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Acronyms and Abbreviations

ACP	An Coimisiún Pleanála
ARP	Aerodrome Reference Point
ATS	Air Traffic Service
BAI	Broadcasting Authority of Ireland
BESS	Battery Energy Storage System
BRA	Building Restricted Area
CAA	Civil Aviation Authority
CEMP	Construction Environmental Management Plan
DAA	Dublin Airport Authority
DAFM	Department of Agriculture, Food and the Marine
DME	Distance Measuring Equipment
DoD	Department of Defence
EAS	Emergency Aeromedical Service
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EMC	Electromagnetic Compatibility
EPA	Environmental Protection Agency
ESB / ESBN	Electricity Supply Board / ESB Networks
EU	European Union
GASU	Garda Air Support Unit
GCR	Grid Connection Route
GNI	Gas Networks Ireland
GNSS	Global Navigation Satellite System
GPR	Ground Penetrating Radar
Grid Connection Route (GCR)	Refers to the proposed Grid Connection Route as defined in Chapter 1 of this EIAR.
GSI	Geological Survey Ireland
GWS	Group Water Scheme
HGV	Heavy Goods Vehicle
HSA	Health and Safety Authority
IAA	Irish Aviation Authority
IAC	Irish Air Corps
ICAO	International Civil Aviation Organization
IFP	Instrument Flight Procedure
IGI	International Geotechnical Institute
IWEA	Irish Wind Energy Association

LFTA	Low Flying Training Area
LoS / RLoS	Line of Sight / Radar Line of Sight
Main Wind Farm Development Site	The site where the Proposed Development is located. As defined in Chapter 1 of this EIAR.
MCDP	Mayo County Development Plan
MRUP	Master of Regional and Urban Planning
MSA	Minimum Sector Altitude
NATS	National Air Traffic Services
OEL	Overhead Electricity Line
OLS	Obstacle Limitation Surface
PHLRA	Peat Landslide Hazard and Risk Assessment
PPE	Personal Protective Equipment
Proposed Project	Refers to the Proposed Development including the GCR.
PSR	Primary Surveillance Radar
PTP	Point to Point
PWS	Public Water Supply
RLoS	Radar Line of Sight
RTÉ	Raidió Teilifís Éireann
SSR	Secondary Surveillance Radar
TDR	Turbine Delivery Route
TI	Tetra Ireland
TO	Telecommunications Operator
Turbine Delivery Route (TDR)	Refers to the proposed turbine delivery route as defined in Chapter 1 of this EIAR.
VFR	Visual Flight Rules
VHF	Very High Frequency
VOR	VHF Omnidirectional Range

13.0 MATERIAL ASSETS, INCLUDING TELECOMMUNICATIONS AND AVIATION

Introduction

Background

13.1 This chapter assesses the effects of the Proposed Project on material assets. The Proposed Project refers to all elements of the planning application for the construction of Muingmore Wind Farm including the Grid Connection Route (GCR) which will form a separate application. See **Chapter 1** for a list of the defined terms used in this chapter. The assessment will consider the potential effects during all phases of the Proposed Project (construction, operation and decommissioning) except where it is stated otherwise.

13.2 Works within the public carriageway to facilitate a 110 kV Underground Grid Connection from the proposed on-site substation to Bellacorick Substation are also assessed as part of this chapter, however, these aspects form part of a separate application to An Coimisiún Pleanála (ACP).

13.3 See **Chapter 2** of this EIAR for a full detailed description of the Proposed Project.

Statement of Authority

13.4 This chapter has had input from the following individuals in SLR Consulting:

- It was prepared by Hugh O'Byrne. Hugh is a Graduate Planner, currently completing a Master of Regional and Urban Planning (MRUP). He holds a Bachelor of Science degree in City Planning & Environmental Policy from University College Dublin. He is a student member of the Royal Town Planning Institute and the Irish Planning Institute.
- Lynn Hassett has also provided input to the chapter. Lynn has extensive experience in the field of EIA, SEA/SA and in co-ordinating large multi-disciplinary teams for EIA projects. She has a BSc in Applied Ecology and a MSc in Environmental Impact Assessment.
- This chapter was reviewed by Gareth Hughes, an EIA specialist with 18 years' experience in project management and EIA coordination.
- This chapter was also reviewed by Aislinn O'Brien. Aislinn is a chartered planner and has 18 years' experience in project management, EIA coordination, planning for large scale infrastructure and renewable energy projects and preparing environmental impact assessment chapters and reports for renewable energy and tourism projects.

Scope and Consultation

Scope of the Assessment

13.5 The 'Guidelines on the Information to be Contained in Environmental Impact Assessment Reports' (EPA, 2022) state that Material assets can be taken to mean built services and infrastructure.

13.6 Economic assets of natural heritage include non-renewable resources such as minerals or soils, and renewable resources such as wind and water. These assets are addressed in **Chapter 6, Chapter 7**, and **Chapter 8**. Peat and spoil are assessed in **Chapter 6**. Amenity resources and tourism are addressed in **Chapter 4**. The cultural assets of Archaeology and Cultural Heritage are addressed in **Chapter 12**. Traffic impacts are assessed in **Chapter 14**. Utilities such as water, wastewater and waste services are addressed in this chapter and in **Chapter 2.**

13.7 The consideration of Material Assets in the EIA context therefore includes built services such as electricity, aviation, telecommunications, gas, water supply infrastructure and sewerage, waste management, as well as land use. These items are categorised according to the construction, operational and decommissioning phases of the Proposed Project.

13.8 A Scoping process was undertaken in the early stage of the Environmental Impact Assessment (EIA) process. Details of the Proposed Project were issued to Mayo County Council, various Government departments, aviation and telecommunications operators and a range of other interested stakeholders as described in **Chapter 3.**The EIA Scoping Report provided details of the proposed areas of assessment for the EIA and requested that the consultees advise of any feedback or issues relevant to the Proposed Project that may otherwise not have been noted.

Consultation

13.9 **Table 13-1** below sets out the specific consultation feedback in relation to utility and telecommunication providers and bodies with aviation interests. The scope of the Material Assets assessment did not change following feedback from consultation.

Table 13-1: Consultation Feedback in relation to Utility and telecommunication Providers and Aviation Interests

Provider	Summary of issues raised in relation to Material Assets	Response
2RN	No issues regarding transmission links; however, 2RN have requested that a protocol document be signed (regarding the TV broadcast service in the area).	Included as a Mitigation Measure
AirNav Ireland	No response.	Assumed no issues
Airwave	No response.	
Atlantek Computers	No issues.	Noted
An Garda Síochána	No response.	Assumed no issues
Broadcasting Authority of Ireland	No response.	
BT Ireland	No issues.	Noted
Coimisiún na Meán (formerly the BAI)	No issues.	Noted
Commission for Communications Regulation	Use webviewer to see what is relevant to the site.	Webviewer consulted and reported herein
Commission for Energy Regulation	No comment to make.	Noted

Provider	Summary of issues raised in relation to Material Assets	Response
CIE	No issues.	
Dept. of Defence	Standard lighting condition for turbines. State that all turbines should be illuminated by Type C, Medium intensity, Fixed Red obstacle lighting with a minimum output of 2,000 candela. Provide detailed technical specifications for such lighting.	
Echo IT Limited	Nothing to submit.	
Eir	No transmission links within the proposed area and it has no risk to the network for Eir Mobile or the Eir fixed network.	
Enet	No issues.	
ESB Networks (Local office)	No issues.	
Gas Networks Ireland	No proximity to gas pipelines.	
HSE	Chapter and content suggestions. Recommends that the EIAR details how the turbines, substation, energy storage batteries and associated materials will be disposed of. EIAR should provide information regarding the methodology for disposal of the materials forming the foundations of the wind turbines.	Recommendations incorporated in EIAR document
Imagine Broadband	No issues.	Noted
Irish Aviation Authority	Stated that it would be prudent to engage with the air navigation service provider, AirNav Ireland to undertake a preliminary screening assessment to confirm no impact on en route communication, navigation and surveillance equipment. Stated that the applicant should also engage with the Irish Coastguard service and the search and rescue helicopter operators: CHC Helicopters Ireland, Bristow Ireland Limited and the Department of Defence with regard to any implications for the safety of helicopter operations in the general area. Standard conditions requested. (1) agree an aeronautical obstacle warning light scheme for the wind farm development (2) provide as-constructed coordinates in WGS84 format together with ground and blade tip height elevations at each wind turbine location and (3) The IAA will be notified of the intention to commence crane operations with at least 30 days prior notification of their erection.	Ongoing communication with Irish Coastguard service to ensure their requirements are addressed
Magnet Networks	No response.	Assumed no issues
Ripplecom	No issues.	Noted
Telecommunications Section, An Garda Siochána	Responded on 16/09/2024 requesting turbine details. Sent these on 19/09/24 - no further response received.	Assumed no issues

Provider	Summary of issues raised in relation to Material Assets	Response
Tetra Ireland (TI)	Have equipment at E075875 / N319896 and specify a 500 m exclusion zone surrounding the site.	Buffer applied, Main Wind Farm Development Site confirmed as outside
Three Ireland	No issues.	Noted
TowerCom Ltd.	Have a site that appears to be located about 500 m from the southern boundary with permission to develop it but have not done so yet. Requested a phone call. Towercom were consulted and had concerns in relation to the Tetra equipment referred to above.	Since confirmed no issue as Main Wind Farm Development Site is located outside the buffer required
TV3	No response.	Assumed no issues
Uisce Éireann	Do not have the capacity to advise on the scoping of individual projects but provide generic scoping guidelines.	
Virgin Media	No issues.	Noted
Viatel	Acknowledgement email only.	Assumed no issues
Vodafone Ireland	No issues.	Noted
Westnet	No issues.	
Wireless Connect Ltd.	No response.	Assumed no issues

Legislation, Guidance and Policy

13.10 This chapter of the EIAR has been prepared on the basis of the Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022). The assessment is also informed by and complies with the following:

- EIA Directive 2011/92/EU as amended by EIA Directive 2014/52/EU;
- European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018;
- Part 10 of the Planning and Development Act, 2000 (as amended);
- Section Article 94 and Schedule 6 of the Planning and Development Regulations, 2001 (as amended);
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning and Local Government, 2018); and
- Advice Notes on Current Practice in the Preparation of Environmental Impact Statements (EPA, 2003).

13.11 According to the Environmental Protection Agency (EPA)(2003) Advice Notes on Current Practice:

"Resources that are valued and that are intrinsic to specific places are called 'material assets'. They may be of either human or natural origin and the value may arise for either economic or cultural reasons".

13.12 This material assets impact assessment comprises the consideration of existing resources pertinent to the Proposed Project and the application area that are not addressed elsewhere in the EIAR and the likely development impacts on these resources. On this basis, this chapter addresses land use, built services and waste management. Built services are understood to refer to electricity, telecommunications, aviation, gas, water supply infrastructure and sewerage.

13.13 The provision and safeguarding of utility services is facilitated in the planning system through the County Development Plans covering the Main Wind Farm Development Site. The Mayo County Development Plan (MCDP) 2022–2028 contains policy objectives within Chapter 7 'Infrastructure', which seeks to protect, improve and provide water, wastewater, surface water and flood alleviation services, and to facilitate the provision of high-quality information communication technology, broadband, telecommunications and electricity networks to support sustainable development within the county.

13.14 Development management standards are set out within the MCDP to ensure the protection of the environment, including infrastructure standards, and to ensure that planning applications are assessed against the relevant policy objectives set out within the overarching Plans. For example, within Volume 2 of the MCDP, which contains the Development Management Standards for the County, Section 8.8.1 states that planning applications for wind energy shall be in compliance with the Wind Energy Development Guidelines 2006 and the Renewable Energy Strategy for Mayo. The Renewable Energy Strategy for Mayo stipulates that all planning applications for wind energy projects must address mitigation measures for all stages of the development, including the decommissioning and restoration phases (where relevant). Further policy analysis is provided in the Planning Statement that accompanies this Planning Application. It is noted that a more recent Draft Renewable Energy Strategy for County Mayo (2026) has been published and this has been taken account of in the assessment.

13.15 The consultations held with key consultees during the EIA scoping process has also influenced the focus of the assessment contained within this chapter. In line with the legislation and guidance cited above, the emphasis of the study is on identification of impacts that have potential to cause a significant effect on the environment.

Approach and Methodology

Study Area

13.16 The Study Area for this chapter of the EIAR relates primarily to the Main Wind Farm Development Site and those dwellings and buildings on the roads immediately surrounding it, which rely on the services that could be impacted. This encompassed a focussed 1 km radius of the red line planning boundary of the Proposed Project. The potential for impacts to material assets to arise within areas outside the 1 km buffer (i.e. in the 3 Turbine Delivery Route (TDR) Over-run Areas and the Grid Connection Route (GCR)) is identified pending detailed pre-construction confirmatory surveys. The potential impacts on aviation interests and telecommunication infrastructure were subject to specialist assessments, which considered a variety of equipment types with various ranges for potential impacts. **Technical Appendix 13-2** and **Technical Appendix 13-3** clearly detail the ranges considered, which exceed the general 1 km radius for the land use and service infrastructure assessment.

13.17 Please refer to **Figure 13-1**, which identifies the Study Area.

Information and Data Sources

13.18 Desk based assessments on publicly available reports / mapping and consultation with key service providers have been undertaken to identify the physical infrastructure in the respective study areas outlined above.

Assessment Methodology

13.19 Evaluation of the effects on the material assets considered in this chapter is based on a qualitative assessment. This qualitative assessment is based on analysis of the potential effects on the environment undertaken in the other chapters of this EIAR. This assessment applies professional judgement to the information contained in the technical assessments of the EIAR and the responses received through the EIA Scoping exercise. This chapter comprehensively assesses the Proposed Project. This includes the range of turbine models that have been modelled in the technical assessments, which have included the maximum parameters across three specific candidate models. Hence, any changed permutation within the range assessed will not give rise to different conclusions on significance of effect.

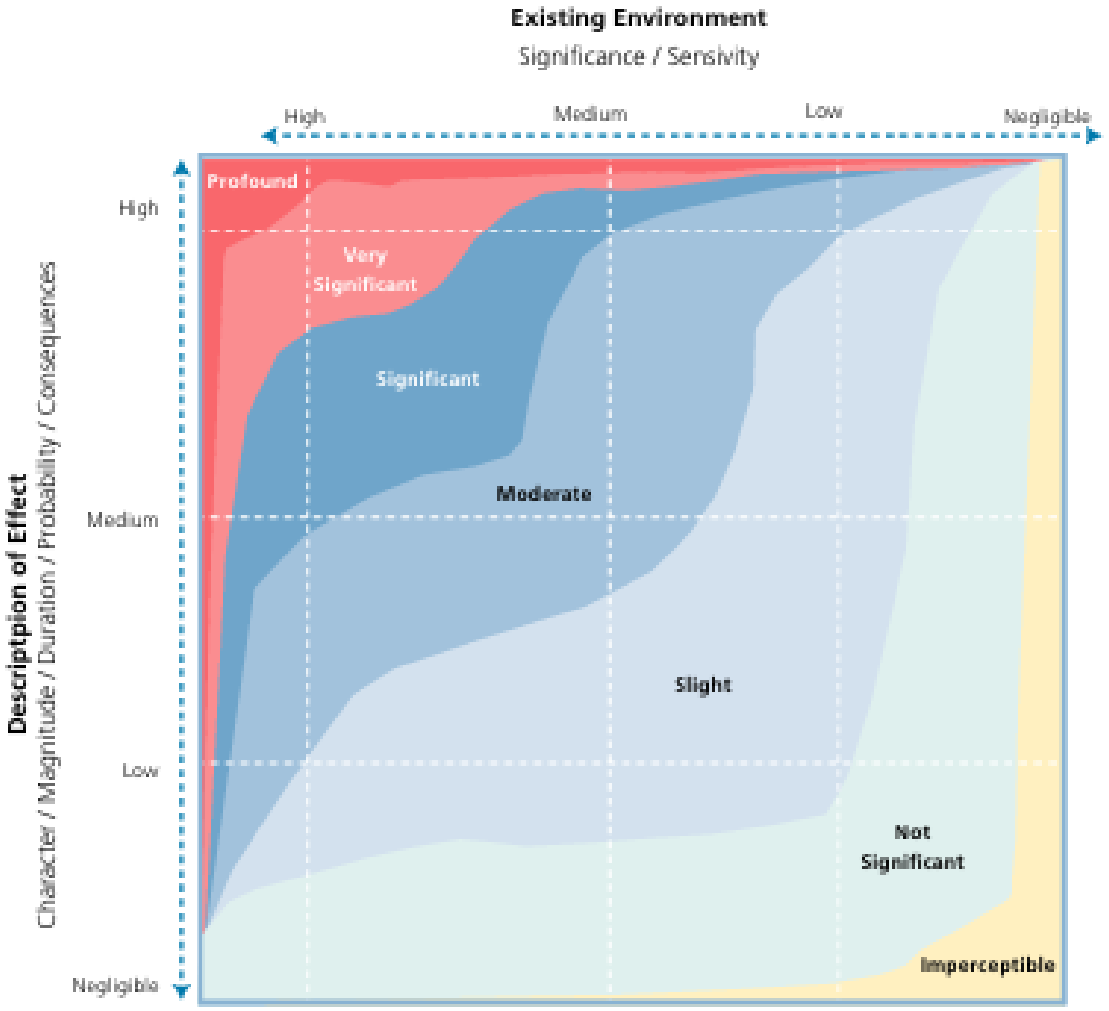
13.20 The location of turbines was the main consideration in this chapter, focusing on ensuring that no signals were blocked by telecoms / television companies in the area and that the location of turbines did not impede aviation interests in the area. In terms of general utilities, the key consideration in assessment of potential impacts is in relation to the proposed footprint of development and general utility demands that could impact/disrupt on existing supply to the local area.

Assessment of Significance of Effects

13.21 The EPA (2022) EIAR Guidelines provide advice to EIA practitioners on undertaking clear and proportional assessments to ensure that concentration is focused on the likely significant effects. They state that significance of effects is usually understood to mean the importance of the outcome of the effects (the consequences of the change). Significance is determined by a combination of (objective) scientific and subjective (social) concerns.

13.22 EIA commonly uses a significance matrix framework, which is based on assigned sensitivity to receptors assessed against a predicted magnitude of change in order to determine if an effect is significant. Figure 3.4 of the EPA (2022) guidelines, reproduced below, shows a chart setting out typical classifications of the Significance of Effects.

Plate 13-1: Classification of the Significance of Effects (EPA, 2022)



13.23 The ultimate assessment of significance is based on a consideration of the predicted magnitude (degree and consequences of change) versus the sensitivity of the receptor/receiving environment.

13.24 There are no specific definitions of magnitude or sensitivity in relation to the assessment of Material Assets in EIA. It is also acknowledged that while guidelines and standards help ensure consistency, the professional judgement of competent experts can play an important role in the determination of significance. In order to assist EIA practitioners in attributing levels of significance, and to reduce the potential for disagreement on impacts where there is an absence of topic specific guidance, the Guidelines suggest the definitions set out in **Table 13-2**.

Table 13-2: Definitions of Significance suggested by EPA (2022) EIAR Guidelines

Level of Significance	Suggested Definition
Imperceptible	An effect capable of measurement but without significant consequences
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences
Slight Effects	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities
Moderate Effects	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends
Significant Effects	An effect which, by its character, magnitude, duration or intensity, alters a sensitive aspect of the environment
Very Significant	An effect which, by its character, magnitude, duration or intensity, significantly alters most of a sensitive aspect of the environment
Profound	An effect which obliterates sensitive characteristics

Assumptions, Limitations and Confidence

13.25 As mentioned, there is no specific guidance in relation to the assessment of Material Assets in EIA. Therefore, as stated above, the assessment is based on a combination of professional judgement based on the authors' combined years' of experience across similar projects and the feedback obtained from consultees, in particular the telecommunications and aviation service providers. The structure of the EIAR chapter is slightly different from the other technical chapters to reflect the nature of the assessment.

Land Use - Forestry

Baseline Environment

13.26 The Main Wind Farm Development Site contains approximately 178 hectares of forestry. See **Figure 1-2** within the Forestry Report (**Technical Appendix 2-2**). The current forestry in the very south was planted before 2004, while that in the northwest was planted between September 2009 and August 2010. Forest survey work commissioned during the design of the Main Wind Farm Development Site is included as **Technical Appendix 2-2** and classes the forestry within the Main Wind Farm Development Site as commercial forestry, which is to be harvested for construction timber and other wood products. Circa. 70% of the forestry within the Main Wind Farm Development Site is privately owned, with the remainder owned by Coillte. The forestry in the main is between 13 – 26 years of age and primarily comprises coniferous tree species. These include Sitka spruce (*Picea sitchensis*), Scots pine (*Pinus sylvestris*), Lodgepole pine (*Pinus contorta*) and Japanese larch (*Larix kaempferi*).

Assessment of Potential Effects

Construction Phase

13.27 Tree felling of commercial forestry in a number of the proposed turbine locations will be required as part of the Proposed Project. Between 27.17 hectares (assuming Nordex N149 specification, the smallest rotor diameter of the three candidate turbines) and 31.37

hectares (assuming Nordex N163 turbine specification, the largest rotor diameter of the three candidate turbines) of existing forestry, comprising mostly coniferous tree species will need to be felled for infrastructural purposes. Mature and semi-mature forestry containing merchantable timber will be harvested conventionally by a mechanical harvester, and felled logs will be extracted to the roadside by a specialised wheeled forwarder. Manual felling by chainsaw may also be required in some areas. Timber will be transported from the Main Wind Farm Development Site using industry standard timber lorries.

13.28 While the potential effects of tree felling as part of the Proposed Project are assessed within this EIAR chapter, it is noted that the felling of trees for wind farm construction is subject to and can only occur following the granting of a felling licence by the Minister for the Department of Agriculture, Food and the Marine (DAFM).

13.29 9 out of the 13 turbine locations of the Proposed Project affects forestry. **Table 13-3** provides a breakdown of the forestry to be impacted by each of the eight turbines and non-turbine infrastructure, by each candidate turbine. **Table 13-4** provides a breakdown of the forestry species to be impacted by each turbine. See **Figure 1-2** within the Forestry Report (**Technical Appendix 2-2**).

Table 13-3: Breakdown of Forestry to be impacted by each candidate turbine

Candidate Turbine	**Non - Turbine Infrastructure**	**T1**	**T10**	**T11**	**T12**	**T13**	**T2**	**T3**	**T7**	**T8**	**Grand Total (ha)**
Nordex N149	11.40	2.42	2.58	0.05	2.51	2.58	2.58	2.58	0.45	0.01	**27.17**
Nordex N163	10.33	3.10	3.44	3.44	3.28	3.44	3.44	3.33	0.69	0.04	**31.37**
Vestas V150	11.40	2.43	2.60	0.06	2.52	2.60	2.60	2.59	0.45	0.01	**27.25**

Table 13-4: Details of Forestry Areas to be impacted by Turbine Development

Turbine	Species Mix	Plant Year
1, 2 & 3	Sitka spruce, Scots pine, Lodgepole pine and Japanese larch	2010
7	Sitka Spruce, Lodgepole pine	Unknown (mature forestry)
8	Mixed Scrub	N/A
10	Lodgepole pine and Sitka spruce	1999-2000[1]
11	Sitka Spruce, Lodgepole pine	Unknown (mature forestry)

[1] The forestry operator may decide to fell these for commercial reasons prior to construction of the Proposed Project. A decision will be made at that time depending on ground conditions, and whether permission for the Proposed Project has been granted as to whether replanting is undertaken.

Turbine	Species Mix	Plant Year
12 & 13	Sitka spruce, Scots pine and Japanese larch	2010

13.30 The forestry felling area associated with T1, T2, and T3 is comprised of Sitka spruce, Scots pine, Lodgepole pine and Japanese larch and is located in the northwest of the Main Wind Farm Development Site. An average top height of 7.5 meters was recorded, with heights varying from 3 m – 10 m across this area. No thinning has occurred here to date, and tree growth is variable, with the Japanese larch dying off in some areas. A Fireline also features in this plot and *Rhododendron ponticum* was observed in the area.

13.31 The forestry felling area associated with T12 and T13 is comprised of Sitka spruce, Scots pine and Japanese larch and is located in the southeast of the Main Wind Farm Development Site. Tree growth is inconsistent in this area with many areas displaying poor growth and small trees that are 'in check'. There is an average top height of 8 metres recorded across all tree species. The Sitka spruce adjoining an access route near the centre of this area was observed to be growing better with top heights varying between 9 – 11 metres. The magnitude of the impact of forest felling in this area has been assessed as **Medium adverse**, with the sensitivity of the receptor considered as being **Medium**, given that the forestry is being managed as part of commercial rotations and would thus be due for harvesting in the future, regardless of the Proposed Project. Therefore, the significance of potential changes to this forestry occurring as a result of the proposed felling is **Moderate adverse** and **Long term**, which is **Not Significant** in EIA terms.

13.32 Given the nature of the forestry present in the above forestry areas, felling at these locations will not increase the risk of endemic windblow as the forestry that will remain will be young and small in height, and should have time to stabilise and adapt to new conditions.

13.33 A privately-owned belt of trees to the south of the Main Wind Farm Development Site, where felling associated with T10, T11 and T12 would occur, is comprised of mixed conifer species, where some trees have previously blown over. The magnitude of the impact of forest felling in this area has been assessed as **Medium adverse**, with the sensitivity of the receptor being **Medium** as per above explanation. Therefore, the significance of potential changes to this forestry occurring as a result of the proposed felling is **Moderate adverse** and **Long term**, which is **Not Significant** in EIA terms.

13.34 The forestry felling area associated with T10 was previously mounded and is underlain by peat. It is located in the south of the Main Wind Farm Development Site. This area comprises of Sitka spruce and Lodgepole pine that are 25-26 years old. Tree growth is mixed to the north of the plot where the trees have a top height of 13 metres: trees further south were observed to be growing well. Considering this area's proximity to the coast, the underlying peat soil and the current height of the trees, forestry felling for T10 may result in future windblow. The magnitude of the impact of forest felling in this area has been assessed as **Medium adverse**, with the sensitivity of the receptor being **Medium** as per above explanation. Therefore, the significance of potential changes to this forestry occurring as a result of the proposed felling is **Moderate adverse** and **Long term**, which is **Not Significant** in EIA terms.

13.35 The total magnitude of these potential effects on forestry land use has been assessed **Medium adverse**, with the sensitivity of the receptor being **Medium** given that the forestry is being managed as part of commercial rotations and would thus be due for harvesting in the future, regardless of the Proposed Project. Therefore, the significance of potential changes to this forestry occurring as a result of these potential effects is **Moderate adverse** and **Long term**, which is **Not Significant** in EIA terms.

13.36 Detailed information on the likely methods of forestry removal is set out within **Technical Appendix 2-2**, and the detailed technical assessments of the EIAR take into consideration the likely implications such as noise and water emissions as a result of the practices to be employed.

Operational Phase

13.37 The Proposed Project intends to utilise any existing forest infrastructure, such as access tracks, where these exist.

13.38 The Proposed Project will result in additional access roads being built through forested areas. Tracks that are to be installed for vehicles will be available for future forestry operations so that forestry vehicles can also use these roads. These new access tracks to be provided may represent an opportunity for enhancement of future forestry plantation practices.

13.39 The total magnitude of these potential effects has been assessed **Medium beneficial**, with the sensitivity of the forestry receptors being **Medium** given that the forestry is being managed as part of commercial rotations and would thus be due for harvesting in the future, regardless of the Proposed Project. Therefore, the significance of potential changes to this forestry occurring as a result of these potential effects is **Moderate beneficial** and **Long term**, which is **Not Significant** in EIA terms.

Decommissioning Phase

13.40 Potential effects during decommissioning works will no greater than, those outlined in the Construction Phase. There will be potential for replacement forestry planting if turbines are removed and this will represent a **Medium** beneficial impact on forestry land use, with an effect significance of **Moderate beneficial** and **Long term**, which is **Not Significant** in EIA terms.

Future Baseline

13.41 The affected forestry is being managed as part of commercial rotations and would thus be due for harvesting in the future, irrespective of whether the Proposed Project was to be constructed or not. Potential effects on soil quality, water quality, habitats, road traffic and noise, as laid out above, are also applicable in a future baseline scenario, as harvesting will occur as part of the normal forest management of this forestry.

Mitigation Measures and Residual Effects

13.42 A summary outline of standard mitigation measures for forestry harvesting operations is provided below, based on existing standards and guidelines (DAFM, 2019; DAFM 2024b) - additional measures may be required as per felling licence conditions:

- Proposed works to be carried out in strict adherence with all relevant standards/guidance:
    - Forest Biodiversity Guidelines (Forest Service, 2000).
    - Forest Harvesting and the Environment Guidelines (Forest Service, 2000b).
    - Forestry and Water Quality Guidelines, (Forest Service, 2000c).
    - Forestry and Archaeology Guidelines (Forest Service, 2000d).

- Forestry and the Landscape Guidelines (Forest Service, 2000e).
- Forest Protection Guidelines (Forest Service, 2002).
- Felling and Reforestation Policy (DAFM, 2017).
- Standards for Felling & Reforestation (DAFM, 2019).
- Environmental Requirements for Afforestation (DAFM, 2024).
- Forestry Standards Manual (DAFM, 2024b).

13.43 All mitigation measures that are required under the standards and guidelines in place at the time of the licence, as well as the conditions of the licence, will be implemented.

- A safety statement will be issued in advance of works and the responsible party(ies) to erect all relevant safety signage and to walk the Main Wind Farm Development Site with contractors to highlight any environmental sensitivities or site risks.
- Contingency plans to be designed according to Section five of the *Standards for Felling & Reforestation* (DAFM, 2019) and to be readily available on the Main Wind Farm Development Site and triggered where necessary.
- Exclusion zones for aquatic zones, archaeological features, wildlife habitats within the Main Wind Farm Development Site to be identified/clearly marked prior to any works commencing.
- Works scheduled to occur near overhead electricity lines (OELs) to be conducted according to Section 7 of the *Forestry Standards Manual* (DAFM, 2024b).
- Prior to harvesting works, silt traps to be installed within existing forest drains that connect with aquatic zones, either directly or indirectly through other relevant watercourses. Silt traps to be constructed along the length of drains and to be monitored and maintained as required throughout works.
- Temporary bridging points to be used where machinery routes must cross existing water features. Any necessary crossing to be via an appropriate structure – see *Standards for Felling & Reforestation* (DAFM, 2019). Temporary bridging points to be monitored for the duration of works and to be maintained as required.
- Machine maintenance, refuelling and repair areas and storage areas for fuel, motor oils, lubricants and chemicals to be sited in a dry and sheltered area, at least 50 m from aquatic zones and 20 m from relevant watercourses. No rinsing of fuel, chemical or oil containers to occur on-site.
- Harvesting machinery to be fitted with up-to-date spill kits to mitigate against an accidental spillage.
- Dense mats of brash and branch wood to be laid along all machinery routes to form a thick layer of protective foliage for machinery to travel upon. Additional brash to be deployed on any sections of soft ground that are subject to high levels of machinery passage. Brash mats to be replaced as soon as they exhibit signs of wear.
- On site supervision to be present to ensure all operations are carried out according to standards, and to confirm mitigation measures are effective. Felling and extraction to cease during and after periods of rainfall that could result in the surface mobilisation of silt until conditions improve.

- Harvesting works to adhere to the designated working hours as specified in the Construction Environmental Management Plan (CEMP), and operators to wear all appropriate P.P.E. at all times on site.
- Harvesting machinery must not enter any exclusion zones: trees standing within an exclusion zone that are outside the reach of the harvester arm to be manually felled by an experienced chainsaw operator and removed by an extended harvester arm for processing and stacking outside of the exclusion zone.
- Stacking areas to be located 50 m from aquatic zones, and at least 100 m from dwellings wherever possible.
- Contractors to monitor machinery routes for signs of soil damage and to use extra brash where available to pre-empt the risk of soil rutting. A new track containing a new brash mat layer to be promptly established where ground conditions begin to visibly deteriorate.
- Regular visual monitoring of relevant watercourses and aquatic zones to occur to check for any silt/sediment discharge from site works.
- Forwarder load sizes to be monitored during timber extraction to ensure no overloading occurs.
- Temporary bridging points to be removed when no longer required and relevant areas restored to their original condition, with due care afforded to avoid the release of any sediment.
- Any waste or hazardous materials that accumulate throughout operations to be carefully removed from the Main Wind Farm Development Site once harvesting is complete.
- Any harvesting debris evident within drains or silt traps to be removed and forest infrastructure to be inspected for any signs of damage and to be repaired if necessary.

13.44 As outlined in *Felling and Restoration Policy* (DAFM, 2019), all forestry felled for infrastructure needs to be replaced through the compensatory afforestation of an equivalent area of alternative land. Replanting of forestry will be undertaken on between 27.17 to 31.37 hectares of land, depending on the turbine specification. The afforestation of any alternative land will first require written 'Technical Approval' from the Department of Agriculture, Food & the Marine under the Forestry Act 2014.

13.45 The Applicant is fully committed to the sourcing of suitable alternative lands to ensure that no net forestry loss would occur as a result of the Proposed Project.

13.46 With the provision that the proposed mitigation measures, as laid out in **Technical Appendix 2-2**, are adopted and since the level of forest felling is not considered significant, **No Significant** residual effects in EIA terms are expected.

Cumulative Effects

13.47 The proposed and permitted projects that must be considered for potentially having cumulative effects with the Proposed Project are identified in **Table 2-5**, **Chapter 2** of this EIAR. The nearest operational wind farm to the Proposed Project is the three turbine Bunnahowen Wind Farm, c. 4 km to the north. Oweninny Wind Farm is located c. 17 km to the west and is the largest onshore wind farm in Ireland. The majority of the other identified projects relate to energy infrastructure upgrades to support a transition to renewable energy

in line with the global direction towards seeking climate neutrality. There is one project relating to the infill of agricultural land c. 13.1 km to the north-west of the Proposed Project.

13.48 The Sheskin Wind Farm involves the felling of c. 11.5 hectares forests with generally poor productivity, and c. 36 hectares of commercial forestry was clear felled for the Oweninny Wind Farm. Given the nature of commercial forestry, i.e. lifecycle of growth and harvesting, it is not considered a finite resource and the cumulative effects on forestry land use as a result of the Proposed Project in combination with the identified projects is not considered to be significant.

Statement of Significance

13.49 Given the fact that the forestry land to be lost is replaceable, the impact on forestry land use is considered to have a **Not Significant** effect in EIA terms overall.

Land use – Soils and Mineral Resources

Baseline Environment

13.50 There are two active quarries to the north of the Main Wind Farm Development Site, located c. 2.3 km and 3.2 km away, respectively. A review of aerial imagery and a site walkover indicates that at some stage before 1995, peat extraction was carried out on the northern and central parts of the Main Wind Farm Development Site. However, no clear records to show this are available.

13.51 The soil association classified beneath the Main Wind Farm Development Site is the peat series (1xx) and the specific peat type is lowland bog. The subsoils underlaying the Main Wind Farm Development Site are predominantly Blanket Peat, with some patches of Metamorphic Till in the wider area.

13.52 Ground Investigation conducted by SLR confirmed the presence of variable peat thickness overlying till deposits. Refer to **Chapter 6** of this EIAR where there is detailed assessment on the potential for instability and mitigation measures for the avoidance of this effect.

Assessment of Potential Effects

Construction Phase

13.53 There will be disturbance to soils and subsoils within the Main Wind Farm Development Site, including removal of soils for the turbine bases and the excavation of soils for the laying of cables, hardstands and access roads.

13.54 During construction phase, temporary land take of c. 11.81 ha (consisting of crane hardstands and a construction compound) will be required. Following completion of construction, approximately half of the total area of crane hardstands and all of the construction compound will be decommissioned and removed. With the exception of three areas of over-run, the TDR will be contained within existing roads and align with the existing land use. An underground 110 kV cable forming the GCR is proposed from the on-site substation to Bellacorick Substation. There will be a temporary change to land use and disturbance to soils along the route, however the effects will be of a low magnitude as the GCR will be located entirely within the public carriageway, the ground will be reinstated immediately as cabling is laid along the route in accordance with the sequence outlined in the Construction Traffic Management Plan that will be agreed with Mayo County Council.

Soils will be handled in accordance with the good practice guidance for handling soils referred to in **Chapter 6**. There will be no permanent change in land use.

13.55 Material (soils, subsoils and, where necessary, heavily weathered bedrock) will be required to be excavated at the turbine locations and associated infrastructure, electricity substation and Battery Energy Storage System (BESS). In the case of the turbines (and associated infrastructure), this excavation is so that infrastructure components can be installed along with fill material. No borrow pits are planned, but it may be necessary to remove weathered bedrock at some locations to ensure stable foundations for the turbines.

13.56 Infill materials will be required to be brought to the Main Wind Farm Development Site in order to create pads / bases for the construction cranes, turbine bases and the construction of access tracks connecting the turbines to all associated and ancillary infrastructure. The Proposed Project will use material on-site in the first instance where applicable (likely to be used as filler) and will utilise local quarries if required for the importation of further required materials on the Main Wind Farm Development Site. These quarries will be sourced once planning consent for the Proposed Project is secured. Assumptions regarding the numbers of HGV trips required to import infill materials are set out in **Chapter 14** and have been factored into the assessment of potential traffic effects. Access and haul route arrangements will be provided in the Construction Traffic Management Plan to be agreed with Mayo County Council.

13.57 **Table 13-5** below sets out the estimated worst-case cut and fill balance for soil, aggregate and concrete materials required on-site.

Table 13-5: Cut and Fill Balances of Materials Required for Proposed Wind Turbines, BESS and Substation, Hardstanding and Access Roads

Material Required	Cut (m^3)	Fill (m^3)	Import Requirement (m^3)	Balance (m^3)
Topsoil (Acrotelm Peat)	32,572	N/A	N/A	-32,572
Subsoil / Substrate	117,573	N/A	N/A	-117,573
Aggregate	N/A	254,398	254,398	254,398
Concrete	N/A	20,223	20,223	20,223
*numbers rounded to nearest hundred.				

13.58 As shown in **Table 13-5**, an estimated total of 254,398m^3 of aggregate will be required for the construction of the Proposed Project. There may be some direct loss of in-situ bedrock at the Main Wind Farm Development Site if heavily weathered bedrock is encountered. It is proposed that excavated soils and bedrock will remain on-site and will be reused to build infrastructure such as access tracks, hardstanding areas and foundations. In the unlikely event that these materials cannot be reused in the construction of the wind farm they will be disposed of in accordance with the waste management arrangements set out below. The Peat Management Plan that is provided as **Technical Appendix 6-3** provides details on the volumes of peat that need to be extracted for the construction of hardstanding and turbine foundations, substation and BESS. Excavated peat will be reused to grade and shape the edges of the turbine bases to blend into the surrounding landscape, for similar landscaping purposes at the Proposed Project and as part of the Peat Management Plan. Specialised floating roads will be constructed on top of peat and soft soils to protect the underlying ground. **Chapter 6** concludes that the potential for peat sliding is negligible, referring to a Peat Landslide Hazard & Risk Assessment (PHLRA) (**Technical Appendix**

6-2), which found no evidence of historical or current peat slide activity at the Main Wind Farm Development Site.

13.59 As confirmed by information set out in **Chapter 6**, the effects of the loss of soils and mineral resources is considered to be **Slight** (**Not Significant** in EIA terms). The reuse of land resources already existing within the Main Wind Farm Development Site means that the overall impact on land availability as a result of the Proposed Project will be minimal.

Operational Phase

13.60 The operational phase does not involve any quarrying or soil handling, therefore, there will be a **negligible** impact on these during that phase.

Decommissioning Phase

13.61 During decommissioning it is proposed that the turbine foundations are left in situ, as this is also considered a more environmentally sensible option. Removing the reinforced concrete foundation associated with each turbine would result in environmental nuisances such as noise, vibration and dust. The crane pads and foundations will be covered over and allowed to re-vegetate naturally. It is likely that the onsite access tracks will be left in situ, subject to agreement with Mayo County Council and the relevant landowners at that time. Therefore, there will be a **negligible** impact on soils during the decommissioning phase.

13.62 Future Baseline If the Proposed Project was not to proceed it is unlikely that there would be disturbance to the soils and mineral resources that is proposed to be sourced within the Main Wind Farm Development Site itself and it is likely that these resources would continue to experience slight disturbance due to commercial forestry activities. Local quarries would continue to supply their existing customers and would continue to operate until either depletion of resources or expiry of appropriate permits such as planning permission. The forestry land use would likely continue and mineral resources underlying the Main Wind Farm Development Site would remain in-situ, pending future land use zoning or planning proposals.

Mitigation Measures and Residual Effects

13.63 **Chapter 6** of this EIAR contains detailed mitigation measures in relation to land resource management, in particular in relation to minimising the potential for peat instability. The residual effect of potential peat instability will reduce to **Slight** (**Not Significant** in EIA terms) with the implementation of the relevant mitigation measures as laid out in **Chapter 6**. The information set out in **Chapter 6** supports the assessment set out in this chapter that there is no requirement for mitigation measures in relation to land availability/use (forestry or soils/mineral resources) and that the residual effect will be **Slight** (**Not Significant** in EIA terms) as land use will remain unchanged in the locality.

Cumulative Effects

13.64 As stated in **Chapter 6** there are no major planned developments in the vicinity of the Main Wind Farm Development Site or on surrounding lands that have recently been granted planning permission that have the potential to give rise to any significant adverse cumulative effects on land use or availability. The proposed and permitted projects that are identified in **Table 2-5**, **Chapter 2** of this EIAR relate to wind farms and energy infrastructure upgrades to support a transition to renewable energy. There is one project relating to the infill of agricultural land c. 13.1 km to the north-west of the Proposed Project.

13.65 The actual land take associated with these projects and the Proposed Project, in terms of footprint, is minimal. Therefore, the cumulative effects are not considered to be significant.

Statement of Significance

13.66 The potential effects to land use and mineral resources from the Proposed Project are considered to be **Not Significant** in EIA terms as it is expected that effects will be localised in nature.

Built Services - Air Navigation

Baseline Environment

13.67 The nearest aeronautical infrastructure to the Main Wind Farm Development Site is Belmullet Aerodrome, located approximately 11.5 km northwest at Emlybeg North, Co. Mayo. It is not, however, listed as an airport or aerodrome designated by the Irish Aviation Authority[2]. As can be seen on **Figure 13-2**, there are no licensed aerodromes within a 20 km radius of the Main Wind Farm Development Site. As indicated on **Table 13-1**, the Irish Aviation Authority (IAA) has nevertheless been consulted on the proposals. No issues were raised in relation to Belmullet Aerodrome.

13.68 The closest airport or aerodrome to the Main Wind Farm Development Site that is designated by the Irish Aviation Authority is Ireland West Airport. The Main Wind Farm Development Site is located approximately 73 km northwest of Ireland West Airport. The Main Wind Farm Development Site does not penetrate the Outer Horizontal Surface of Ireland West Airport, which extends 15 km from the Airport Reference Point (ARP) or runway centre point.

Assessment of Potential Effects

Construction, Operational and Decommissioning Phase

13.69 Owing to their height and rotation of their blades, wind turbines have the potential to cause a variety of adverse effects on aviation during all stages that they are even partially present. Given that the potential effects to air navigation arise from the nature of the height of the wind turbine structures and cranes required for their construction and decommissioning, all phases are considered as one in this instance.

13.70 As set out earlier in this assessment, the range of turbine models that have been considered in this EIA process includes the maximum parameters, including heights and rotations, across three specific candidate models. Hence, any changed permutation within the range assessed will not give rise to different conclusions on significance of effect.

13.71 The height of turbines can be an obstacle to communications, navigation and surveillance equipment and the rotating turbines can interfere with flight radar systems. The ground to blade tip height of the proposed wind turbines has been set at an upper limit of 180 m.

[2] Integrated Aeronautical Information Package (AD Section 1.5 – Status of Certification of Aerodromes) https://www.airnav.ie/getattachment/dbc324e6-c584-47b9-b562-6434f2a28380/EI_AD_1_5_EN.pdf?lang=en-IE

Belmullet Aerodrome

13.72 As Belmullet Aerodrome is not an airport or aerodrome designated by the Irish Aviation Authority, and no issues were raised by the Irish Aviation Authority (who has regulatory oversight of aerodromes) at the scoping stage. The assessment has had regard to the Air Corps Wind Farm/Tall Structures Position Paper (August 2014) (**Technical Appendix 13-1**) which sets out the Air Corps position on the appropriate siting and management of wind farms and tall structures. The proposed wind turbines are not located within any 'Danger', 'Restricted' or 'Military Operating' area as identified at Annex A, B or C of the Position Paper. Similarly, the Main Wind Farm Development Site is not located within 3 no. nautical miles of any critical low level route identified at para. 2(2)(c) and illustrated at Annex D of the Paper.

13.73 The IAA published a National Aviation Safeguarding Framework Consultation Document in September 2025, which states that the operators of aerodromes are obligated by the IAA to prepare a safeguarding map and submit it to the relevant Local Planning Authority. The purpose of an aerodrome safeguarding map is to identify those areas at, or within the vicinity of the aerodrome which should be protected and where development should be restricted / appropriately managed to ensure the continued safe and regular operation of the aerodrome. The Applicant has consulted with the operator of the private grass airstrip at Belmullet. The operator indicated that the airstrip is used on a permission-to-land basis by small private aircraft associated with flying clubs. The operator indicated that, given the scale and nature of aircraft using the facility, the Proposed Project is not expected to affect airstrip operations. Pooleys Flight Guide will be contacted.

Ireland West Airport

13.74 Due to the distance of the Main Wind Farm Development Site from the Airport (and as there are existing obstacles (e.g. existing wind farms)) it is unlikely that there will be any impacts on the instrument flight procedures (IFPs) for flights to/from Ireland West Airport.

13.75 The "Terrain and Obstacle Requirements Area" is defined in International Civil Aviation Organization (ICAO) Annex 15 as an area of up to 45 km from the Aerodrome Reference Point (ARP). The nearest wind turbine is approximately 60 km from the Ireland West ARP and therefore would not penetrate the Annex 15 distance. Existing tall objects, such as the turbines at the Oweninny Wind Farm, shield any potential impacts from the Main Wind Farm Development Site.

13.76 A building restricted area (BRA) is the airspace surrounding an aviation facility that needs to be clear from physical intrusions. The Main Wind Farm Development Site is over 65 km from the Ireland West BRA. At this distance the proposed turbines will have no impact on the BRA of Ireland West Airport.

13.77 The Main Wind Farm Development Site is not within 25 nautical miles of the Very High Frequency (VHF) Omni-directional Range Station (VOR) at Ireland West Airport. Minimum Sector Altitudes (MSA) provides a minimum obstacle clearance of 1000 ft above the highest obstacle within specified sectors. As the Main Wind Farm Development Site is more than 25 nautical miles from the VOR at Ireland West Airport, the MSAs will not be affected by the proposed turbines.

13.78 As the Main Wind Farm Development Site is approximately 70 km from the Localizers and transmitting antennas at Ireland West Airport, it is very unlikely that the proposed turbines will have any impact on these communications and radio navigational aids.

13.79 **Table 13-6** and **Table 13-7** show the Irish Aviation Authority Assessment Zone arrangement for the two types of aviation radar surveillance systems; Primary Surveillance Radar (PSR) and Secondary Surveillance Radar (SSR).

Table 13-6: PSR Zone Arrangements

Zone	Description Assessment	Requirements
Zone 1	0 – 500 m	Safeguarding
Zone 2	500 m – 15 km and in radar line of sight	Detailed Assessment
Zone 3	Further than 15 km and in radar line of sight	Simple Assessment
Zone 4	Not in radar line of sight	No Assessment

Table 13-7: SSR Zone Arrangements

Zone	Description	Assessment Requirements
Zone 1	0 – 500 m	Safeguarding
Zone 2	500 m – 16 km but within maximum instrumented range and in radar line of sight	Detailed Assessment
Zone 4	Further than 16 km or not in radar line of sight	No Assessment

13.80 The EUROCONTROL Guidelines require a 16 km safe distance for a "Zone 4 - No Assessment" SSR condition and detailed assessments are required for any proposed wind farm(s) within 16 km of a secondary surveillance radar.

13.81 It should be noted that in the UK, NATS (Air Traffic Control) safeguards SSR to a distance of 10 km. The guidelines used by NATS state that:

"Wind turbine effects on SSR are traditionally less than those on PSRs but can be caused due to the physical blanking and diffracting effects of the turbine towers, depending on the size of the turbines and the wind farm. These effects are typically only a consideration when the turbines are located very close to the SSR i.e. less than 10 km[3]."

13.82 To determine which Assessment Zones are applicable to the Proposed Development(s), a desktop assessment was carried out. The only radar surveillance site within the assessment zones indicated in **Table 13-6** or **Table 13-7** is the IAA Radar Site at Dooncarton, Co. Mayo, located approximately 14.2 km to the north of the Main Wind Farm Development Site.

13.83 The radar surveillance site at Dooncarton consists of a Secondary Surveillance Radar (SSR) system located in the six-story circular reinforced concrete communications tower shown in **Plate 13-1**. The SSR antennas are housed in the dome-shaped structure at the top of the tower. As set out in **Technical Appendix 13-2**, although nine of the proposed turbines at Muingmore would be located within 16 km of the SSR at Dooncarton, RLoS conditions do not exist due to terrain shielding, and therefore a detailed SSR radar

[3] Civil Aviation Authority (2016) *'CAA Policy and Guidelines on Wind Turbines'*, p. 22 https://www.caa.co.uk/publication/download/14561

assessment is not required. It is also noted that there are existing turbines (i.e. Bunnahowen Wind Farm), which are much nearer to the SSR than the proposed turbines at Muingmore.

13.84 The nearest primary surveillance radar sensor (PSR) is at Shannon Airport, c. 171 km from the Main Wind Farm Development Site, well outside the zones indicated on **Table 13-6**.

Plate 13-2: Dooncarton Radar Station

13.85 Nine of the proposed turbines (T1, T2, T3, T4, T5, T6, T7, T8 and T10) are located within 16 km of the SSR at Dooncarton. As detailed in **Technical Appendix 13-2**, to determine if there would be Radar Line-of-Sight (RLoS) between the SSR and the Main Wind Farm Development Site, radio path profiles were generated. These profiles showed that RLoS conditions do not exist for any of the nine turbines within 16 km of the SSR at Dooncarton due to terrain shielding. The findings of the assessment carried out in line with the EuroControl Safeguarding Guidelines indicate that the Proposed Project will not impact the SSR radar station at Dooncarton.

13.86 Flight checks are conducted annually to ensure that flight procedures and associated navigational aids are safe and accurate. These flight checks are carried out by an IAA approved Flight Inspection Service Provider. The checks are carried out during annual inspections consisting of radial and orbital test flights around Ireland West Airport for calibration of instrument landing systems.

13.87 It is unlikely that the Flight Inspection Procedures will be impacted as the Main Wind Farm Development Site is sufficiently far from the airport runways and the flight inspection procedures should already account for the existing obstacles (e.g. terrain and existing wind farms). As an extra measure of insurance, and as set out in **Technical Appendix13-2**, flight

checks are conducted annually by an IAA approved Flight Inspection Service Provider. The checks are carried out during annual inspections consisting of radial and orbital test flights around Ireland West Airport for calibration of instrument landing systems.

13.88 **Technical Appendix 13-1** confirms that in the event of a grant of planning consent the IAA-ANSP would require the lighting of the proposed wind turbines and it is recommended that lighting requirements should be in accordance with Chapter Q – Visual Aids for denoting Obstacles; CS ADR.DSN.Q.851 and GM.ADR.DSN.Q.851 (Pages 729/730) of the EASA Easy Access Rules for Aerodromes (Reg (EU) No. 139/2014) where it states that *"Applicability: When considered as an obstacle a wind turbine should be marked and/or lighted."* It is probable that any condition associated with a grant of planning permission would specify this detail. Any aviation lighting that is installed will also comply with the requirements of the IAA as set out in **Table 13-1**.

13.89 In the event of a grant of planning consent, the IAA is likely to require the lighting of the proposed wind turbines in accordance with the above rules in the interest of aviation safe-guarding as the Main Wind Farm Development Site may be considered as an en-route obstacle. The Applicant will agree and implement an aeronautical obstacle warning light scheme with the IAA.

13.90 The nearest of the Irish Air Corps (IAC) restricted areas to the Main Wind Farm Development Site is the Low Flying Training Area (LFTA) in Connemara – LFTA WEST. The extent of this LFTA is located approximately 49 km to the south of the Main Wind Farm Development Site. The Main Wind Farm Development Site is located outside of all IAC restricted areas and will have no impact on IAC activities.

13.91 The Garda Air Support Unit (GASU) consists of one fixed-wing aircraft and two helicopters. The Main Wind Farm Development Site is located in an area that is sparsely populated and on forested/boggy terrain. For these reasons, it is highly unlikely that it would have any significant effects on GASU operations. In the unlikely event of GASU operations in the general area, it should be noted that all modern aircraft are equipped with a range of Global Navigation Satellite Systems (GNSS), e.g. GPS, GLNASS, Galileo, etc., which provide pilots with accurate navigation information including data to avoid obstacles during VFR operations. Should the Proposed Development be permitted, the associated turbine locations will be submitted to the IAA and aviation charts and GNSS databases will be updated accordingly. Should the Proposed Development be permitted, the turbines will be fitted with the required aeronautical lighting and will be clearly marked in aviation charts.

13.92 The Emergency Aeromedical Services (EAS) currently operate two air ambulance helicopters operating from two bases:

- Custume Barracks, Athlone, Co Westmeath.
- Rathcoole Aerodrome, Rathcoole, Mallow, Co Cork.

13.93 The nearest EAS base to the Main Wind Farm Development Site is the base in Athlone. Helicopter landings are highly unlikely to occur in the subject area due to the forested / boggy terrain of the Main Wind Farm Development Site. Should the Proposed Development be permitted the associated turbine locations will be submitted to the IAA and aviation charts and GNSS databases will be updated accordingly. EAS helicopters would also be fitted with GNSS systems which would clearly identify any potential objects in the operational area (e.g. wind turbines). For these reasons, turbines at the Main Wind Farm Development Site will have no impact on EAS flights from Athlone.

13.94 **Table 13-8** below summarises the potential effects during construction, operation and decommissioning stages on the aviation interests laid out above.

Table 13-8: Summary of effects on aviation interests

Item	Impact	Summary
Annex 14 - Obstacle Limitation Surfaces (OLS)	Negligible	The proposed turbines are located outside the OLS Surfaces for Ireland West Airport.
Annex 15 - Aerodrome Surfaces	Low	Turbines at the Main Wind Farm Development Site would not penetrate the ICAO Annex 15 Aerodrome Surface for Ireland West Airport. If permitted, the proposed wind turbines will need to be included in the IAA Electronic Air Navigation Obstacle Datasets It should be noted that there are other existing tall structures nearer to Ireland West Airport (e.g. Oweninny, Raheen Barr wind farms) which are already listed in the IAA Aeronautical Electronic Obstacle Data Sets.
Building Restricted Areas	Negligible	A review shows that the Main Wind Farm Development Site is more than 65 km from the BRAs for Ireland West Airport. At this distance there would be no impacts due to the Proposed Project.
Minimum Sector Altitudes (MSA)	Negligible	A review of the MSA shows that the Main Wind Farm Development Site is outside 25 nautical miles from the VOR/ distance-measuring equipment (DME) at Ireland West Airport. Therefore, the MSA of the relevant sector will not be affected and there will be no impact on the published MSA altitude figures.
Instrument Flight Procedures (IFP)	Low	Due to the distance of Ireland West Airport, and the fact that there are existing obstacles nearer to it than the Main Wind Farm Development Site will be, it is highly unlikely that any of the 16 IFPs will be impacted. Flight checks are conducted annually by an IAA approved Flight Inspection Service Provider to ensure that flight procedures and associated navigational aids are safe and accurate.
Communication and Navigation Systems	Low	As the Main Wind Farm Development Site is over 70 km from the Localizer and transmitting antenna at Ireland West Airport, it is very unlikely that the Main Wind Farm Development Site will have any impact on Air Traffic Service (ATS) communications and radio navigational aids. it is anticipated that Mayo County Council (MCC) will liaise with the Irish Aviation Authority in its assessment of the Proposed Development. The airport operator will be consulted during the planning application stage.
Radar Surveillance Systems Safeguarding	Negligible	Radar Line-of-Sight (RLoS) analysis indicates that RLoS conditions do not exist between the SSR at Dooncarton and any of the proposed turbines at the Main Wind Farm Development Site. Therefore, the turbines would be in EuroControl Radar Assessment Zone 4 and a detailed SSR radar should not be required by the IAA. It should also be noted that there is an existing wind farm in operation which is considerable nearer to Dooncarton, than the Main Wind Farm Development Site. The turbines at this wind farm (Bunnahowen WF) are just 9.6

Item	Impact	Summary
		km from the SSR at Dooncarton and are operating without causing any issues to the SSR radar system.
Flight Inspection and Calibration	Negligible	A review of the Flight Inspection and Calibration Procedures indicates that there will be no impacts due to the Main Wind Farm Development Site.
Aeronautical Obstacle Warning Light Scheme	Low	An aeronautical obstacle warning light scheme will be agreed with the IAA prior to erection of the wind turbines.
Irish Air Corps / DoD Safeguarding	Negligible	An assessment of Irish Air Corps Wind Farm/ Tall Structures Position Paper indicates that there would be no impact on IAC activities due to the Main Wind Farm Development Site.
Garda Air Support Unit and Emergency Aeromedical Service	Negligible	GASU and EAS operations are unlikely to be impacted by the Main Wind Farm Development Site given its remote location and sparse surrounding population.

13.95 The maximum impact to aviation impacts has been identified as **Slight** magnitude and **Long term** across all stages of the Proposed Project (construction, operation and decommissioning). The receptor sensitivity is deemed as **Medium**, given that none of the aviation interests have been identified as vulnerable during scoping and consultation. Therefore, the potential effects on aviation interests are **Not Significant** in EIA terms.

Future Baseline

13.96 If the Proposed Project was not to proceed there would be no potential disturbance to aircraft within and surrounding the application area. Given the lack of zoning on the Main Wind Farm Development Site and its rural location, it would be very unlikely that any potential impacts to aviation infrastructure would arise there in the foreseeable future.

Mitigation Measures and Residual Effects

13.97 An aeronautical obstacle warning light scheme will be agreed with the IAA prior to erection of the wind turbines. An aeronautical obstacle warning light scheme will be agreed with the IAA prior to erection of the wind turbines. There are a number of options for available lighting schemes, the most suitable of which the Applicant would commit to installing (e.g. Cardinal or Perimeter Lighting, Reduced Lighting Aircraft Detection System or Reduced Intensity Shielding and Directional Intensity Obstacle Zone Agreement). These schemes would ensure compliance with the requirements of these consultees and would also avoid/mitigate significant effects on sensitive receptors (e.g. residential visual amenity and other visual receptors and biodiversity receptors).

13.98 Given that the IAA has not provided any feedback in relation to the Belmullet Aerodrome, it is recommended that the operator of this facility is consulted by Mayo County Council during the latter's consideration of the planning application. Any mitigation measures requested by those operators will be considered by the planning officers in their assessment of the Proposed Development. It is also anticipated / recommended that Ireland West Airport will be consulted directly by MCC on the planning application so that they can be afforded an opportunity to provide feedback on their system requirements.

13.99 The proposed wind turbines will be required to be included in the IAA Obstacle Data Set. The coordinates and elevations for turbines will be supplied to the IAA and GNSS at the end of the construction phase.

13.100 It is probable that the IAA would request that the turbines within the Main Wind Farm Development Site, if permitted, would be fitted with Aeronautical Obstacle Warning Lights in accordance with industry standards. The Applicant commits to agreeing and implementing the appropriate lighting measures. With the implementation of mitigation measures the residual effects on aviation interests is **Slight (Not Significant** in EIA terms). All current mitigation measures (i.e. identified through this EIA process) are detailed in the Construction Environmental Management Plan (CEMP) which will be updated throughout the Proposed Project. Any additional requirements / undertakings following continued consultation with aviation bodies will be added to the CEMP.

Cumulative Effects

13.101 Existing tall structures in the IAA Electronic Air Navigation Obstacle Data Set, such as the turbines at Bunnahowen, Sheskin, Oweninny, Raheen Barr, Derrynadivva, Bunnyconnellan and Carrowleagh, shield the Proposed Project from any potential impacts on the Annex 15 Aerodrome Surface of Ireland West Airport.

13.102 The proposed and permitted projects that are identified in **Table 2-5**, **Chapter 2** of this EIAR relate to wind farms and energy infrastructure upgrades as well as one project relating to the infill of agricultural land c. 13.1 km to the north-west of the Main Wind Farm Development Site.

13.103 The closest wind energy development to the Main Wind Farm Development Site is Bunnahowen Wind Farm (P. Ref. 18/873), a 3-turbine wind farm, located approximately 4.6 km to the north. It is not considered to be a development of a scale and proximity to give rise to adverse cumulative air navigation effects. Of these developments, the only types that are likely to give cause to cumulative effects with aviation are the wind farms, due to the height of the turbines. Each of these developments will be considered on its own merits in terms of aeronautical safeguard mapping, therefore their cumulative effect will not be significant.

Statement of Significance

13.104 The potential effects on air navigation from the Proposed Project are considered to be **Not Significant** in terms of the EIA regulations.

Built Services - Telecommunications

Methodology and Guidance

13.105 This section of the assessment focuses particularly on the scoping and consultation exercise conducted with telecommunications operators (identified within **Table 13-1** set out earlier in this chapter which identified all those organisations contacted The methodology was carried out in line with the Irish Wind Energy Association guidelines which provides a recommended list of telecommunications operators for consultation.

The following assessment methodology was applied in this assessment:

- Wide ranging consultation with all known telecommunications operators (TOs) that could potentially be affected by the Proposed Project.
- Consultation with the Irish Aviation Authority.
- Data gathering exercise to establish all known telecommunications links through consultation responses.

- Use of data collected from the TOs, to inform constraints mapping in design of the Proposed Project, identify separation distance of the Proposed Project from existing telecommunications links and masts and if necessary, identify mitigation measures.

Baseline Environment

13.106 During the consultation and scoping processes for the Proposed Project, private utilities and telecommunications companies were consulted to inform the proposed design.

13.107 A review of Eir mapping[4] (see image in **Plate 13-3** below) has also been undertaken to identify the above and below ground services that are mapped for the national duct and pole telecommunications network in the local area. This indicates that there is Eir infrastructure along the western boundary of the Main Wind Farm Development Site, adjacent to the Southern Cluster.

13.108 Consultation undertaken with telecommunications during the Scoping stage is a key basis of the assessment of potential impacts and these are therefore included in the assessment section below.

Assessment of Potential Effects

Construction, Operational and Decommissioning Phase

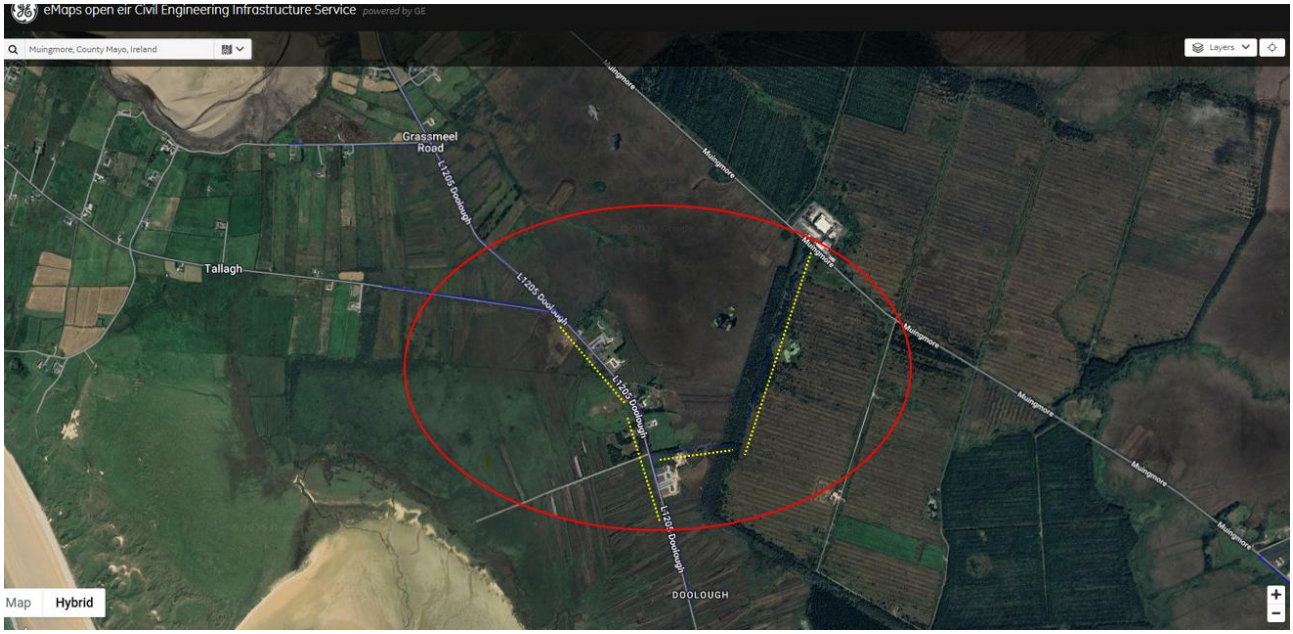
13.109 Given that the main potential impacts to telecommunications arise from the nature of the height of the wind turbine structures and cranes required for their construction and decommissioning, all phases are considered as one in this instance.

13.110 Owing to their general height and rotation of their blades, wind turbines have the potential to cause a variety of adverse effects on telecommunications signals during all stages that they are even partially present. Actual variations in hub height or rotor diameter do not affect the likely operational effect on telecoms operators, therefore this assessment applies irrespective of which turbine and all permutations within the range is installed

13.111 The Irish Wind Energy Association (IWEA) 2012 guidelines, “Best Practice Guidelines for the Irish Wind Energy Industry”, indicate that wind turbines within 20 km of a radio navigation aid can have the potential to cause electro-magnetic interference with these signals.

[4] https://cei.openeir.ie/ accessed 25 July 2025

Plate 13-3: Eir Infrastructure in vicinity of the Main Wind Farm Development Site. Red outline to indicate area of interest and yellow dashed line overlays faint line on Eir Mapping indicating their civil engineering infrastructure



13.112 Interference to a communication system can occur in the following ways:

- Electromagnetic fields associated with the wind turbine generator;
- Signal scattering as a result of the obstruction presented by the blades, an effect that mimics the presence of a lower power source operating from the location of the wind turbine; and
- Signal obstruction as it passes through the area swept by the rotating blade or the tower.

13.113 Excavation of the cable trenches and jointing bays for the Proposed Project (i.e. including the GCR) could potentially damage existing telecommunications cables. Once the Proposed Project is operational if consented, the potential for a negative impact on telecommunications cables would be minimal, as all infrastructure will be in a fixed location. As set out in **Chapter 2**, searches of existing utility services were carried out during selection of the route of the 25.5 km GCR and records of services such as water mains, sewers, gas mains and other power cables will be obtained from the relevant service providers ahead of construction works to ensure that any new developments between the period of assessment and pre-- construction is captured.

13.114 During the construction works, including in the TDR Over-run Areas, cable detection tools, ground penetrating radar, and slit trenches will be used as appropriate to find the exact locations of existing services. The final location of the cable route within the public carriageway will be selected following these investigatory works to minimise conflicts with other services.

13.115 A minimum separation distance of 300 mm will be maintained with existing services as per Health and Safety Authority recommendations in the Code of Practice For Avoiding Danger From Underground Services (2010, updated in 2016).

13.116 During the construction phase, there may be several sources of temporary electromagnetic emissions, such as through intermittent use of electrical power tools and the use of electrical generators which may be brought on-site prior to long term grid connection.

13.117 These devices are required by Irish and European law to comply with the EMC Directive 2014/30/EU. Compliance with this Directive will mean that the electromagnetic emissions from these devices will not cause interference to other equipment.

13.118 Other potential effects during the construction phase are likely to be as a result of tall cranes used for constructing the turbines. As these cranes will have a similar footprint to the proposed turbines any interference effects are likely to be similar to those arising during the operational phase (see below).

13.119 During operation, wind turbines have the potential to interfere with electromagnetic signals passing above the ground due to the nature and size of the wind farm. Impacts can include reflection, diffraction, blocking and radio frequency interference.

13.120 Consultation has been undertaken with various interested parties as part of the scoping exercise. Eir confirmed that there are no transmission links within the Main Wind Farm Development Site and there are no risks to the network for Eir Mobile or the Eir fixed network.

13.121 2RN confirmed that there is risk of interference to broadcast services from their site on Achill Island, hence a request was made for a protocol to be signed between 2rn (RTÉ Networks) and the Applicant should the Proposed Development be permitted. This is standard feedback and arrangements will be made to pursue discussions with 2rRN regarding signing the protocol once planning permission has been granted.

13.122 Tetra Ireland confirmed that they have equipment approximately 600 m to the south of the Main Wind Farm Development Site boundary, which has a specified 500 m exclusion zone surrounding it.

13.123 Field surveys of telecom masts in the vicinity of the Main Wind Farm Development Site were carried out. These are detailed in **Technical Appendix 13-3**. During the field surveys, radio antennas with bearings in the direction of the Main Wind Farm Development Site were carried out. The telecom masts sites survey were labelled Mast-Site A to Mast-Site E.

13.124 Mast-Site A, in the townland of Dooncarton, Co. Mayo is c. 14 km north of the Main Wind Farm Development Site. Enet is the only telecom operator with radio links at the site in the direction of the Main Wind Farm Development Site. Mast-Site B, in the town of Belmullet, Co. Mayo is c. 10 km northwest of the Main Wind Farm Development Site. No telecom operators have radio links at this site in the direction of the Main Wind Farm Development Site. Mast-Site C, in the town of Bangor Erris, Co. Mayo is c. 9 km east of the Main Wind Farm Development Site. No telecom operators have radio links at this site in the direction of the Main Wind Farm Development Site. Mast-Site D, in the townland of Lagduff Beg, Co. Mayo is c. 7 km southeast of the Main Wind Farm Development Site. No telecom operators have radio links at this site in the direction of the Main Wind Farm Development Site. Mast-Site E, in Minaun Mt., Achill, Co. Mayo is c. 21 km southwest of the Main Wind Farm Development Site. No telecom operators have radio links at this site in the direction of the Main Wind Farm Development Site.

13.125 Results from the telecom operator consultations and desktop survey analysis indicate that there are no Licensed PTP microwave radio links that cross over the Main Wind Farm Development Site.

13.126 The nearest elements of the Proposed Development (Turbine 8 and the met mast) to the Eir infrastructure indicated in **Plate 13-3** will be constructed in accordance with standard construction management procedures in relation to overhead poles and underground cables. It is unlikely, but possible, that overhead/underground Eir services where present along the road network may require diversion or be temporarily disrupted during the construction of the Proposed Project. This has the potential to impact on nearby dwellings and commercial / industrial activities for localised areas for very short periods of time, i.e. no more than a number of hours.

13.127 Given the above, the potential impact on telecommunications infrastructure has been identified as **Slight** magnitude and **Long term** across all stages of the Proposed Project (construction, operation and decommissioning). The receptor sensitivity is deemed as **Medium**, given that none of the telecommunication service providers have identified issues of concern during scoping and consultation. Therefore, the potential effects on telecommunication interests are **Not Significant** in EIA terms.

Future Baseline

13.128 If the Proposed Project was not to proceed there would be no potential disturbance to phone services or broadcasting/microwave links at the application area. Given the lack of zoning on the Main Wind Farm Development Site, its unlikely development for large-scale infrastructure and its rural location, it would be very unlikely that any potential impacts to telecommunication infrastructure would arise there in the foreseeable future.

Mitigation Measures and Residual Effects

13.129 All aspects of the design of the Proposed Project have been developed with the aim of avoiding impacts on overhead utility infrastructure such as power and telecoms lines.

13.130 Consultation with telecommunications operators has not identified any conflicts with their infrastructure. The Main Wind Farm Development Site is located outside the 500 m buffer zone requirement from Tetra Ireland's equipment (see **Table 13-1**). As a risk of interference to broadcast services in the area has been raised by as requested by 2RN, a protocol will be signed between 2RN and the Applicant, should planning permission be granted for the Proposed Development.

Ground-Penetrating Radar (GPR) technology will be used as standard construction management to locate and map underground utilities before any ground work or excavation begins. Where any disturbance to overground or below ground cables will require short-term disruption to telecommunications services this will be communicated in writing in advance to the potentially impacted residents.

13.131 All mitigation measures are detailed in the CEMP, which will be updated throughout the Proposed Project.

13.132 With the implementation of mitigation measures the residual effects on telecommunications is Slight (**Not Significant** in EIA terms).

Cumulative Effects

13.133 All known existing and proposed developments that could potentially generate a cumulative impact with the Proposed Project during construction, operation and decommissioning were identified and examined as part of this assessment.

13.134 The proposed and permitted projects that are identified in **Table 2-5**, **Chapter 2** of this EIAR relate to wind farms and energy infrastructure upgrades as well as one project relating to the infill of agricultural land c. 13.1 km to the north-west of the Proposed Project.

13.135 Of these developments, the only types that are likely to give cause to cumulative effects with telecommunications are the wind farms, due to the height of the turbines. Each of the applicants for these projects has consulted the telecommunications operators in the area with their specific design proposals and incorporated the recommended mitigation measures into the ultimate project, therefore their cumulative effect will not be significant.

13.136 There will be no cumulative effects in relation to the Proposed Project and surrounding projects in relation to telecommunications given the consideration of the design and mitigation measures proposed for the Proposed Project, described in **Sections 13.130-133** above.

13.137 During the development of any large project that holds the potential to affect telecoms or aviation, the Applicant is responsible for engaging with all relevant telecommunications operators and aviation authorities to ensure that the proposals will not interfere with television or radio signals by acting as a physical barrier. In the event of any potential impact, the Applicant for each individual project is responsible for ensuring that the necessary mitigation measures are in place. Therefore, as each project is designed and built to avoid effects arising, a cumulative impact is unlikely to arise.

13.138 Consultation with telecommunications operators and aviation bodies has been conducted in order to identify any potential effects the Proposed Project may have on telecommunications and aviation. Other existing, consented and planned proposed developments have also been examined for potential cumulative impacts to telecommunications and aviation. No potential cumulative effects have been identified.

Statement of Significance

13.139 Potential effects on television and radio signals from the Proposed Project will be prevented through standard construction management measures and protocol signing, as appropriate. Therefore, the effects on telecommunications are considered to be **Not Significant** in terms of the EIA Regulations.

Built Services - Electricity Networks

Baseline Environment

13.140 During the consultation and scoping processes for the Proposed Project, searches of existing utility services were carried out to identify existing major assets such as high-voltage electricity cables.

13.141 Mapped ESB Network data has also been consulted in order to identify the above and below ground infrastructure present in the study area. **Figure 13-1** shows the extent of electricity services in the Main Wind Farm Development Site and the immediate surrounds.

13.142 **Figure 13-1** shows:

- Low voltage overhead line that traverses the Main Wind Farm Development Site along the L5252.
- A network of low voltage transmission lines throughout the surrounding local area, predominantly running parallel to the public road network and connecting local residents and agricultural developments with the national grid supply.
- No medium or high voltage transmission infrastructure is contained within the Study Area.

Assessment of Potential Effects

Construction and Decommissioning Phase

13.143 Excavation of the cable trenches and jointing bays for the Proposed Project (i.e. including the GCR) could potentially damage existing underground electricity cables. As with any construction activity, care also needs to be taken to also protect overhead power cables. Searches of existing utility services were carried out during selection of the route of the 25.5 km GCR. Records of services such as water mains, sewers, gas mains and other power cables will be obtained from the relevant service providers ahead of construction works (including in the TDR Over-run Areas) to ensure that all new developments between the period of assessment and pre-- construction is captured.

13.144 Where required, cable detection tools, ground penetrating radar, and slit trenches will be used as appropriate to find the exact locations of existing services. The final location of the cable route within the public carriageway will be selected following these investigatory works to minimise conflicts with other services.

13.145 A minimum separation distance of 300 mm will be maintained with existing services.

13.146 The above and underground electricity supply infrastructure will be safeguarded through the specified mitigation measures during construction and decommissioning of the Proposed Project. It is intended to connect the Proposed Project to the national network through an underground 110kV cable route to the Bellacorick Substation.

13.147 The specifications for cables and cable installation will be in accordance with EirGrid requirements.

13.148 National grid connection will be sought from the grid system operator by application to EirGrid. The Grid Connection will be constructed to the requirements and specifications (CDS-GFS-00-001-R1) of EirGrid.

13.149 Ongoing engagement will be carried out with Eirgrid and ESB Networks throughout the pre-construction stage and implementation of the Proposed Project. This, along with standard construction management practices will ensure that there are no unacceptable impacts to existing utilities such as overhead and underground powerlines.

13.150 Given the above, the potential impact on the electrical infrastructure network during construction and decommissioning has been identified as **Slight** magnitude and **Long term**. The receptor sensitivity is deemed as **Medium**, given that no specific issues of concern have been raised during scoping and consultation. Therefore, the potential effects on the electricity network are **Not Significant** in EIA terms.

Operational Phase

13.151 Once built, the potential for a negative impact on electrical cables would be minimal, as all infrastructure will be in a fixed location. The Proposed Project will contribute to the energy

transition to renewable energy. The on-site substation and GCR will be taken in charge by ESBN/EirGrid upon completion and will be left in place forming part of the national electricity network.

13.152 This will represent a **Medium** beneficial impact **Long term** on the **Medium** sensitivity receptor, which is **Not Significant** in EIA terms.

Future Baseline

13.153 If the Proposed Project was not to proceed there would be no potential disturbance to electrical supplies within and surrounding the application area. However, there would not be an opportunity for the Main Wind Farm Development Site (with its identified wind resource available) to contribute to the safeguarding of the national electricity supply which can no longer rely on fossil fuel sources. Given the lack of zoning on the Main Wind Farm Development Site, its unlikely development for large-scale infrastructure and its rural location, it would be very unlikely that any potential impacts to electricity infrastructure would arise there in the foreseeable future.

Mitigation Measures and Residual Effects

13.154 All aspects of the design of the Proposed Project have been developed with the aim of avoiding impacts on overhead utility infrastructure such as power and telecoms lines.

13.155 Standard construction management measures will ensure that underground and overhead ESB Networks infrastructure will be safeguarded during construction and decommissioning. Safe clearance zones will be marked to identify and protect overhead power cables from construction machinery. Measures such as GPR surveys prior to any excavation works and minimum separation distance of at least 300 mm with existing services are detailed in the CEMP

13.156 Collaboration will continue between the applicant, Eirgrid and ESB Networks and any temporary disturbances will be planned and communicated with those impacted well in advance of works being carried out.

13.157 With the implementation of mitigation measures the residual effects on the electricity network is **Not Significant** in EIA terms.

Cumulative Effects

13.158 The proposed and permitted projects that are identified in **Table 2-5**, **Chapter 2** of this EIAR relate to wind farms and energy infrastructure upgrades as well as one project relating to the infill of agricultural land c. 13.1 km to the north-west of the Proposed Project.

13.159 The proposed wind farms and energy upgrades will all connect to the national grid and will be undertaken in consultation with ESB Networks as part of a national upgrade.

13.160 The cumulative effects are beneficial and will be managed through ESB Network's overall responsibility to manage the country's electricity networks and delivery of the National Development Plan.

Statement of Significance

13.161 The potential effects to short term energy supply are considered to be **Not Significant** in terms of the EIA Regulations. The potential contribution of the Proposed Project to contributing to the long term security of energy and reduced dependence on fossil fuels is

considered too far outweigh any potential adverse effects, particularly given the substantial renewable energy resource available within County Mayo as set out in **Chapter 3.**

Built Services - Gas Services

Baseline Environment

13.162 During the consultation and scoping processes for the Proposed Project, searches of existing utility services were carried out to identify areas where existing major assets exist such as high-voltage electricity cables and gas mains. Private utilities and telecommunications companies were also consulted during this period to inform the proposed design.

13.163 Gas Networks Ireland have confirmed that there is no recorded Gas Transmission Pipeline within the area of the Proposed Project. This will be confirmed by GPR surveys to be undertaken prior to any excavation works to identify any below ground infrastructure.

13.164 GNI Dial Before You Dig mapping[5] has been consulted and shows that the closest transmission pipe (high pressure) is approximately 12 km northeast of the Main Wind Farm Development Site. Therefore, the potential impact on gas services has not been considered further in this EIAR.

Built Services - Water Supply and Sewerage

Baseline Environment

13.165 The information on water supply and sewerage contained within this chapter is based on the technical assessment contained within **Chapter 7** of this EIAR. The hydrological and hydrogeological study area comprises the Main Wind Farm Development Site and the surrounding area to a minimum of 2 km to reflect the sensitivity of the subsurface in the area (IGI EIS Guidelines, 2013). In accordance with the specialist guidelines, the study area can extend beyond a 2 km radius from the Planning Application Area in certain circumstances where there is a direct hydrological or hydrogeological link to a sensitive receptor and if it is considered that the Proposed Project has the potential to impact on a waterbody.

13.166 As set out in **Chapter 7**, there is no Group Water Scheme (GWS_ or Public Water Supply (PWS) schemes within 2 km of the Main Wind Farm Development Site, the TDR Over-run Areas or the GCR. Eight water supply schemes are located along the TDR route, six of which are GWS and two are PWS.

13.167 GSI has an online database of wells and springs in Ireland; however it should be noted this database is not extensive.

13.168 **Chapter 7** has identified one well within the hydrological study area of 2 km surrounding the Main Wind Farm Development Site. This well (0531SEW001) has a depth of 28 m with a 4.3 m depth to bedrock. It is used for both agricultural and domestic purposes. However, its yield has been classed as a failure with a source yield of only 2.7 m^3/day. This well is shown on **Figure 7-9**. The next closest well is reported as being 11.5 km north of the Main

[5] https://www.gasnetworks.ie/home/safety/dial-before-you-dig/

Wind Farm Development Site, which is the well that supplies the Drum Binghamstown GWS.

13.169 There is one well situated along the GCR and it is located at the end of the route, at the Bellacorick Power Station. This borehole (0831SEW005) has a depth of 160 m and a 19.8 m depth to bedrock. It is used for industrial purposes and its yield has been classed as good with a source yield of 218 m^3/day.

13.170 Over 150 wells were identified within 2 km of the 27 TDR nodes.

13.171 **Chapter 7** of this EIAR provides a technical assessment of private well and abstraction sites in the surrounding region that are available in national database records.

13.172 There is no mains sewerage infrastructure present within the Main Wind Farm Development Site.

Assessment of Potential Effects

Construction, Operational and Decommissioning Phases

13.173 The potential impacts on water services are identified in greater detail in **Chapter 7**. According to the GSI well database, there is one well within 2 km of the study area surrounding the Main Wind Farm Development Site. However, its yield has been classed as a failure with a source yield of only 2.7 m^3/day.

13.174 As there are no underground services relating to any private water supply schemes, there is no potential to impact on nearby dwellings and commercial / industrial activities. As set out in **Chapter 2**, records will be sought from the relevant service providers ahead of construction works to ensure that any new developments between the period of assessment and pre- construction is captured.

13.175 Prior to the commencement of any groundworks in the Main Wind Farm Development Site, the TDR Over-run Areas or along the GCR, cable detection tools, ground penetrating radar, and slit trenches will be used, as appropriate, to confirm the exact locations of existing services. The final location of the cable route within the public carriageway will be selected following these investigatory works to minimise conflicts with other services.

13.176 A minimum separation distance of 300 mm will be maintained with existing services.

13.177 Potable water for workers will be imported to the Main Wind Farm Development Site for all stages of the Proposed Project. Portaloo infrastructure will be imported to site to cater for waste water management required for site workers. All portaloo units located on the Main Wind Farm Development Site during the construction phase will be operated and maintained in accordance with the manufacturer's instructions and sanitary waste will be removed from site by a licensed waste disposal contractor. All such units will be removed off-site following the completion of the construction phase.

13.178 The welfare facilities within the control buildings of the BESS and substation compounds will be available for use in the operational period. Following decommissioning, the welfare facilities will remain within the substation compound. It is proposed to install a rainwater harvesting system as the source of water for toilet facilities and this rainwater harvesting tank will be installed adjacent to the control buildings. It is proposed to manage wastewater from the staff welfare facilities in the control buildings by means of a sealed storage tank, with all wastewater being tankered off-site by a permitted waste collector to a wastewater treatment plant. The proposed wastewater storage tank will be fitted with an automated alarm system that will provide sufficient notice that the tank requires emptying.

13.179 Given the above, the potential impact on water supply and quality during all stages of the Proposed Project (Construction, Operation and Decommissioning) has been identified as **Slight** magnitude and **Long term**. The receptor sensitivity is deemed as **Medium**, given that no specific issues of concern have been raised during scoping and consultation. Therefore, the potential effects on the electricity network are **Not Significant** in EIA terms.

Future Baseline

13.180 If the Proposed Project was not to proceed there would be no potential disturbance to water supply or wastewater infrastructure within and surrounding the Main Wind Farm Development Site. Given the lack of zoning on the Main Wind Farm Development Site, its unlikely development for large-scale infrastructure and its rural location, it would be very unlikely that any potential impacts to water infrastructure would arise there in the foreseeable future.

Mitigation Measures and Residual Effects

13.181 Where excavations will be required in areas close to roads for the GCR and in known areas of water supply and wastewater infrastructure, cable detection tools, ground penetrating radar, and slit trenches will be used as appropriate to confirm the exact locations of existing services. Temporary warning signs will be placed where necessary. The final location of the cable route within the public carriageway will be selected following these investigatory works to minimise conflicts with other services. A minimum separation distance of 300 mm will be maintained with existing services. These measures are detailed in the CEMP, which will be updated with additional detail throughout the Proposed Project.

13.182 With the implementation of mitigation measures there will be no long-term effects to water supply or wastewater infrastructure as a result of the Proposed Project and the effect significance will be **Not Significant** in EIA terms.

Cumulative Effects

13.183 The proposed and permitted projects that are identified in **Table 2-5**, **Chapter 2** of this EIAR relate to wind farms and energy infrastructure upgrades as well as one project relating to the infill of agricultural land c. 13.1 km to the north-west of the Proposed Project.

13.184 Each of these developments have been assessed on their own merits and incorporate measures to ensure the safeguarding of water quality and security of water availability.

13.185 Therefore, the potential for cumulative effects is not considered to be significant.

Statement of Significance

13.186 The potential effects to water supply and wastewater from the Proposed Project are considered to be **Not Significant** in terms of the EIA regulations.

Built Services - Waste Generation / Management

Baseline Environment

13.187 As the Main Wind Farm Development Site does not host any substantial built development or production activities there is no formal waste management procedure in place for the existing site.

Assessment of Potential Effects

Construction and Decommissioning Phases

13.188 The construction and decommissioning phases of the Proposed Project will result in the generation of standard construction waste. The following categories of waste will most likely be generated during the construction phase of the Proposed Project:

- construction and demolition waste;
- waste oil and hydrocarbons;
- paper and cardboard;
- timber and steel; and
- municipal solid waste generated from the office and canteen.

13.189 A dedicated waste compound area will be established, with areas to be specified for each waste stream. Any materials that have potential to be reused on-site will be stored in a 'Site Recycling' area. Remaining waste materials will be collected, separated and stored in dedicated receptacles at the temporary compounds during works. It is the responsibility of the contractor for these phases (when they are appointed) to nominate a suitable site representative (such as a Project Manager or Site Manager) as the Waste Manager who will have overall responsibility for the management of waste. The Waste Manager will have overall responsibility to instruct all site personnel including subcontractors to comply with on-site requirements.

13.190 Waste will be transferred to a licensed waste management site or site with a waste exemption. The Project Supervisor will check that site is licenced and that the licence permits the site to take the type and quantity of waste involved. Copies of the waste management licence or waste exemption license would be held on file.

13.191 Construction / decommissioning style waste will be collected for disposal by authorised contractors. Given the above, the potential impact on waste generation and management during all construction and decommissioning stages of the Proposed Project has been identified as **Slight** magnitude and **Long term**. The receptor sensitivity is deemed as **Medium**, given that no specific issues of concern have been raised during scoping and consultation. Therefore, the potential effects on the electricity network are **Not Significant** in EIA terms.

Operational Phase

13.192 Operational waste will be limited but will be managed in accordance with the Operator's standard practices and will be collected for disposal by authorised contractors.

13.193 Given the limited waste generation streams during the operational stage of the Proposed Project, the impact is identified as **Slight** magnitude and **Long term**. The receptor sensitivity is deemed as **Medium**, given that no specific issues of concern have been raised during scoping and consultation. Therefore, the potential effects on waste at this stage are **Not Significant** in EIA terms.

Future Baseline

13.194 Informal waste management from forestry uses would continue at the Main Wind Farm Development Site should the Proposed Project not proceed.

Mitigation Measures and Residual Effects

13.195 The waste management measures identified in the relevant section of the CEMP (**Technical Appendix 2-1**) will continue to be updated with specific measures to reduce, reuse and recycle waste during construction of the Proposed Project.

13.196 A fully authorised and licenced waste management contractor will be appointed prior to the commencement of construction works. This contractor will provide the appropriate receptacles for the collection of the various waste streams and ensure regular emptying and/or collection of these receptacles.

13.197 Residual waste generated on-site will require disposal. This waste will be deposited within dedicated receptacles and collected by the permitted waste management contractor who will then transport this waste to an appropriate facility. All waste movements will be recorded, and the waste manager on-site will hold these records.

13.198 With the implementation of mitigation measures the residual effect on waste management across all stages of development is **Not Significant** in EIA terms.

Cumulative Effects

13.199 The proposed and permitted projects that are identified in **Table 2-5**, **Chapter 2** of this EIAR relate to wind farms and energy infrastructure upgrades as well as one project relating to the infill of agricultural land c. 13.1 km to the north-west of the Proposed Project.

13.200 Each of these developments have been assessed on their own merits and incorporate measures to ensure the appropriate avoidance and management of waste.

13.201 Therefore, the potential for cumulative effects is not considered to be significant.

Statement of Significance

13.202 The potential waste effects of the Proposed Project are considered to be **Not Significant** in terms of the EIA regulations.

Further Survey Requirements and Monitoring

13.203 Although not under the direct control of the applicant, flight checks are conducted annually by an IAA approved Flight Inspection Service Provider. The checks will provide whether any interference between the Proposed Project and any aviation interests is caused.

13.204 Cable detection tools, Ground Penetrating Radar, and slit trenches will be used as appropriate to confirm the exact locations of underground service infrastructure prior to any groundworks being carried out.

Summary of Predicted Effects

13.205 There has been **No Significant** effect in terms of the EIA regulations identified on any element of built infrastructure not otherwise assessed in the EIAR.

Conclusion

13.206 This assessment has considered the potential for impacts on existing infrastructure or resources in and around the application area that are not addressed elsewhere in the EIAR. The potential loss of land availability, generation of waste without appropriate capacity for its management and inadequate capacity or undue burden on service infrastructure such

as electricity, telecommunications, aviation, gas, water supply infrastructure and sewerage have been assessed. Consultation with service providers has been carried out to enable the assessment and this collaboration will be extended through the planning determination period. It has been concluded that there will be No Significant effect in terms of the EIA regulations on any of the material assets identified herein, during the construction, operation or decommissioning phases of the Proposed Project.

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Figures

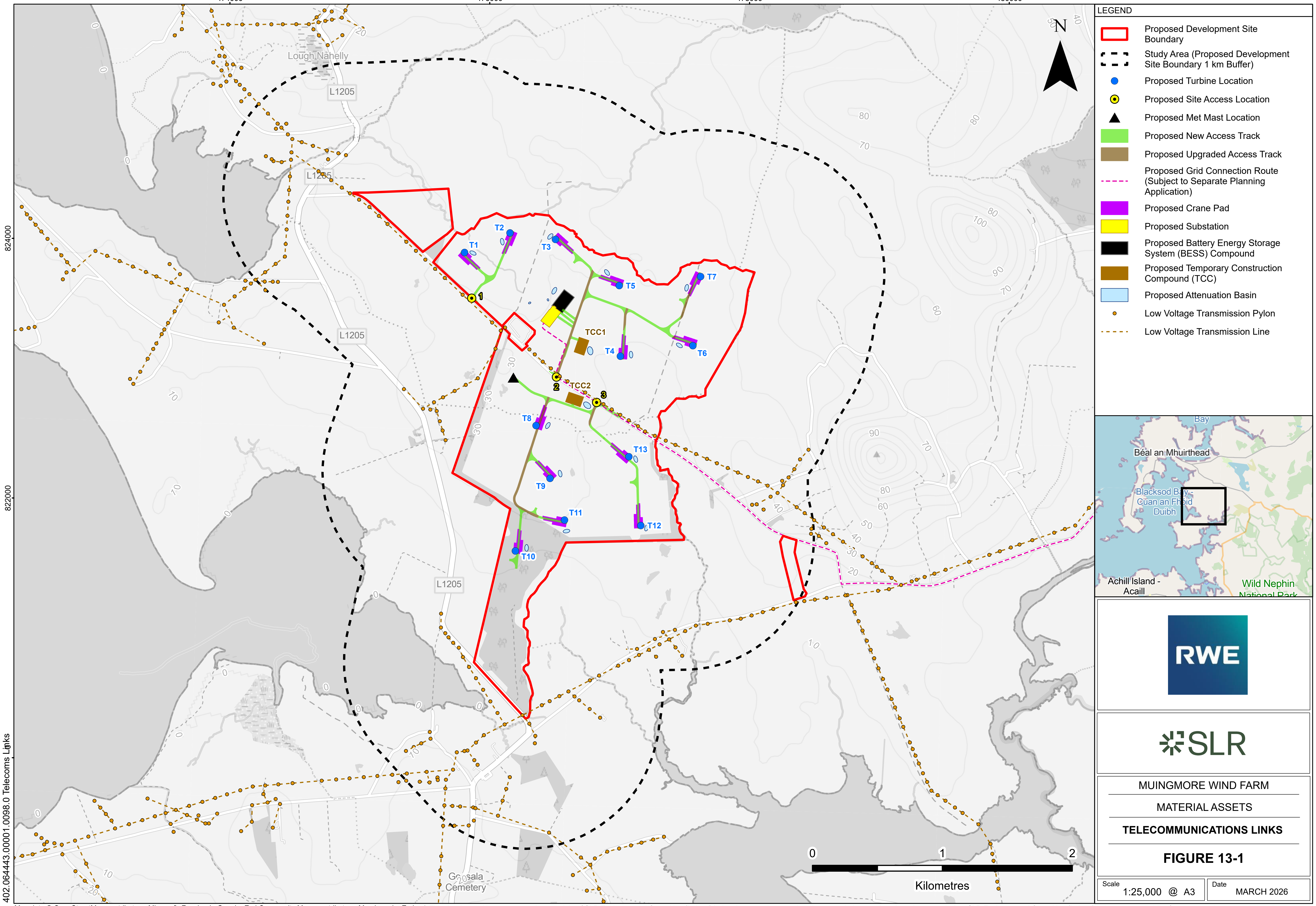
Technical Appendices

Technical Appendix 13-1: Air Corps Wind Farm/Tall Structures Position Paper

Technical Appendix 13-2: Aviation Review Statement

Technical Appendix 13-3: Telecommunications Impact Study

(Refer to EIAR Volume 3 for Technical Appendices)



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Gosala Cemetery
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Kilometres
LEGEND
Proposed Development Site Boundary
Study Area (Proposed Development Site Boundary 1 km Buffer)
Proposed Turbine Location
Proposed Site Access Location
Proposed Met Mast Location
Proposed New Access Track
Proposed Upgraded Access Track
Proposed Grid Connection Route (Subject to Separate Planning Application)
Proposed Crane Pad
Proposed Substation
Proposed Battery Energy Storage System (BESS) Compound
Proposed Temporary Construction Compound (TCC)
Proposed Attenuation Basin
Low Voltage Transmission Pylon
Low Voltage Transmission Line
Béal an Mhuirthead
Blacksod Bay - Cuan an Fhóid Dhuibh
Achill Island - Acaill
Wild Nephin National Park
RWE
SLR
MUINGMORE WIND FARM
MATERIAL ASSETS
TELECOMMUNICATIONS LINKS
FIGURE 13-1
Scale 1:25,000 @ A3
Date MARCH 2026
402.064443.00001.0098.0 Telecoms Links

450000 460000 470000 480000 490000 500000

840000 830000 820000 810000

402.064443.00001.0099.0 Aviation Interests

N

Broadhaven Bay

Dooncarton Irish Aviation Authority (IAA) Radar Station

Belmullet Aerodome

Béal an Mhuirthead

Loch na Ceathrún Móire

OVER-RUN AREA 1

Blacksod Bay - Cuan an Fhóid Duibh

OVER-RUN AREA 3

N59

OVER-RUN AREA 2

Achill Island - Acaill

Keel Beach

Wild Nephin National Park

0 5 10

Kilometres

LEGEND

- Proposed Development Site Boundary
- Study Area (Proposed Development Site Boundary 20 km Buffer)
- Proposed Over-run Area Location
- Airport Location
- Dooncarton Irish Aviation Authority (IAA) Radar Station

Galway

RWE

SLR

MUINGMORE WIND FARM

MATERIAL ASSETS

AVIATION INTERESTS IN VICINITY OF THE PROPOSED DEVELOPMENT

FIGURE 13-2

Scale 1:180,000 @ A3

Date MARCH 2026

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