Issues raised	Response to issue raised and/or where considered in this chapter
January – February 2023	Members of the public during public consultation	Query on the amount of space taken up by the project onshore.	The permanent land take necessary for the Project is detailed in Table 20-6. The impact of temporary and permanent land take is assessed in section 20.10.1.

20.6 Methodology to inform the baseline

20.6.1 Desktop study

Information on current land uses and agricultural practices within the Local and Regional Land and Agriculture Study Areas was collected through a detailed desktop review of existing studies and datasets. These are summarised in Table 20-2 below. These sources provide the most up to date data for this assessment.

Table 20-2: Summary of key desktop reports.

Title	Source	Year	Author
GIS Map of National Soil Types	EPA / Teagasc / GSI	2006	EPA / Teagasc / GSI
Census of Agriculture 2020	CSO	2020	CSO
Google Earth	Google	2013	Google
Property Registration Authority Ireland	PRAI Website	2023	PRAI
An Post Geo Directory	An Post	2022	An Post
Louth County Development Plan	Louth County Council	2021-2027	Louth County Council

20.6.2 Site-specific surveys

In order to inform the EIAR, site-specific surveys were undertaken. A summary of the surveys undertaken to inform the assessment is outlined in Table 20-3.

Table 20-3: Summary of site-specific survey data.

Title	Extent of survey	Overview of survey	Survey contractor	Date
Land and agriculture survey	Walkover of proposed landfall and onshore substation/grid connection locations. Windscreen survey of proposed onshore cable route and river/road/rail crossings (where trenchless crossings are proposed).	Survey to identify land uses and agricultural practices at the proposed landfall location and onshore/grid connection and along the proposed onshore cable route and crossing locations.	RPS	July 2019 October 2019 December 2020
Land agreement discussions with landowners	Discussions with landowners.	-	Applicant	2019 - 2024

20.7 Baseline environment

20.7.1 Regional

There are 1,629 farms in County Louth, utilising approximately 61,473 ha (CSO, 2020). The average farm size is 37.73 ha. Table 20-4 shows the breakdown of the numbers and percentages of farms specialising in different enterprises in County Louth.

Table 20-4: Numbers of farms in County Louth in different enterprises.

Enterprise type	Number of farms	Percentage of total
Specialist tillage	279	17.1
Specialist dairy	149	9.1
Specialist beef production	651	40.0
Specialist sheep	204	12.5
Mixed grazing livestock	71	4.4
Mixed crops and livestock	77	4.7
Mixed field crops	173	10.6
Other	25	1.5
Total	**1,629**	**100**

As outlined in Table 20-4 the majority of the farms in County Louth are involved in grass-based production. However, it can also be seen that a considerable number of farms are in tillage. Grass based livestock farming specialising in beef, sheep and dairy accounts for 66%, while tillage/crop production accounts for 28% of farming, the remaining 6% are in mixed farming enterprises.

20.7.2 Local

Desktop surveys and field surveys (see Table 20-3) of the proposed landfall location, along the cable route and at onshore substation site were carried out to determine the agricultural baseline for agriculture in the locality. The surveys assessed a number of factors including:

- The current agricultural and land use practices taking place within the region and within the Local Land and Agriculture Study Area; and
- Level of management currently practiced.

The lands within the Local Land and Agriculture Study Area are primarily in tillage/crop production with some grass-based livestock farming. Table 20-5 shows the number and type of different enterprises within the Local Study Area.

Table 20-5: Numbers and types of enterprises within the Local Land and Agriculture Study Area.

Enterprise type	No.	Land parcel area (ha)
Tillage	15	269.72 (45%)
Drystock	17	310.38 (51%)
Non-agriculture[1]	11	24.58 (4%)
Total	43	

[1] These are lands where the folio reaches the centreline of the road. Any construction that is to occur will do so within the road or grass verge.

20.7.3 Future baseline scenario

The European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (hereafter the EIA Regulations 2018) require that "*a description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge*" is included within the EIAR.

In the event that the Project is not constructed, an assessment of the future baseline conditions has been carried out and is described as follows:

- Land and agriculture has seen some change within the regional (and local) study areas over the last 20 years. This change primarily relates to the construction of the M1 motorway and the upgrade of the N33.
- Some upgrade of the Dublin to Belfast rail line may occur with the introduction of additional tracks and electrification (All-Island Strategic Rail Review Draft Report for Strategic Environmental Assessment Consultation (Department of Transport, 2023)) in the future.
- Construction of residential developments, in particular 'one off housing', has occurred in the past and is likely to continue in the future, but any such development will be limited by the requirements of the County Development Plan.
- There has been a greater intensification in farming practices, with associated increases in field sizes, over the last number of decades and is likely to continue. Similarly, several agricultural structures have been developed over the last 20 years in the local area and again, it is likely that some further development of similar structures will continue in the future.

The future baseline scenario described in bullet point one above (extension of the Dublin to Belfast rail line) has not been considered and assessed as part of the construction phase of the Project, as the scenario will not exist prior to, or during, the construction phase. However, this scenario could exist sometime in the future (i.e. during the operation of the Project) and as such has been considered below.

When considered, the landtake from the Utilised Agricultural Area (UAA[2]) to be acquired for the expansion of the rail line will not represent a significant percentage of the UAA lands in the Local or Regional Study Areas. For example, if we assume 50 m of land is acquired for the expansion of the rail line through Co. Louth (approximately 59,354 m rail line length through Co. Louth x 50 m / 10,000m = 297 ha), and therefore across the Local Study Area (200 m x 50 m /10,000 = 1 ha), too, then this would represent the loss of an area of less than 0.5% of the UAA for the Regional Study Area (Co. Louth, 61,473 ha (CSO, 2022)) and the loss of 0.25% of the UAA for the Local Study Area (1 ha rail line across the Local Study Area / 400 ha for Local Study Area x 100).

For the construction of future one off housing in the Regional and Local Land and Agriculture Study Areas, if we assume that the same number of houses built in the last ten years (4,738 CSO, 2023) continues for the next ten years, and assume a conservative mix of 50% of the houses built are one off houses and 50% built are in an urban setting. If we further assume that the rural one off houses are built on sites of approximately 0.25 ha in size and use a conservative estimate of 0.1 ha for the houses built in urban setting, giving an average site of 0.175 ha/house, then the total estimated area required is 829 ha (0.175 ha x 4,738 houses) for the development for housing over the next ten years. This represents a loss of 1.3% (829 ha / 61,473 ha x 100) of the total UAA of the region.

For the local area, if we assume the number of houses on a pro rata basis (the Local Land and Agriculture Study Area as a ratio of to the Regional Area: 402 ha[3] / 61,473 ha x 4,738 no. of houses for the region) then 31 houses are estimated to be built in the Local Study Area over the next ten years. The number of houses

[2] https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Utilised_agricultural_area_(UAA)

[3] Length of cable route 20,100 m x 200 m = 402 ha

(31) by the average area (31 average no. of houses in Local Study Area x 0.175 ha average area of site) gives an area of 5.4 ha developed for houses in the Local Study Area.

The expansion of the Dublin to Belfast rail line and the development of future housing in the Regional Study Area gives a loss of 1,126 ha (297 ha rail line + 829 ha houses) from the UAA. This represents 1.8% of the Regional Study Area (Co. Louth). This is a "slight" impact from a landtake perspective.

The expansion of the Dublin to Belfast rail line, and the development of future housing developed in the Local Study Area gives a loss of 7.4 ha (2 ha rail line + 5.4 ha houses) from the UAA. This represents 1.9% of the Local Study Area and this is also a "slight" impact from a landtake perspective.

20.7.4 Data validity and limitations

The data sources used to inform this assessment (summarised in in Table 20-2) provide the most up to date data available to inform this assessment and are considered representative of the Local and Regional Land and Agriculture Study Areas. There were no limitations noted regarding the data collected.

There is no specific guidance on the age (or timeframe) of survey data to be used to inform an assessment on land and agriculture. However, RPS consider the data to be valid to describe the current baseline environment for the purposes of EIA. It is noted that the agricultural use of fields may change from year to year because of crop rotation. However, such changes do not have a significant effect on the overall assessment.

It is therefore considered that the data employed are robust and sufficient for the purposes of the impact assessment presented.

20.8 Key parameters for assessment

20.8.1 Project design parameters

The project description is provided in volume 2A, chapter 5: Project Description. Table 20-6 outlines the project design parameters that have been used to inform the assessment of potential impacts of the construction, operational and maintenance and decommissioning phases of the Project on land and agriculture.

The final location of the Transition Joint Bay (TJB) will be confirmed on examination of the electrical and thermal properties of the selected offshore export cable and the ground conditions at the landfall. For the purposes of the assessment presented in section 20.10 both options presented in chapter 5: Project Description (volume 2A) result in the same potential for impacts during the construction phase. During the operational and maintenance phase option 2 requires additional landtake for a permanent access track and therefore this has been included in the landtake assessment in section.

Table 20-6: Project design parameters used for the assessment of potential impacts on land and agriculture.

Potential impact	Phase[1]			Project design parameters	Justification
	C	*O*	*D*		
Landtake (permanent and temporary)	✓	✓	✓	**Construction and Decommissioning Phases:** • Total area of potentially temporarily affected lands in application boundary (29.6 ha): – Onshore substation 9.64 ha; and – Onshore cable - including passing bays / TJB (option 1 or 2) / HDD activities 19.94 ha. – Construction programme of 27 months for onshore infrastructure.	Landtake has been considered as the maximum areas required for construction and operation. For construction this includes the need for passing bays (16) for the safe construction of a number of the joint bays and the temporary landtake at the crossings to allow for HDD activities. Total area of land that will have a permanent easement for access to the onshore cable, joint bays and TJB is 0.76 ha.

Potential impact	Phase[1] C	O	D	Project design parameters	Justification
				Operational and maintenance Phase: • Total area of potentially permanently affected lands associated with the construction of the onshore substation: – 3.06 ha for substation; – 1.90 ha along cable route; and – Project design life of 40 years.	
Severance affecting access to properties	✓	x	✓	**Construction and Decommissioning Phases:** • 20.1 km onshore cable route and substation; • Construction programme of 27 months for onshore infrastructure.	There will be temporary severance along the onshore cable route during construction affecting both access to properties and severance of facilities.
Severance of services and drainage to agricultural fields	✓	x	✓	**Construction and Decommissioning Phases:** • 20.1 km onshore cable route and substation. Construction programme of 27 months for onshore infrastructure	Construction activities may lead to severance of services and drainage along the onshore cable route and at the substation.
Damage to land requiring reinstatement	✓	x	✓	**Construction and Decommissioning Phases:** Reinstatement of lands following construction or decommissioning activities on lands along onshore cable route.	Damage to lands and soil structure due to construction and decommissioning activities.
Impacts from an increase in noise, dust and traffic resulting in impacts on agriculture	✓	x	✓	**Construction and Decommissioning Phases:** • Construction of the onshore cable and substation has the potential to lead to increase in dust and traffic; and • HDD activities can also lead to increases in noise levels.	Noise during all phases can potentially be an issue with certain livestock, particularly horses. Dust during construction and decommissioning can potentially be a nuisance value to stock and can affect quality of crops. Additional traffic during construction and decommissioning, albeit temporary can be an impact if it coincides with harvesting operations

1. C = Construction, O = Operation, D = Decommissioning.

20.8.2 Measures included in the Project

As part of the project design process, a number of measures have been proposed to reduce the potential for impacts on land and agriculture (see Table 20-7). These measures include designed-in and management measures (controls), As there is a commitment to implementing these measures, they are considered inherently part of the design of the Project and have therefore been considered in the assessment presented in section 20.10 below (i.e. the determination of magnitude and therefore significance assumes implementation of these measures). These measures are considered standard industry practice for this type of development.

Table 20-7: Measures included in the Project.

Measures included in the Project	Justification
Severance of access	
Existing access to property, including homes, agricultural fields and farm facilities will, where practicable, be maintained during construction, otherwise reasonable temporary access will be provided.	During the trenching and ducting activities within the public road many of the properties along the proposed onshore cable route will require access to be maintained.
Severance of services to agricultural fields and drainage	
Any disruption to water supply will be reinstated immediately by the Contractor or an alternative source supplied until the source is reinstated, unless otherwise agreed with the landowner	Trenching and ducting activities can potentially sever current water supplies to stock.
All drainage likely to be affected or disturbed during the construction phase will be identified and reinstated.	Excavation activities associated with the trenching and ducting, HDD crossings, construction of the joint bays and construction of the onshore substation site will potentially impact on drainage.
Air, noise and traffic	
Measures regarding air, noise and traffic are outlined in chapters 23, 25 and 28 respectively of this EIAR.	Noise associated with construction activities can be an issue with certain types of livestock such as horses. The activity of construction machinery can generate dust in the immediate vicinity of the Project. There will be an increase in traffic along local roads during the construction phases of the proposed project, which has the potential to cause nuisance to agricultural traffic (see chapter 28: Traffic and Transport for further details on the traffic environment).
Landtake and reinstatement	
Permanent and temporary landtake will be dealt with by way of negotiated and agreed compensation. Matters of compensation do not form part of this assessment. Reinstatement of lands, hedgerows, fencing and access, where required, unless otherwise agreed with landowner.	Lands to be acquired will be by way of negotiated and agreed compensation. Reinstatement of all lands, access and field boundaries.

20.8.3 Impacts scoped out of the assessment

On the basis of the baseline environment and the project description outlined in volume 2A, chapter 5: Project Description, a number of impacts are proposed to be scoped out of the assessment for land and agriculture. These impacts are outlined below, together with a justification for the scoping out decision.

Table 20-8: Impacts scoped out of the assessment for land and agriculture.

Potential impact	Justification
The spread of animal or plant diseases	The spread of animal or plant diseases can be an issue to agricultural practices during the construction of linear projects. However, the proposed linear construction of the onshore cable for the Project will primarily occur within the public road. Some temporary intrusion will occur into agricultural fields bounding the roadside during the construction of passing bays but there will be no traversing of vehicles from one land parcel through to another. Therefore, the spread of animal and plant diseases due to the Project that may affect agricultural practices is negligible and has been scoped out of all phases.

20.9 Impact assessment methodology

20.9.1 Overview

The assessment of land and agriculture has followed the methodology set out in volume 2A, chapter 3: Environmental Impact Assessment Methodology. Specific to the land and agriculture assessment, the following guidance documents have also been considered:

- An Bord Pleanála on carrying out Environmental Impact Assessment (DHPLG, August 2018);
- Environmental Impact Assessment of National Road Schemes – A Practical Guide (TII, November 2008);
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022);
- Guide to Process and Code of Practice for National Road Project Planning and Acquisition of Property for National Roads (NRA, March 2003 (revised 2005));
- National Soils Map (EPA and Teagasc, 2006);
- Highways England (HE, 2019), LA 104, Sustainability and Environment, Environmental Assessment and Monitoring, Revision 1;
- Highways England (HE, 2019), LA 109, Sustainability and Environment, Appraisal, Geology and Soils, Revision 0;
- Highways England (HE, 2019), LA 112 Sustainability and Environment, Appraisal, Population and Human Health, Revision 0; and
- Agricultural Land Classification of England and Wales (MAFF, 1988).

The following aspects were considered in assessing the potential effects the Project may have on land use and agriculture:

- Land to be acquired (permanent and temporary) - Landtake is one of the more noteworthy impacts that can occur from a change in land use. The effect of landtake is a function of the area taken as a percentage of the total area associated with the property and the current land use;
- Area and orientation of lands severed – Land severance can be a noteworthy impact particularly where access to properties or agricultural facilities may be restricted;
- Removal or severance of buildings and/or facilities – Removal or severance of buildings and/or facilities will have a noteworthy effect on properties. From an agricultural perspective, the significance of this effect is accentuated in dairy and high intensity faculties such as pig or poultry units. The removal or severance of remote cattle/sheep handling facilities, while an impact can generally be replaced and therefore be readily mitigated;
- Noise occurring during the construction and operation of the proposed Project and associated/supporting infrastructure can impact on sensitive animals such as horses and poultry;
- Farm enterprises – Some farm enterprises are less able to absorb effects of a proposed project and as such are more sensitive. Typically, these are farms associated with dairy or equine but, depending on landtake and severance, may also significantly affect other enterprises such as beef and tillage.

  The Project may affect different farm enterprises as follows:

  – Tillage: Tillage farming is the most common enterprise being undertaken in the vicinity of the Project and while tillage farms may not require daily or even weekly access, they do require regular

access and do require access that is suitable for large machinery. Furthermore, the effective operation of large machinery benefits from large square fields. Triangulation of a field due to severance or reduction in field size due to landtake may reduce the effective operation of large machinery;

- Drystock: Drystock farming (sheep, beef and sucklers) is one of the more common farm enterprises in the vicinity of the proposed project. These animals, particularly the beef and sucklers, associated with this enterprise type are generally of a quiet disposition. These animals normally do not require moving on a daily basis but will require daily access and water, and facilities affected by a proposed project would have to be re-instated, even temporarily, as soon as practicable unless otherwise agreed with the landowner; and

- Equine: Horses, particularly thoroughbred horses are of a more nervous disposition than other stock types and are prone to stress caused by unaccustomed noise. There are no stud farms along in the vicinity of the onshore elements of the Project[4], but a number of farms do have sport horses and do partake in equine activities.

- The Project will also require lands (temporary and permanent) that would not be described as 'agricultural'. These lands are all registered to the Local Authority and generally consist of road bed or road margin. Where this does occur, the impact is considered and assessed in this chapter with regards to its current usage.

Agricultural land classification has been undertaken in accordance with requirements of Agricultural Land Classification of England and Wales (MAFF, 1988). The land classifications under this system are shown in Table 20-9.

Table 20-9: Land classification.

Grade		Description
Grade 1 – Excellent quality agricultural land		Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.
Grade 2 – Very good quality agricultural land		Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but 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
Grade 3 – Good to moderate quality agricultural land		Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.
	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 a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.
	Subgrade 3b – Moderate quality agricultural land	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.

[4] Stud farm as listed in the "Directory of the Turf".
http://www.directoryoftheturf.com/search_results.cfm/searchcategory/Stud%20Farms/searchcounty/Co%20Dublin

Grade	Description
Grade 4 – Poor quality agricultural land	Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.
Grade 5 – Very poor quality agricultural land	Land with very severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

20.9.2 Impact assessment criteria

The criteria for determining the significance of effects is a two-stage process that involves defining the magnitude of the impacts and the sensitivity of the receptors. This section describes the criteria applied in this assessment to assign values to the magnitude of potential impacts and the sensitivity of the receptors.

The following criteria are based on the requirements of the EPA's Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, (EPA, 2022) and the Highways England (HE, 2019), LA 104, Sustainability and Environment, Environmental Assessment and Monitoring, Revision 1; with respect to overarching assessment principles.

The criteria for defining impact magnitude in this chapter are outlined in Table 20-10 below.

Table 20-10: Definition of terms relating to the magnitude of an impact.

Magnitude of impact	Definition
High	Large landtake, severance and/or disturbance adversely or negatively limiting current land use and farming practices of this property.
Medium	Large landtake, severance and/or disturbance adversely or negatively affecting the property and requiring a considerable change in current practices and associated costs.
Low	Small landtake, severance and/or disturbance adversely or negatively affecting the property and incurring a small change in current practices and additional costs, if any.
Negligible	Slight encroachment on the property adversely or negatively affecting the property but having no change in current practices and no additional cost.

The criteria for defining sensitivity in this chapter are outlined in Table 20-11 below.

Table 20-11: Definition of terms relating to the sensitivity of the receptor.

Sensitivity	Definition
High	• Curtilage of residential houses[5] • Stud farms; • Riding stables; • Dairy+[6]; • Poultry units; and • Deer farms.
Medium	• Commercial properties • Dairy;

[5] The effects of severance and landtake on both residential and agricultural properties is considered and assessed in this chapter. Other impacts arising from the Project on residential properties is considered and assessed in chapter 29: Material Assets.

[6] Dairy+ = farms with stocking rates of >170 kg ON^{ha}

Sensitivity	Definition
	• Beef+[7]; • Horticultural units; • Pig units; and • Forestry.
Low	• Sheep farms; • Drystock; • Beef farms; • Horse (general); • Fodder conservation areas; and • Tillage farms
Negligible	• Fallow

The significance of the effect upon land and agriculture is determined by correlating the magnitude of the impact and the sensitivity of the receptor. The particular method employed for this assessment is presented in Table 20-12. Where a range of significance of effect is presented in Table 20-12 the final assessment for each effect is based upon calculated assessment and professional judgement.

For the purposes of this assessment, any effects with a significance level of slight or less have been concluded to be not significant in terms of the EIA Regulations.

Table 20-12: Matrix used for the assessment of the significance of the effect.

Sensitivity of receptor	Magnitude of impact			
	Negligible	**Low**	**Medium**	**High**
Negligible	Imperceptible	Imperceptible or slight	Imperceptible or slight	Slight
Low	Imperceptible or slight	Imperceptible or slight	Slight	Slight or moderate
Medium	Imperceptible or slight	Slight	Moderate	Moderate or major
High	Slight	Slight or moderate	Moderate or major	Major or Profound

Note: Significance has been adapted from the EPA (2022) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (Figure 3.5 chart showing typical classification).

The EPA (2022) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports document provides useful guidance on the significance of effect levels and provides a useful sense check on the assessment process. The significance of effect levels are adapted from these guidelines and described as follows:

- **Profound:** An effect which obliterates sensitive characteristics;
- **Major:** An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment;
- **Moderate:** An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends;
- **Slight:** An effect which causes noticeable changes in the character of the environment without affecting its sensitivities; and
- **Imperceptible:** An effect capable of measurement but without significant consequences.

[7] Beef+ = farms with stocking rates of >130 kg ON^{ha}

For the purposes of this assessment a further description on the significance of effect levels has been provided as follows:

- **Profound:** The proposed development is such that agriculture can no longer continue and no mitigation measures in the form of accommodation works can overcome the impact to agricultural activities to allow these practices continue in this location;
- **Major:** The proposed development is such that while agriculture can continue, the impact due to landtake, severance, loss of facilities or disturbance may necessitate a change in current enterprises to one that is less profitable (i.e. dairy to beef). No mitigation measures in the form of accommodation works can overcome the impact;
- **Moderate:** The proposed development requires a significant change in current agricultural practices with associated costs due to severance, land take, loss of buildings and/or disturbance. The level of impact requires considerable mitigation in the form of accommodation works and not all difficulties are negated;
- **Slight:** The proposed development causes a level of inconvenience and/or disturbance but does not require a significant change in current agricultural practices or day to day management. Mitigation in the form of accommodation works would overcome any problems; and
- **Imperceptible:** The proposed development is encroaching slightly on a property boundary causing a slight inconvenience and/or creates a small level of disturbance but there are no noticeable consequences in the day to day management or current agricultural practices.

20.10 Assessment of significance

The potential impacts arising from the construction, operational and maintenance and decommissioning phases of the Project are listed in Table 20-6, along with the project design parameters against which each impact has been assessed.

A description of the potential effect on land and agriculture caused by each identified impact is given below.

20.10.1 Landtake (permanent and temporary)

The effects of landtake are divided into two types, short term[8] for construction phase (between one and seven years) and long term (between fifteen to sixty years) during operational and maintenance phase for passing bays, onshore and fibre optic cables, and onshore substation. The landtake (and easements) associated with each affected land parcel is shown in Table 20-13 below.

Construction phase

A total of 35 land parcels will be acquired by the Project over a 27 month period (see chapter 5: Project Description) to accommodate the actual construction of the Project. However, work is expected to progress along the onshore and fibre optic cables in sections, with a typical active works duration of six weeks at any particular section. Much of this land requirement will be in the public road to accommodate construction of the cable trench and joint bays.

However, there will be a requirement to acquire agricultural lands during the construction of the onshore substation, jointing bays, the TJB, 16 passing bays, the HDD crossings, temporary construction compounds which will potentially affect land parcels (see Table 20-13 for the individual land parcels affected). These elements are all situated on lands shown on Figure 20-1 and agreements are in place.

Thirty one land parcels potentially affected by temporary landtake for the onshore elements of the Project (substation, onshore cable trenching and ducting and construction of joint bays) as shown in Figure 20-1.

[8] Timelines as per the Guidelines on the Information to be Contained in the EIAR (EPA, 2022).

Magnitude of impact

The impact of the temporary landtake on lands is predicted to be of local spatial extent, short term duration, and high reversibility. It is predicted that the impact will affect the receptors directly. The temporary landtake for construction for each affected property is shown in Table 20-13 below.

The total area of lands to be temporarily acquired for the construction of the onshore elements of the Project is 29.6 ha which is 5% of the overall area of the affected land parcels (537.88 ha) and taking this percentage, and the current land uses into account, the magnitude is therefore considered to be low overall.

There are 7 land parcels associated with the construction of joint bays in the road bed. The magnitude of impact of these land parcels is also considered to be low.

Sensitivity of the receptor

The sensitivity for each affected land parcel is shown in Table 20-13 below. Of the 35 land parcels affected by temporary landtake, five are considered to be of high sensitivity. These five are all associated with the potential effect on the curtilage of residences. The remaining 30 land parcels are all considered to be of low sensitivity and are associated with the agricultural practices of tillage or grass production.

While there are five land parcels classed as having high sensitivity associated with five residences, the temporary landtake is on the outer fringes of these properties and will not affect residential structures. Therefore, when considered as a whole, the impact of the temporary landtake on land as a single overall receptor is deemed to be of low vulnerability, high recoverability and low to high value. The sensitivity of the receptor when taken as a whole is therefore, considered to be low.

There are seven land parcels associated with the construction of joint bays in the road bed. The sensitivity of these land parcels is considered to be low too.

Significance of the effect

The significance of the impact on the individual land parcels is shown in Table 20-13 below.

Overall, the magnitude of the impact of the temporary landtake is deemed to be low and the sensitivity of the receptor, when considered as a whole, is considered to be low. The effect of landtake will therefore be of **slight adverse significance**, which is not significant in EIA terms.

Operational and maintenance phase

Fourteen individual land parcels will be affected by landtake and/or easement on a long term basis and a total 4.96 ha of lands will be acquired (see Table 20-13 below). 3.062 ha of this relates to the acquisition of lands by negotiated agreement in the Stickillin area for the onshore substation (LO001). The remaining 1.90 ha relates to acquisition by agreement of permanent easements to access, operate and decommission the cables and associated structures on these agricultural lands.

Magnitude of impact

The magnitude of impact for each land parcel is shown in Table 20-13 below.

The impact of the permanent landtake on these land parcels is predicted to be of local spatial extent, long term duration, continuous and low reversibility. It is predicted that the impact will affect the receptor directly.

The total area of lands to be acquired permanently (landtake and easement) is 4.96 ha which is 1% of the overall area of the affected land parcels (537.88 ha) and taking this percentage, and the current the uses, the magnitude is considered to be low.

Sensitivity of the receptor

The sensitivity of each land parcel is shown in Table 20-13 below. All of the land parcels associated with the permanent landtake and/or easement are in agricultural usage and are either in tillage or drystock which are all considered to be of low sensitivity.

When considered as a whole the effect of the permanent landtake and easements on land and agriculture as a single receptor is deemed to be of low vulnerability, and low recoverability and low value and the sensitivity of the receptor, when considered as whole, is considered to be low.

Significance of the effect

The significance of the impact on the individual land parcels is shown in Table 20-13 below. One land parcel (LO001) will be moderately impacted by the landtake while the impact on the remaining 13 land parcels will be slight.

Overall, the magnitude of the impact is deemed to be low and the sensitivity of the receptor, when taken as a whole is considered to be low. The effect of the permanent landtake will, therefore, be of **slight adverse significance**, which is not significant in EIA terms.

Decommissioning phase

The components of the onshore substation have varying life expectancies. If complete decommissioning is required, then all of the electrical infrastructure will be removed, and foundations will be broken up and the site reinstated to its original condition or for an alternative use.

With regards to the decommissioning of the onshore and fibre optic cables, it is expected that the decommissioning will be the reverse of the construction with the removal of the onshore substation and onshore cabling and the removal of the associated joint bays requiring the same temporary acquisition of lands for passing bays and the removal of the TJB.

There will be a requirement to temporarily obtain lands from 35 land parcels.

Magnitude of impact

The impact of this temporary landtake is predicted to be of local spatial extent, short term duration, and high reversibility. It is predicted that the impact will affect the receptors directly.

The total area to be temporarily acquired for the decommissioning of the onshore elements of the Project is 29.6 ha which is 5% of the overall area of the affected land parcels (537.88 ha) and taking this percentage and the current landuse, the magnitude is therefore, considered to be low

Sensitivity of the receptor

The sensitivity for each affected land parcel is shown in Table 20-13 below. Of the 35 land parcels affected by temporary landtake for decommissioning, five are considered to be of high sensitivity. These are the curtilage of the five residences affected. The remaining 30 land parcels are all considered to be of low sensitivity.

While there are five high sensitivity land parcels, associated with the curtilage of the 5 residences, the temporary landtake for the decommission is on the outer fringes of these properties and will not affect residential structures. Therefore, when considered as a whole, the impact of the temporary landtake for decommissioning on land and agriculture as a single overall receptor is deemed to be of low vulnerability, high recoverability and low to high value. The sensitivity of the receptor when taken as a whole is therefore considered to be low.

Significance of the effect

The significance of the impact of decommissioning on the individual land is shown in Table 20-13 below.

Overall, the magnitude of the impact of the temporary landtake is deemed to be low and the sensitivity of the receptor, when considered as a whole, is considered to be low. The effect of landtake will therefore be of **slight adverse significance**, which is not significant in EIA terms.

Table 20-13: Summary of effects on individual properties.

Description	Land-owner ID	Folio no.	Land quality (note 1)	Primary enterprise	Primary crop affected	Total area of folio (ha)	Estimated wayleave area (ha)	Temp landtake (ha)	Potential impact	Value (sensitivity) (note 4)	Magnitude (note 4)	Significance of impact (note 4)	Measures included in the Project	Residual significance (note 4)
Substation site and temporary compounds.	LO001	LH34163F LH41050F	Grade 3a	Tillage	Cereals	9.64	3.062	9.560	Temporary acquisition of lands for the construction of the onshore substation and temporary compounds. Permanent acquisition of lands for the operation, maintenance and decommissioning of the onshore substation.	Low	High	Moderate	Lands and easements acquired through negotiated agreement. Reinstatement of lands, hedgerows and access points where required, unless otherwise agreed with landowner.	Moderate
Joint Bay 1	LO002	LH27364F	N/A	N/A	N/A	2.82	0.000	0.000	Joint bay constructed in the verge adjacent to the N33. No permanent wayleave required.	Low	Negligible	Imperceptible	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	None
Joint Bay 2	LO002	LH22973F	N/A	N/A	N/A	0.90	0.000	0.000	Joint bay constructed in the verge adjacent to the N33. No permanent wayleave required.	Low	Negligible	Imperceptible	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	None

Description	Land-owner ID	Folio no.	Land quality (note 1)	Primary enterprise	Primary crop affected	Total area of folio (ha)	Estimated wayleave area (ha)	Temp landtake (ha)	Potential impact	Value (sensitivity) (note 4)	Magnitude (note 4)	Significance of impact (note 4)	Measures included in the Project	Residual significance (note 4)
Joint Bay 3	LO002	LH27400F	N/A	N/A	N/A	0.71	0.000	0.000	Joint bay constructed in the verge adjacent to the N33. No permanent wayleave required.	Low	Negligible	Imperceptible	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	None
Joint Bay 4	LO002	LH21159F	N/A	N/A	N/A	0.62	0.000	0.000	Joint bay constructed in the verge adjacent to the N33. No permanent wayleave required.	Low	Negligible	Imperceptible	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	None
Joint Bay 5	LO002	LH4862	N/A	N/A	N/A	7.03	0.000	0.000	Joint bay constructed in the verge adjacent to the N33. No permanent wayleave required.	Low	Negligible	Imperceptible	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	None

Description	Land-owner ID	Folio no.	Land quality (note 1)	Primary enterprise	Primary crop affected	Total area of folio (ha)	Estimated wayleave area (ha)	Temp landtake (ha)	Potential impact	Value (sensitivity) (note 4)	Magnitude (note 4)	Significance of impact (note 4)	Measures included in the Project	Residual significance (note 4)
Joint Bay 6	LO002	LH17588F	N/A	N/A	N/A	1.03	0.000	0.000	Joint bay constructed in the verge adjacent to the N33. No permanent wayleave required.	Low	Negligible	Imperceptible	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	None
Joint Bay 7 (western crossing point of the River Dee)	LO003	LH9709	Grade 3a Tillage	Cereals		10.27	0.125	0.810	Temporary acquisition of lands for the construction of a joint bay and onshore cable including of the crossing of the River Dee. Joint bay constructed n the verge adjacent to the N33. Permanent acquisition of an easement for the operation, maintenance and decommissioning of the onshore cable.	Low	Low	Slight	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed and lands. Reinstatement of hedgerows, fencing and access points where required.	Slight

Description	Land-owner ID	Folio no.	Land quality (note 1)	Primary enterprise	Primary crop affected	Total area of folio (ha)	Estimated wayleave area (ha)	Temp landtake (ha)	Potential impact	Value (sensitivity) (note 4)	Magnitude (note 4)	Significance of impact (note 4)	Measures included in the Project	Residual significance (note 4)
Eastern crossing point of the River Dee	LO004	LH21112F	Grade 3a	Drystock	Grass	0.57	0.058	0.390	Temporary acquisition of lands for the construction of the onshore cable crossing of the River Dee. Permanent acquisition of an easement for the operation, maintenance and decommissioning of the onshore cable	Low	Low	Slight	Lands and easements acquired through negotiated agreement. Reinstatement of lands, hedgerows, fencing and access, where required, unless otherwise agreed with landowner.	Slight
Joint Bay 8	LO005	LH5174	Grade 3b	Drystock	Grass	2.90	0.000	1.850	Joint bay constructed in the verge adjacent to the N33. No permanent wayleave required.	Low	Low	Imperceptible	Lands and easements acquired through negotiated agreement. Reinstatement of lands, hedgerows, fencing and access, where required, unless otherwise agreed with landowner.	Slight
Western crossing point of the M1 and rail line	LO002	LH33276F	Grade 3b	Drystock	Grass	0.51	0.000	3.443	Temporary acquisition of lands for the construction of the onshore cable and crossing of the M1 and Belfast to Dublin rail line. Permanent acquisition of an easement for the operation, maintenance and decommissioning of the onshore cable	Low	Low	Slight	Lands and easements acquired through negotiated agreement. Reinstatement of lands, hedgerows, fencing and access, where required, unless otherwise agreed with landowner.	Slight

Description	Land-owner ID	Folio no.	Land quality (note 1)	Primary enterprise	Primary crop affected	Total area of folio (ha)	Estimated wayleave area (ha)	Temp landtake (ha)	Potential impact	Value (sensitivity) (note 4)	Magnitude (note 4)	Significance of impact (note 4)	Measures included in the Project	Residual significance (note 4)
Joint Bay 9 and eastern crossing point of the M1 and rail line. Temporary construction compound also located at this site.	LO006	LH3110 LH17824F	Grade 3a	Tillage	Cereals	6.23	0.063	3.200	Temporary acquisition of lands for the construction of a joint bay, crossing of the M1 and Belfast to Dublin rail line and onshore cable. There will also be a temporary construction compound at this location. Permanent acquisition of an easement for the operation, maintenance and decommissioning of a joint bay and the onshore cable.	Low	Medium	Slight	Lands and easements acquired through negotiated agreement. Reinstatement of lands, hedgerows, fencing and access, where required, unless otherwise agreed with landowner.	Slight
Passing bay associated with Joint Bay 10	LO007	LH38930F	Grade 3a	Drystock	Grass	31.00	0.000	0.060	Temporary acquisition of lands for the construction of a passing bay. Joint bay constructed within the road. No permanent wayleave required.	Low	Low	Imperceptible	Lands and easements acquired through negotiated agreement Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner	None
Joint Bay 11 and cable alignment at road crossing (Mullins Cross)	LO008	LH31298F	N/A	N/A	N/A	6.90	0.000	0.000	Temporary acquisition of non-agricultural lands for the construction of a passing bay. Joint bay constructed within the grass verge of road. No permanent wayleave required.	Low	Negligible	Imperceptible	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	Imperceptible

Description	Land-owner ID	Folio no.	Land quality (note 1)	Primary enterprise	Primary crop affected	Total area of folio (ha)	Estimated wayleave area (ha)	Temp landtake (ha)	Potential impact	Value (sensitivity) (note 4)	Magnitude (note 4)	Significance of impact (note 4)	Measures included in the Project	Residual significance (note 4)
Passing Bay associated Joint Bay 12	LO009	LH5615	Grade 3a Tillage	Cereals	6.31	0.000	0.060	Temporary acquisition of lands for the construction of a passing bay. Joint bay constructed within the grass verge of road. No permanent wayleave required.	Low	Low	Imperceptible	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	None
Western crossing of River Dee. Lands alongside river edge	LO010	LH6549	Grade 3b Drystock	Grass	1.32	0.009	0.070	Temporary acquisition of lands for the construction of the onshore cable and crossing of the River Dee. Permanent acquisition of an easement for the operation, maintenance and decommissioning of the onshore cable.	Low	Low	Slight	Lands and easements acquired through negotiated agreement. Reinstatement of lands, hedgerows, fencing and access, where required, unless otherwise agreed with landowner.	Slight
Joint Bay 13 and western crossing of the River Dee at Drumcar	LO010	LH6111	Grade 3b Drystock	Grass	10.55	0.045	0.560	Temporary acquisition of lands for the construction of the onshore cable and crossing of the River Dee. Joint bay constructed in grass verge of road. Permanent acquisition of an easement for the operation, maintenance and decommissioning of the onshore cable.	Low	Low	Slight	Lands and easements acquired through negotiated agreement. Reinstatement of lands, hedgerows, fencing and access, where required, unless otherwise agreed with landowner.	Slight

Description	Land-owner ID	Folio no.	Land quality (note 1)	Primary enterprise	Primary crop affected	Total area of folio (ha)	Estimated wayleave area (ha)	Temp landtake (ha)	Potential impact	Value (sensitivity) (note 4)	Magnitude (note 4)	Significance of impact (note 4)	Measures included in the Project	Residual significance (note 4)
Eastern crossing point of the River Dee at Drumcar with temporary construction compound	LO011	LH2930	Grade 3b	Drystock	Grass	129.08	0.080	0.820	Temporary acquisition of lands for the construction of the onshore cable and crossing of the River Dee. There will also be a temporary construction compound at this location. Permanent acquisition of an easement for the operation, maintenance and decommissioning of the onshore cable.	Low	Low	Slight	Lands and easements acquired through negotiated agreement. Reinstatement of lands, hedgerows, fencing and access, where required, unless otherwise agreed with landowner.	Slight
Passing bay associated Joint Bay 14	LO012	LH2259F	Grade 3a	Tillage	Cereals	16.27	0.000	0.060	Temporary acquisition of lands for the construction of a passing bay. Joint bay constructed within the road. No permanent wayleave required.	Low	Low	Imperceptible	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	None
Passing bay associated Joint Bay 15	LO013	LH12172F	Grade 3a	Tillage	Cereals	9.17	0.000	0.060	Temporary acquisition of lands for the construction of a passing bay. Joint bay constructed within the road. No permanent wayleave required.	Low	Low	Imperceptible	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	None

Description	Land-owner ID	Folio no.	Land quality (note 1)	Primary enterprise	Primary crop affected	Total area of folio (ha)	Estimated wayleave area (ha)	Temp landtake (ha)	Potential impact	Value (sensitivity) (note 4)	Magnitude (note 4)	Significance of impact (note 4)	Measures included in the Project	Residual significance (note 4)
Passing bay associated Joint Bay 16	LO014	LH5938F (part of plan 2313_1)	Grade 3a	Drystock	Grass	37.81	0.000	0.060	Temporary acquisition of lands for the construction of a passing bay. Joint bay constructed within the road. No permanent wayleave required.	Low	Low	Imperceptible	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	None
Passing bay associated Joint Bay 17 and construction compound	LO015	LH1419	Grade 3a	Drystock	Grass	13.94	0.000	1.050	Temporary acquisition of lands for the construction of a passing bay and construction compound. Joint bay constructed within the road. No permanent wayleave required.	Low	Low	Imperceptible	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	None
Passing bay associated Joint Bay 18	LO016	LH13217	Grade 3a	Drystock	Grass	13.72	0.000	0.080	Temporary acquisition of lands for the construction of a passing bay. Joint bay constructed within the grass verge of the road. No permanent wayleave required.	Low	Low	Imperceptible	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	None

Description	Land-owner ID	Folio no.	Land quality (note 1)	Primary enterprise	Primary crop affected	Total area of folio (ha)	Estimated wayleave area (ha)	Temp landtake (ha)	Potential impact	Value (sensitivity) (note 4)	Magnitude (note 4)	Significance of impact (note 4)	Measures included in the Project	Residual significance (note 4)
Passing bay associated Joint Bay 19	LO017	LH41113F	Grade 3a	Tillage	Cereals	1.74	0.000	0.060	Temporary acquisition of lands for the construction of a passing bay. Joint bay constructed within the grass verge of the road. No permanent wayleave required.	Low	Low	Imperceptible	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	None
Passing bay associated Joint Bay 20	LO019	LH23784F	Grade 3b	Drystock	Grass	0.61	0.000	0.050	Temporary acquisition of lands for the construction of a passing bay. Joint bay constructed within the road. No permanent wayleave required.	Low	Low	Imperceptible	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	None
Passing bay associated Joint Bay 21	LO021	LH15941F	Grade 3a	Drystock	Grass	9.89	0.000	0.060	Temporary acquisition of lands for the construction of a passing bay. Joint bay constructed within the grass verge of the road. No permanent wayleave required.	High	Low	Slight	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	Imperceptible

Description	Land-owner ID	Folio no.	Land quality (note 1)	Primary enterprise	Primary crop affected	Total area of folio (ha)	Estimated wayleave area (ha)	Temp landtake (ha)	Potential impact	Value (sensitivity) (note 4)	Magnitude (note 4)	Significance of impact (note 4)	Measures included in the Project	Residual significance (note 4)
Crossing of Port Stream and offline alignment of cable. There will also be a temporary construction compound at this location.	LO020	LH17136F	Grade 3b	Drystock	Grass	4.06	0.038	0.510	Temporary acquisition of lands for the construction of the onshore cable and for the crossing of the Port Stream. here will also be a temporary construction compound at this location. Permanent acquisition of an easement for the operation, maintenance and decommissioning of the onshore cable	Low	Low	Slight	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	Slight
Joint Bay 22 in graveyard carpark. No wayleave required.	LO022	LH4504L LH5318	N/A	N/A	N/A	0.18	0.000	0.643	Temporary acquisition of lands for the construction of the joint bay and onshore cable. Joint bay constructed within carpark of graveyard. No permanent wayleave required.	Low	Negligible	Imperceptible	Reinstatement of carpark and grass verge, where required, unless otherwise agreed with landowner.	None
Passing bay associated Joint Bay 23 and crossing of the Togher Stream	LO023	LH12101	Grade 3a	Drystock	Grass	12.08	0.063	0.310	Temporary acquisition of lands for the construction of a passing bay and crossing of the Togher Stream. Permanent acquisition of an easement for the operation, maintenance and decommissioning of the onshore cable. Joint bay constructed within the road.	Low	Low	Slight	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	Imperceptible

Description	Land-owner ID	Folio no.	Land quality (note 1)	Primary enterprise	Primary crop affected	Total area of folio (ha)	Estimated wayleave area (ha)	Temp landtake (ha)	Potential impact	Value (sensitivity) (note 4)	Magnitude (note 4)	Significance of impact (note 4)	Measures included in the Project	Residual significance (note 4)
Passing bay associated Joint Bay 24	LO024	LH20402F	Grade 3a	Tillage	Cereals	45.88	0.000	0.060	Temporary acquisition of lands for the construction of a passing bay. Joint bay constructed within the grass verge of the road. No permanent wayleave required.	Low	Low	Imperceptible	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	None
Passing bay associated Joint Bay 25	LO025	LH31151F	Grade 3a	Tillage	Cereals	11.17	0.000	0.060	Temporary acquisition of lands for the construction of a passing bay. Joint bay constructed within the grass verge of the road. No permanent wayleave required.	Low	Low	Imperceptible	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	None
Passing bay associated Joint Bay 26	LO026	LH11844F	Grade 3a	Tillage	Cereals	33.58	0.000	0.060	Temporary acquisition of lands for the construction of a passing bay. Joint bay constructed within the grass verge of the road. No permanent wayleave required.	Low	Low	Imperceptible	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	None

Description	Land-owner ID	Folio no.	Land quality (note 1)	Primary enterprise	Primary crop affected	Total area of folio (ha)	Estimated wayleave area (ha)	Temp landtake (ha)	Potential impact	Value (sensitivity) (note 4)	Magnitude (note 4)	Significance of impact (note 4)	Measures included in the Project	Residual significance (note 4)
Passing Bay associated Joint Bay 27	LO027	LH1983	Grade 3a	Tillage	Cereals	3.70	0.000	0.070	Temporary acquisition of lands for the construction of a passing bay. Joint bay constructed within the grass verge of the road. No permanent wayleave required.	Low	Low	Imperceptible	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of garden, hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	None
Salterstown Stream crossing	LO028	LH18362F	Grade 3a	Drystock	Grass	30.95	0.000	0.009	Temporary acquisition of lands for the construction associated with the crossing of the Salter Stream.	High	Low	Slight	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of lands, hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	Imperceptible
Salterstown Stream crossing	LO029	LH3917	N/A	N/A	N/A	0.30	0.000	0.013	Temporary acquisition of curtilage lands for the construction associated with the crossing of the Salter Stream. No permanent wayleave required.	High	Low	Slight	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of lands, hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	Imperceptible

Description	Land-owner ID	Folio no.	Land quality (note 1)	Primary enterprise	Primary crop affected	Total area of folio (ha)	Estimated wayleave area (ha)	Temp landtake (ha)	Potential impact	Value (sensitivity) (note 4)	Magnitude (note 4)	Significance of impact (note 4)	Measures included in the Project	Residual significance (note 4)
Salterstown Stream crossing	LO030	LH10705	N/A	N/A	N/A	0.21	0.000	0.017	Temporary acquisition of curtilage lands for the construction associated with the crossing of the Salter Stream. No permanent wayleave required.	High	Low	Slight	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of lands, hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	Imperceptible
Passing bay associated Joint Bay 28	LO031	LH7539F	Grade 3a Tillage		Cereals	25.76	0.000	0.065	Temporary acquisition of lands for the construction of a passing bay. Joint bay constructed within the grass verge of the road. No permanent wayleave required.	Low	Low	Imperceptible	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	None
Joint Bay 29	LO032	LH26832F	Grade 3b Drystock		Grass	7.90	0.030	0.100	Joint bay constructed within the grass verge of the road. Permanent acquisition of an easement for the construction, operation, maintenance and decommissioning of the onshore cable.	High	Low	Slight	Lands and easements acquired through negotiated agreement. Reinstatement of roadbed. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	Imperceptible

Description	Land-owner ID	Folio no.	Land quality (note 1)	Primary enterprise	Primary crop affected	Total area of folio (ha)	Estimated wayleave area (ha)	Temp landtake (ha)	Potential impact	Value (sensitivity) (note 4)	Magnitude (note 4)	Significance of impact (note 4)	Measures included in the Project	Residual significance (note 4)
OPTION 1 - Landfall Site and Transition Joint Bay. There will also be a temporary construction compound at this location	LO033A	Unregistered	Grade 3a	Tillage	Cereals	11.60	0.153	2.850	Temporary acquisition of lands for the construction and decommissioning activities associated with the landfall. There will also be a temporary construction compound at this location. Permanent acquisition of an easement for the cable. Access for operation and maintenance will be by way of the public road, coming off just opposite the TJB.	Low	Medium	Slight	Easements acquired through negotiated agreement Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner	Slight
OPTION 2 - Landfall Site, permanent access and Transition Joint Bay. There will also be a temporary construction compound at this location	LO033B	Un-registered	Grade 3a	Tillage	Cereals	11.60	1.140	1.876	Temporary acquisition of lands for the construction activities associated with the landfall. There will also be a temporary construction compound at this location. Permanent acquisition of an easement for the construction, operation, maintenance and decommissioning of the TJB, access point and onshore and offshore cable where it traverses these lands.	Low	Medium	Slight	Easements acquired through negotiated agreement. Reinstatement of hedgerows, fencing and access points where required, unless otherwise agreed with landowner.	Slight

Description	Land-owner ID	Folio no.	Land quality (note 1)	Primary enterprise	Primary crop affected	Total area of folio (ha)	Estimated wayleave area (ha)	Temp landtake (ha)	Potential impact	Value (sensitivity) (note 4)	Magnitude (note 4)	Significance of impact (note 4)	Measures included in the Project	Residual significance (note 4)
Fibreoptic cable wayleave	LO002	LH34255F	N/A	N/A	N/A	3.88	0.008	0.030	Permanent acquisition of an easement for the construction, operation, maintenance and decommissioning of a fibreoptic cable where it traverses these lands.	Low	Low	Imperceptible	Easement acquired through negotiated agreement. Reinstatement of lands, hedgerows, fencing and access, where required, unless otherwise agreed with landowner.	None
Fibreoptic cable wayleave	LO034	LH5972N	Grade 3b Drystock	Grass		3.49	0.088	0.600	Permanent acquisition of an easement for the construction, operation, maintenance and decommissioning of a fibreoptic cable where it traverses these lands.	Low	Low	Slight	Easement acquired through negotiated agreement. Reinstatement of lands, hedgerows, fencing and access, where required, unless otherwise agreed with landowner.	Imperceptible
Totals							4.96	29.56						

20.10.2 Severance affecting access to properties

The offshore cable will connect to the onshore cable at the TJB and will transfer the power onwards to the onshore substation. The onshore cable will be buried for the entirety of its length (20.1 km) from the transition joint bay to the onshore substation. A fibre optic cable will also be laid during construction next to the onshore cable from the substation to one existing tower located approximately 3 km from the substation. This fibre optic cable, will for the most part, be laid in conjunction with the onshore cable except for a short section which will be laid separately for approximately 80 m off the N33 to a link up point at the existing 110 kV tower.

The installation of the onshore and fibre optic cables is expected to take 27 months in total, however work is expected to progress along with the onshore and fibre optic cables with a typical active works duration of six weeks at any particular location. Construction is expected to be carried out by two teams, working on different sections of the route. A contractor carrying out standard 220 kV trenching and ducting specification will complete between 50 to 100 linear metres of trench in a roadway per day depending on the ground conditions.

Trenching and ducting works will be confined to the existing road except where the onshore cable deviates from the public road at crossings of pinch points.

Construction Phase

During the trenching and ducting works, approximately 103 agricultural access points that are regularly used will be potentially severed and a further approximately 64 access points to residential and farm buildings will also be potentially severed. This severance will only be temporary with a typical active works duration of six weeks at any particular location. These active works will occur during the construction and decommissioning phases of the Project. The Applicant has committed to including a measure in the Project that all existing access points to all affected properties, including homes, farms and farm facilities will, where practicable, be maintained during construction and decommissioning phases.

As with all road works, traffic management measures will be required when installing this cable within the public road. A Construction Traffic Management Plan (CTMP) has been prepared for the Project and is included in appendix 5-9 of the EIAR (see volume 2A). There will be a requirement for a temporary road closure where the cable route crosses the L-2215 (two day closure) and a two week closure on the L-6223 Dunany Road. However, local access to properties will be maintained at all times, unless otherwise agreed with the property owner. In the case of wider primary roads, one carriageway may be closed with use of the other carriageway restricted and controlled by temporary traffic lights or a “stop and go” traffic management system for the duration of the works. The CTMP and corresponding works will be carried out with the agreement of Louth County Council.

All properties along the length of the trenching and ducting works will be kept fully informed of the activities before they occur by the Project Community Liaison Officer. Access will be provided to all properties during the construction phase, as and when it is required, unless otherwise agreed with the property owner. Access during the trenching and ducting activities will be provided using techniques such as temporary bridging or infilling of the trench, as required. The Applicant will ensure that the exact access requirements for each property will be discussed in advance of any works with each property owner and then implemented as agreed with the property owner.

Magnitude of impact

The impact of the temporary severance of access to the agricultural fields and to the residential and farm buildings that have direct access to the roads within which the trenching and ducting activities will occur, is predicted to be of local spatial extent, temporary duration (typical active works duration of six weeks at any particular location), and high reversibility. It is predicted that while the impact will affect the individual receptors directly, with the measures in place (Table 20-7) ensuring that access to all agricultural fields and residential and farm buildings is maintained during the construction phase, the magnitude is considered to be negligible.

Sensitivity of the receptor

The access points to the agricultural field access points potentially affected by the trenching and ducting activities, when considered as a whole are deemed to be of high recoverability and low value. The sensitivity of the agricultural field access points is therefore considered to be low.

The access points to the residential and farm building properties, when considered as a whole are deemed to be of high recoverability and of high value. The sensitivity of the of the access points to residential and farm building properties is considered to be high.

Significance of the effect

Overall, the magnitude of the impact of the trenching and ducting activities on access points is deemed to be negligible and the sensitivity of the receptor is considered to be low. The effect will therefore be of **imperceptible adverse significance**, which is not significant in EIA terms.

Overall, the magnitude of the impact of the trenching and ducting activities on the residential and farm building properties access points is deemed to be negligible and the sensitivity of the receptor is considered to be high. The effect will therefore be of **slight adverse significance**, which is not significant in EIA terms.

Decommissioning phase

It is expected that onshore cables would be removed by disconnecting each section at the joint bays and pulling them through the cable ducts. This operation would be a reverse of the installation operation and result in the same impacts. However, the decommissioning phase will not require the 20.1 km of trenching and ducting that is required during the construction phase and, as such the impacts will only be in the vicinity of the joint bays.

As with all road works, traffic management measures will be required when removing the joint bays within the public road. Local access to properties will be maintained at all times. In the case of wider primary roads, one carriageway may be closed with use of the other carriageway restricted and controlled by temporary traffic lights or a “stop and go” traffic management system for the duration of the works. Traffic management and corresponding works will be carried out with the agreement of Louth County Council.

Magnitude of impact

The severance impact of the decommissioning activities of removing the joint bays will be of local spatial extent, short term duration (typical active works duration of six weeks at any particular location), and high reversibility. It is predicted that while the impact will affect the individual receptors directly, with the designed-in measures in place ensuring that access to all agricultural fields and residential and farm buildings is maintained during the decommissioning phase, the magnitude is considered to be negligible.

Sensitivity of the receptor

The access points to agricultural fields will potentially be affected by the decommissioning activities, and when considered as a whole are deemed to be of high recoverability and low value. The sensitivity of the agricultural field access points is therefore, considered to be low.

The access points to residential and farm building properties, when considered as a whole, are deemed to be of high recoverability and of high value. The sensitivity of the of the access points to residential and farm building properties is deemed to be high.

Significance of the effect

Overall, the magnitude of the impact of the decommissioning activities on the agricultural field access points is deemed to be negligible and the sensitivity of the receptor is considered to be low. The effect will therefore be of **imperceptible adverse significance**, which is not significant in EIA terms.

Overall, the magnitude of the impact of the decommissioning activities on residential and farm building properties access points is deemed to be negligible and the sensitivity of the receptor is considered to be high. The effect will therefore be of **slight adverse significance**, which is not significant in EIA terms.

20.10.3 Severance of services and drainage to agricultural fields

Construction activities will occur over a 27 month period affecting 35 land parcels (see Table 20-13). These activities which will include the construction of a substation, passing bays, HDD activities at designated river and road crossings and the construction of a TJB. The construction will also include trenching and ducting activities within the public road.

Construction Phase

In addition to the construction of 16 passing bays on agricultural land parcels, HDD activities will occur on eight land parcels, a stream crossing (Port Stream) affecting one agricultural land parcel, installation of a fibre optic cable on one agricultural land parcel and the construction of an onshore substation and TJB on one agricultural land parcel each. The onshore construction elements of this Project also extends to 20.1 km of trenching and ducting primarily within the public road. All these construction activities have the potential to sever agricultural water and electrical services and may also impact in-field drainage. The construction activities of these elements (cable lay, substation, joint bays) are all described in detail in chapter 5: Project Description (volume 2A). However, these are the typical construction activities associated with this type of Project, and a series of industry measures with regard to the severance of services and drainage have been committed to by the Applicant.

Magnitude of impact

There are approximately 124 different land parcels used for agricultural purposes along the onshore cable route. The potential impact of the severance of services and drainage is predicted to be in the immediate vicinity of the construction works and therefore is considered local in extent. The construction works will extend over a 27 month period but the works are expected to progress along the onshore cable in sections, with a typical active works duration of six weeks at any particular section will be undertaken. Therefore, the works are considered to be short term in duration. Any severance that does occur during the works will be dealt with immediately and therefore the impact is considered to be of high reversibility. It is predicted that while impacts will potentially affect 124 land parcels used for agricultural purposes, the magnitude of the impact on individual receptors is considered to be low.

Sensitivity of the receptor

The approximate 124 different land parcels used for agricultural purposes are involved in a range of different agricultural activities from drystock, horses and tillage. When considered as a whole the effects of severance of services and drainage on these agricultural receptors is deemed to be of low vulnerability, high recoverability and low value. The sensitivity of the receptor as single entity is therefore, considered to be low.

Significance of the effect

Overall, the magnitude of the impact of severance of services and drainage is deemed to be low and the sensitivity of the receptor is considered to be low. The effect will therefore be of **slight adverse significance**, which is not significant in EIA terms.

Decommissioning phase

The components of the onshore substation have varying life expectancies. If complete decommissioning is required, then all of the electrical infrastructure will be removed, and foundations will be broken up and the site reinstated to its original condition or for an alternative use.

With regards to the decommissioning of the onshore cable, it is expected that the decommissioning will be the reverse of the construction with the removal of the onshore substation and onshore cabling and the removal of the associated joint bays. However, it will not require the 20.1 km of trenching and ducting activities associated with the construction.

Magnitude of impact

The breaking up of the joint bays and the onshore substation during the decommissioning phase will potentially sever the services and drainage to the land parcels contiguous to these sites. The works are considered to be temporary in duration (less than six weeks at any one section). Any severance of services or drainage that does occur during the works will be dealt with immediately and therefore the impact is

considered to be of high reversibility. It is predicted that while impacts will potentially affect all land parcels used for agricultural purposes contiguous to the 29 joint bays, the TJB, and the substation, the magnitude of the impact on individual receptors is considered to be low.

Sensitivity of the receptor

The land parcels used for agricultural purposes contiguous to the 29 joint bays, the TJB and the substation are involved in a range of different agricultural activities from drystock, horses and tillage. When considered as a whole the effects of severance of services and drainage on these agricultural receptors during the decommissioning phase is considered to be low.

Significance of the effect

Overall, the magnitude of the impact of severance of services and drainage is deemed to be low and the sensitivity of the land parcels used for agricultural purposes contiguous to the decommissioning activities is considered to be low. The effect will, therefore, be of **slight adverse significance**, which is not significant in EIA terms.

20.10.4 Damage to land requiring reinstatement

Construction phase

The construction of the onshore substation, TJB and trenching and ducting and joint bays will require lands temporarily. Similarly, lands will be temporarily required for the HDD crossings and as such soils may be potentially affected due to the construction activities and need re-instatement.

The potential to damage soil structures will become more pronounced when construction activities occur during wet periods.

Magnitude of impact

In total 29.6 ha of lands affecting 35 land parcels will be temporarily acquired for the construction of this Project. Of the activities to occur on these lands 16 will be for the use of construction of passing bays for the management of traffic during the construction of joint bays. These bays will be located close to the boundaries of the land parcels and will not extend into the fields more than 20 m. A fibre optic cable will also be laid. Much of this cable will be laid alongside the high voltage onshore cable but a short stretch of some 77 m will be laid on its own from the N33 to link up point at an existing 110 kV poleset across one land parcel used for agricultural purposes. Considering the extent and location of the passing bays and the fibre optic cable within the agricultural parcels, and the short term duration (< 24 months) for which these passing bays will be in place and the short duration for the construction of the fibre optic cable (6 weeks), it is predicted that the magnitude of the effect on soil structure will be low.

A further ten land parcels used for agricultural purposes will be affected by more extensive construction activities associated with the construction of the onshore substation, the TJB and HDD crossings. The magnitude of the potential impacts on soil structure from the construction activities on these land parcels is predicted to be high.

The remaining nine land parcels are all associated with areas with land parcels and where soil structure is not issue. The magnitude of the construction activities on these land parcels, from a soil structure and reinstatement perspective is predicted to be negligible.

Sensitivity of the receptor

The sensitivity of the 35 land parcels potentially affected by damage to soil structure during construction, and require reinstatement, are all considered to be of low sensitivity from a soil reinstatement perspective.

Significance of the effect

The significance of the impact on the 16 land parcels used for agricultural purposes affected by the construction of the passing bays and laying of the fibre optic cable is medium and the sensitivity is low.

Therefore, the significance of the effect on these land parcels is predicted to be of **slight adverse significance**, which is not significant in EIA terms.

The magnitude of the impact on the ten land parcels used for agricultural purposes that will be affected by more extensive construction activities associated with the HDD crossings, the construction of the onshore substation and the TJB is predicted to be high and the sensitivity of these land parcels is considered to be low. Therefore, the significance of the effect is predicted to be **moderate adverse** and is significant in EIA terms and will require mitigation.

The magnitude of the impact on the remaining three land parcels associated with existing non-agricultural soils is predicted to be negligible and the sensitivity is low. Therefore, the significance of the impact is predicted to be **imperceptible**, which is not significant in EIA terms.

Decommissioning phase

The decommissioning of the onshore substation, TJB and joint bays will require lands temporarily and as such current land uses and soils may be potentially affected due to the decommissioning activities and need re-instatement.

The potential to damage soil structures will become more pronounced when decommissioning activities occur during wet periods.

Magnitude of impact

In total 29.6 ha of lands affecting 35 land parcels will be temporarily acquired for the decommissioning of this Project. Of the activities to occur on the lands to be acquired, relate to the decommissioning of joint bays requiring passing bays and the removal of the fibre optic cable on agricultural lands. These bays will be located close to the boundaries of the land parcels and will not extend into the fields more than 20 m. The fibre optic cable crosses one small field. Considering the extent and location of the passing bays and fibre optic cable within the agricultural parcels, and the short term duration for which these passing bays will be in place and the short duration for the removal of the fibre optic cable, it is predicted that the magnitude of the effect on soil structure will be medium.

Eight land parcels used for agricultural purposes will be affected by more extensive construction activities associated with the decommissioning of the onshore substation, the joint bays within agricultural lands away from the road, and the TJB that encompass greater areas of land (see Table 20-13). The magnitude of the potential impacts on soil structure from the decommissioning activities on these land parcels is predicted to be high.

The HDD crossings will remain in place and not be removed.

Sensitivity of the receptor

The sensitivity of the 35 land parcels potentially affected by damage to soil structure during decommissioning when taken as a whole are all considered to be of low sensitivity.

Significance of the effect

The magnitude of the impact on the 16 land parcels used for agricultural purposes affected by the passing bays and the removal of the fibre optic cable is medium and the sensitivity is low. Therefore, the significance of the effect on these land parcels is predicted to be **slight adverse significance**, which is not significant in EIA terms.

The magnitude of the impact on the eight land parcels used for agricultural purposes that will be affected by more extensive activities associated with the decommissioning of the onshore substation, the joint bays within agricultural lands away from the road, and the TJB that encompass greater areas of land is predicted to be high and the sensitivity of these land parcels is considered to be low. Therefore, the significance of the effect is predicted to be **moderate adverse significance** which is significant in EIA terms and will require mitigation.

20.10.5 Impacts from increase in noise, dust and traffic resulting in impacts on agriculture

Noise, air and traffic impacts can all potentially affect land and agriculture. Each of these topics has been considered and assessed in their respective chapters and measures being included in the Project for these topics are outlined in their respective chapters.

Construction phase

The potential effects of noise, air and traffic on land and agriculture will occur on a short term basis during the construction of the Project. The construction will continue over a 27 month period. However, the works will be undertaken in sections by two teams and each section will take around 6 weeks to complete (see chapter 5: Project Description).

Dust

Dust has a nuisance value and livestock are at risk to eye irritations from high levels of wind-blown dust particles. Dust and other particulate matter deposited onto crops may also impact the quality of agricultural crops growing close to the construction activities.

Chapter 23: Air Quality considers and assesses the effects of dust arising from the Project construction activities. This section proposes a series of measures which when implemented predicts that the levels of dust generated are assessed to be minimal and are unlikely to cause an environmental nuisance.

Noise

The effects of construction noise can impact on some farm animals particularly those of a more sensitive nature such as horses. However, it should be noted these animals are regularly seen grazing contentedly alongside busy roads and construction sites in this country.

Chapter 25: Noise (Airborne) and Vibration has considered and assessed the effects of noise and vibration associated with the construction activities associated with the onshore elements of the Project.

The noise assessment has predicted that once the measures outlined in this assessment are put in place the significance of the effect to be slight adverse or not significant.

Traffic

Additional traffic on the local road network and the requirement for temporary road closures during the construction phase of the Project will potentially impact the local agricultural activities, particularly during harvest times when the road network will be used more frequently by agricultural vehicles.

Chapter 28: Traffic and Transport considers and assesses the effects of construction and decommissioning activities on the local road network. This report predicts that the significance of the traffic impact generated by the additional construction vehicles on the local road network ranges from imperceptible to slight adverse effects.

Magnitude of impact

The impacts of noise, air and traffic on land and agriculture is predicted to be of local spatial extent, short term duration, and high reversibility. It is predicted that the impact will affect the receptor directly and the magnitude is considered to be negligible.

Sensitivity of the receptor

When considered as a whole the impacts from noise, air and traffic on land and agriculture as a receptor is deemed to be of low vulnerability, high recoverability and low value. The sensitivity of the receptor is therefore, considered to be low.

Significance of the effect

Overall, the magnitude of the impact from noise, traffic and air on land and agriculture during construction is deemed to be negligible and the sensitivity of the receptor is considered to be low. The effect will, therefore, be of **imperceptible adverse significance**, which is not significant in EIA terms.

Decommissioning phase

The components of the onshore substation have varying life expectancies. If complete decommissioning is required, then all of the electrical infrastructure will be removed, and foundations will be broken up and the site reinstated to its original condition or for an alternative use. The breaking of foundations may generate dust and noise.

With regards to the decommissioning of the onshore cable, this will also be removed. However, the removal of the cable does not entail the removal of ducting but only the extraction of the cable itself from the ducting which will be undertaken at each of the joint bays.

Magnitude of impact

The impact of noise, air and traffic on land and agriculture during the decommissioning phase is predicted to be of local spatial extent, short term duration, continuous and high reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is considered to be negligible.

Sensitivity of the receptor

When the effects from noise, air and traffic during decommissioning is considered as a whole on land and agriculture as a receptor the impact is deemed to be of low vulnerability, high recoverability and low value. The sensitivity of the receptor is therefore, considered to be low.

Significance of the effect

Overall, the magnitude of the impact from noise, traffic and air is deemed to be negligible and the sensitivity of the receptor is considered to be low. The effect will, therefore, be of **imperceptible adverse significance**.

20.10.6 Mitigation and residual effects

For all potential impacts except ‘damage to lands’ (see section 20.10.4), the assessment of impacts has concluded that there are no significant effects with the implementation of the measures included in the Project. Therefore, no measures over those outlined in section 20.8.2 are required.

The significance of the effect on soils and reinstatement for eight of the land parcels used for agricultural purposes where the more extensive construction activities associated with the decommissioning of the onshore substation, the joint bays within agricultural lands away from the road, and the TJB that encompass greater areas of land is predicted to be moderate and as such will require mitigation. The mitigation measure proposed is as follows.

All agricultural lands temporarily acquired for the decommissioning of the substation and TJB will, before return to the landowner, be subsoiled to alleviate compaction and minimise risk of impeded crop growth and will be re-instated to pre-construction conditions unless otherwise agreed with the landowner.

Once the above mitigation measure is implemented, it is predicted that the magnitude of the predicted impacts on the soils’ structure of land parcels used for agricultural purposes will be low. The sensitivity of these land parcels is also predicted to be low therefore the significance of the effect is considered to be **slight adverse**, which is not significant in EIA terms.

With the implementation of the measures included in the Project (section 20.8.2), the residual effects are as outlined in the assessment provided in section 20.10.

20.10.7 Future monitoring

No future monitoring of land and agriculture to test the predictions made within the impact assessment is considered necessary.

20.11 Cumulative Impact Assessment (CIA)

20.11.1 Methodology

The Cumulative Impact Assessment (CIA) considers the impact associated with the Project together with other projects. The approach to CIA examines the effects of the Project alongside the following projects if they fall within the Local Land and Agriculture Study Area (see section 20.3):

- Other projects with consent but not yet constructed/construction not completed;
- Other projects in a consent application process but not yet determined; and
- Other projects currently operational that were not operational when baseline data were collected, and/or those that are operational but have an ongoing impact.

The list of projects examined to determine if there is potential for cumulative impacts with this Project are listed in appendix 3-1: CIA Screening Annex (see volume 2A,). Each project has been considered on a case-by-case basis and either screened in or out for cumulative assessment based upon data confidence, effect-receptor pathways and the spatial/temporal scales involved.

No projects were screened in for cumulative impact assessment on land and agriculture as there was no potential for spatial or temporal overlap with the Project.

20.12 Transboundary effects

The potential effects of the Project on land and agriculture are considered to be of local extent and no effect from the Project on land and agriculture has been identified on a regional basis. Therefore, there is no potential for significant transboundary effects with regard to land and agriculture from the Project upon the interests of the UK or other EEA States.

20.13 Interactions

A description of the likely interactions arising from the Project on land and agriculture is provided in volume 2C, chapter 32: Interactions.

20.14 Summary of impacts, mitigation measures and residual effects

Table 20-14 presents a summary of the potential impacts, mitigation measures and residual effects in respect to land and agriculture.

The Project will not have a significant effect on land and agriculture. It will have a slight adverse impact from a local perspective due to the permanent loss of some agricultural land but this impact is considered not significant. In conclusion, the Project will have a slight adverse impact in terms of landtake and severance as shown in on the 35 affected land parcels used for agricultural purposes identified which is not significant in EIA terms.

No projects that spatially or temporally overlap with the Project were considered to result in significant cumulative effects on land and agriculture.

Table 20-14: Summary of potential environmental effects, mitigation and monitoring.

Description of impact	Phase C	Phase O	Phase D	Measures included in the Project	Magnitude of impact	Sensitivity of receptor	Significance of effect	Further measures	Residual effect	Proposed monitoring
Overall landtake (temporary and permanent).	✓	✓	✓	Permanent and temporary landtake will be dealt with by way of negotiated and agreed compensation. Reinstatement of lands, hedgerows, fencing and access, where required, unless otherwise agreed with landowner.	C: Low O: Low D: Low	C: Low O: Low D: Low	C: Slight O: Slight D: Slight	N/A	C: Slight O: Slight D: Slight	None
Severance affecting access to properties.	✓	×	✓	Existing access to property will, where practicable, be maintained during construction; otherwise reasonable temporary access will be provided.	C: Negligible D: Negligible	C: Low to high D: Low to high	C: Imperceptible to slight D: Imperceptible to slight	N/A	C: Slight D: Slight	None
Severance of services and drainage affecting agriculture.	✓	×	✓	Any disruption to water supply will be reinstated immediately by the Contractor or an alternative source supplied until the source is reinstated, unless otherwise agreed with the landowner. All drainage likely to be affected or disturbed during the construction phase will be identified and reinstated.	C: Low D: Low	C: Low D: Low	C: Slight D: Slight	N/A	C: Slight D: Slight	None
Damage to land requiring reinstatement.	✓	×	✓	Reinstatement of lands, hedgerows, fencing and access, where required, unless otherwise agreed with landowner.	C: Negligible to high D: Medium to high	C: Low D: Low	C: Imperceptible to moderate D: Slight to moderate	All agricultural lands temporarily acquired for construction will, before return to the landowner, be subsoiled to alleviate compaction and minimise risk of impeded crop growth and will be re-instated to pre-construction conditions unless otherwise agreed with the landowner.	C: Slight D: Slight	None

Description of impact	Phase C	Phase O	Phase D	Measures included in the Project	Magnitude of impact	Sensitivity of receptor	Significance of effect	Further measures	Residual effect	Proposed monitoring
Impacts from increase in noise, dust and traffic resulting in impacts on agriculture.	✓	✗	✓	Measures included in the Project as outlined in chapters 23, 25 and 28 of this EIAR.	C: Negligible D: Negligible	C: Low D: Low	C: Imperceptible D: Imperceptible	N/A	C: Imperceptible D: Imperceptible	None

References

Central Statistics Office (2020). Census of Agriculture 2020.

Department of Housing, Planning and Local Government (2018). Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment.

Department of Transport (2023). All-Island Strategic Rail Review Draft Report for Strategic Environmental Assessment Consultation.

Environmental Protection Agency (EPA) (2022). Guidelines on the Information to be Contained in Environmental Impact Assessment Reports.

Environmental Protection Agency (EPA) and Teagasc (2006). National Soils Map.

Highways England (HE) (2020), LA 104, Sustainability and Environment, Appraisal, Environmental assessment and monitoring, Revision 1.

Highways England (HE) (2019). LA 109, Sustainability and Environment, Appraisal, Geology and Soils, Revision 0.

Highways England (H) (2020). LA 112, Sustainability and Environment, Appraisal, Population and Human Health, Revision 1.

Louth County Council (LCC). Louth County Development Plan 2021-2027.

Ministry of Agriculture, Fisheries and Food (MAFF) (1988). Agricultural Land Classification of England and Wales: Revised criteria for grading the quality of agricultural land (ALC011).

National Roads Authority (2003, revised 2005). Guide to Process and Code of Practice for National Road Project Planning and Acquisition of Property for National Roads.

National Roads Authority (NRA) (2008). Environmental Impact Assessment of National Road Schemes – A Practical Guide.

Property Registration Authority Ireland (PRAI) (2019). Property Registration of Ireland.