

15. MATERIAL ASSETS

15.1 INTRODUCTION

This chapter examines the existing environment and assesses any likely significant effects on material assets arising from the proposed project.

The assessment comprises:

- A description of the existing environment;
- Prediction and characterisation of the likely significant effects;
- Evaluation of effect significance;
- Assessment of cumulative impacts and transboundary effects; and
- Consideration of mitigation measures, where appropriate.

The proposed project is described in Chapter 2 - Description of the Proposed Project and includes:

- The proposed wind farm site (comprising fourteen (14) turbines, an on-site 110 kV substation and ancillary infrastructure);
- The proposed Grid Connection Route (GCR); and
- The proposed Turbined Delivery Route (TDR) and accommodation areas.

A design flexibility opinion has been obtained from An Coimisiún Pleanála for a proposed range of turbine dimensions, comprising a blade tip height range of 180 - 185 m, a rotor diameter range of 149 - 163 m, and a hub height range of 101 - 110.5 m. Further details are provided in Section 1.4.1, Chapter 1 – Introduction and Appendix 1-4 – ACP Design Flexibility Opinion.

Both the Telecommunications Impact Assessment (Appendix 15-1) and the Aviation Review Statement (Appendix 15-2) have been prepared with the consideration of the design permutations outlined above. The assessment of aviation and telecommunications as part of this material assets assessment has considered the opinions and determinations within both Appendix 15-1 and Appendix 15-2 and therefore this assessment considers the design flexibility ranges throughout.

15.1.1 Scope

Material assets are defined in the EPA EIAR Guidelines (2022) as follows:

“Resources of intrinsic value which may be of either natural or human origin”.

“Material assets can be taken to mean built services and infrastructure. Traffic is included because in effect traffic consumes transport infrastructure. Sealing of agricultural land and effects on mining or quarrying potential come under the factors of land and soils”.

The term ‘material assets’ can relate to both finite and renewable resources, which can be of natural or anthropogenic origin. Some of these resources, such as minerals, stone, soil, water, air, traffic and transportation, land use, human health and amenity resources are discussed in other chapters of the EIAR (Chapter 4 - Population and Human Health; Chapter 7 - Land, Soils



and Geology; Chapter 8 - Hydrology and Hydrogeology; Chapter 11 - Air Quality, Chapter 12 - Climate; and Chapter 16 - Traffic and Transportation). The likely interactions between this assessment and other technical assessments are presented in Chapter 18 (Interaction of the Foregoing) of this EIA.

This chapter will assess the likely significant effects of the proposed project on the following material assets, which have been scoped as relevant to the proposed project, in line with the above guidelines, and identified as present in the study area, as described in section 15.2.2 below:

- telecommunications (i.e., telecoms and communications infrastructure and links);
- aviation activity and infrastructure;
- built services infrastructure (i.e., other utilities including electricity infrastructure, gas network infrastructure, and water utility infrastructure); and
- waste management infrastructure.

The primary potential sources of effects of the proposed project on the material assets have been identified as follows:

- Interference with telecommunications activity (construction, operational and decommissioning phases);
- Interference with aviation activity (construction, operational, and decommissioning phases);
- Interference and/or disruption to existing utility assets and provision of services/supply (construction and decommissioning phases); and
- Waste generation and management activity (construction, operational and decommissioning phases).

An assessment of the likely significant effects of the proposed project on traffic and transportation infrastructure is provided in Chapter 16 and of land use in Chapter 7.

15.1.2 Statement of Authority

This assessment has been carried out by TOBIN with input on telecommunications and aviation provided by specialist sub-consultant, Ai Bridges. The chapter was prepared by Oonagh Fleming. Oonagh holds a B.A. in Geography and Sociology and has over three years of experience as an environmental consultant in wind energy developments and preparing EIA chapters, including material assets, for renewable energy projects. This chapter has been reviewed by Brian McDonnell, Assistant Project Manager/Environmental Scientist in TOBIN. Brian has a Bachelor of Civil Law and an MSc in Environmental Science from Trinity College Dublin and more than four years' experience in environmental consulting including environmental impact assessment.

The telecommunication and aviation assessments were undertaken by Ai Bridges, led by Kevin Hayes. Kevin has over 20 years of professional experience in telecommunications solutions. Ai Bridges are an established company with extensive experience in telecoms and aviation consultancy. They are a leading supplier of software prediction modelling solutions and



software services for the telecommunications industry and also provide comprehensive turnkey solutions and have extensive experience and knowledge of network design, implementation and deployment of telecommunications software solutions. Ai Bridges has been involved in the wind and renewable energy sectors for many years and has a team of qualified and trained personnel. They have undertaken numerous environmental impact study reports on behalf of wind farm operators on the potential impact on telecommunications networks and television transmission networks of proposed wind farm developments. Ai Bridges has also developed a 3D software prediction model that can predict the impact of a wind farm development on television transmission and aviation communications networks of proposed wind farm developments.

15.1.3 Relevant Legislation, Policy and Guidance

This EIAR chapter and the assessment contained within has been carried out in accordance with the appropriate guidance documentation as follows:

- Environmental Protection Agency's (EPA) Guidelines on the information to be contained in the Environmental Impact Assessment Reports (2022) (hereafter referred to as the 'EPA EIAR Guidelines (2022)');
- Department of the Environment, Heritage and Local Government (DoEHLG), Wind Energy Development Guidelines (2006) (hereafter referred to as the 2006 WEDGs);
- Department of Housing, Planning and Local Government (DoHPLG), *Draft Revised Wind Energy Development Guidelines (WEDGs) (2019)* (hereafter referred to as the 'Draft Revised 2019 WEDGs');
- Irish Wind Energy Association, Best Practice Guidelines for the Irish Wind Energy Industry 2012; and
- European Commission, Guidance document on wind energy development and EU nature legislation (November 2020).

The Draft Revised 2019 WEDGs published by the Department of Housing, Planning and Local Government (DoHPLG), are in draft and therefore could change prior to being finalised. However, they have been referred to within this assessment in addition to the current 2006 WEDGs during this assessment.

The classification and description of effects in this EIAR chapter follows the terms provided in Table 3-4 of the EPA EIAR Guidelines (2022), included in Table 1-1 of Chapter 1 - Introduction for reference.

15.2 METHODOLOGY

15.2.1 Consultation

As part of the EIA scoping process, an EIA Scoping Report was prepared and submitted to relevant statutory and non-statutory bodies in August 2021 and December 2024 for review and comment. The Report was accompanied by a cover email introducing the proposed project and inviting comments or observations within a period of six weeks from the date of the email. Table



1-1, Section 1.7.2 of Chapter 1 - Introduction provides a summary of the consultees and responses received. A copy of the EIA Scoping Report is provided in Appendix 1-1.

Responses received in relation to material assets were primarily in relation to aviation, telecommunications, and utilities. Responses were received from the Irish Aviation Authority (IAA), Department of Defence and Uisce Éireann. A summary of responses relevant to Material Assets is provided in Table 15-1.

Table 15-1: Consultation Responses relevant to Material Assets

Consultee	Summary of Response	Addressed in Chapter /Section
Irish Aviation authority (IAA)	Requested that project details be provided to the IAA 30 days prior to commencement of construction of the proposed project, including the following: <ul style="list-style-type: none"> - Electronic terrain and obstacle data (eTOD) of each turbine - WGS84 co-ordinates and location of each turbine - Turbine specifications - Lighting specifications 	Chapter 2 – Description of the Proposed Project, Section 2.5.4 – Wind Turbine
Department of Defence	Noted that the Department of Defence do not provide observations or advice in the planning process. Lighting requirements and specifications for wind turbines were detailed. Details and specifications surrounding obstacle lighting on turbines were provided. Noted that the requirements outlined by the Irish Air Corps are separate to those of the Irish Aviation Authority as the associated aviation responsibilities differ. The Department requested they be informed as the proposed project progresses.	Chapter 2 – Description of the Proposed Project, Section 2.5.4.3 – Turbine Blades and Nacelle
Uisce Éireann (UÉ)/Irish water	Uisce Éireann responded but did not specify any site-specific concerns relating to existing water supply networks. Some general EIAR considerations were included for consideration such as impacts on any IW assets and drinking water sources. Considerations outlined by UÉ that are relevant to this chapter included the	Section 15.4.2.3 – Other Material Assets Section 15.4.3.3 – Other Material Assets Chapter 8 – Hydrology & Hydrogeology



	potential for impact from the proposed development on capacity of water services, on drinking water resources, on service infrastructure or UÉ assets and on receiving waters or contributing catchments to UÉ abstraction points,	
--	--	--

All EIA scoping responses can be found in Appendix 1-2 of this EIAR, which compiles the full responses received from consultees, which have been considered in the preparation of this chapter and elsewhere in the EIAR.

Further details regarding telecommunications and aviation-related responses are detailed below in the following sections.

15.2.1.1 Telecommunications

Ai Bridges carried out field surveys (March 2024) and desktop surveys (March, 2024), alongside a consultation exercise where a list of providers and stakeholders were sent information about the proposed project and were asked to inform the project team of any communication links or infrastructure that they have in the area, or if they had any other comments/concerns relating to the proposed project. This consultation exercise was carried out with an extensive list of telecommunications stakeholders which are described in Section 15.3.2 below. Further details on this can be found in Appendix 15-1.

Telecommunications mast sites with network infrastructure that could potentially be impacted by the proposed project were identified and a field survey of each of these sites was carried out. During the field surveys, radio antennas with bearings in the direction of the windfarm was recorded. Using the information obtained during the field survey assessments and consultation process a desktop impact analysis was carried out (2D and 3D) and all of the telecommunication operator networks were analysed using radio planning \ modelling software.

As described in Section 15.2 above, a comprehensive list of telecommunication operators were consulted by Ai Bridges in March 2024 to identify any potential effects to existing telecommunication links in the area. Table 15-2 provides information on all the responses received during this exercise.



Table 15-2: Consultation Responses from Telecommunication Operators/Providers

Telecommunication Provider/Stakeholder	Response Received (Yes/No)	Issues raised by Operator/Observations
2RN	Yes	2RN raised a concern regarding one VHF off-air radio link. 2RN have also requested that a protocol document be signed should the wind farm go ahead (regarding the TV broadcast service in the area).
Airwave	No	No response.
An Garda Síochána	No	No response.
Broadcast Authority of Ireland (BAI)	Yes	No issues.
BT Ireland	Yes	No issues.
CIE/Irish Rail	N.A.	The nearest rail line to the proposed development is more than 20 km away. At this distance there will no impact to CIE's communications network that operates along the rail line route.
Dept. of Defence	Yes	The DoD acknowledged receipt of the consultation request and have stated that would revert in due course. To date, no issues have been raised.
Eir	Yes	No issues.
Enet	Yes	Enet raised a concern regarding one Licensed Point-to-Point (PTP) microwave radio link.
ESB Networks	No	No response. However, field survey data indicates that ESB have two Satellite Broadband connection at Faughary MV Substation, less than 1km away from the proposed wind farm site boundary.
Imagine Broadband	Yes	No issues.
Irish Aviation Authority (IAA)	Yes	No issues.
Irish Water/Uisce Eireann	Yes	No issues.
Leitrim County Council	Yes	No issues.
Adelphi (Net1)	Yes	Adelphi raised a concern regarding two Licensed PTP microwave radio links.
Tetra Ireland (TI)	Yes	No issues.
Three Ireland	Yes	No issues.
Viatel	Yes	No issues.
Virgin Media	Yes	No issues.
Vodafone Ireland	Yes	Vodafone raised a concern regarding two Licensed PTP microwave radio links.



15.2.1.2 Aviation

The construction of large wind turbines near airports may have the potential to pose a physical hazard for frequently used flight paths, as well as pose an issue for nearby airport operations in relation to Obstacle Limitation Surfaces (OLS), Instrument Flight Procedures (IFPs) and Instrument Landing System (ILS) Calibration.

In order to determine any potential effects that the proposed project might have on aviation, a consultation exercise was carried out, as described above, with key stakeholders. These included: Department of Defence and the IAA. To assess potential effects on the existing aviation networks, an aviation impact statement was completed by Ai Bridges, providing information on the existing environment and context for potential effects. Refer to Appendix 15-2.

In relation to scoping, the IAA requested that details be provided to them when construction of the proposed project is planned. The Department of Defence noted lighting requirements for wind turbines and request they be informed as the proposed project progresses. Key details from the scoping exercise are available in further detail in Chapter 1 and Appendix 1-2.

15.2.1.3 Other Material Assets

The installation of infrastructure has the potential to interact with existing utility assets / services. This has the potential to occur where unidentified assets are present and uncovered during activities such as excavation / groundworks.

Scoping consultation responses received in relation utility assets / services, primarily related to consideration of presence of built services and infrastructure (e.g., within the road network), potential interaction with or disruption to assets / services, requirements related to cable routing, consultation / approvals with relevant stakeholders and service providers, compliance with relevant guidelines/codes of practice/standard details.

In terms of waste / waste management, where responses referenced waste, this primarily related to management of waste streams, waste segregation, and waste disposal issues. Furthermore, some responses referenced management of wastewater, making reference to proposals for the sanitary disposal of wastewater. The online maps¹ of the nationwide gas networks were reviewed in October 2025, to check the location of mains gas pipelines.

The assessment of other material assets in this chapter will focus on the potential for interaction / disruption to utility assets and provision of related services, and impacts in terms of waste generation and management, associated with the construction, operational and decommissioning phases of the proposed project.

15.2.2 Study Area

The study area in relation to the assessment of aviation and telecommunications links is based on the proposed turbine locations and dimensions.

The study area is presented in Figure 1 of Appendix 15-1 and reflects a study area used for the Telecommunications Impact Assessment Report. The particular location of turbines and their

¹ <https://www.gasnetworks.ie/home/safety/dial-before-you-dig/dbyd/> (accessed October 2025)



dimensions on a site have the potential to impact upon aviation activities and telecommunication links which may pass through or be nearby. Depending on the site location, buffers may be required by the design or mitigations applied. The assessment of material assets in relation to 'other material assets', primarily relates to the presence of utility infrastructure and possible interaction with such (i.e., electrical infrastructure, water services, gas networks infrastructure and telecoms infrastructure) within the footprint of the proposed project. The study area considered electrical infrastructure, water services, gas networks infrastructure and telecommunications infrastructure (cables etc.) occurring within the proposed wind farm site and along the proposed GCR, as this is where any effects on utility infrastructure are likely to occur.

In relation to the proposed TDR, overground services were mapped as part of the TDR assessment. As outlined in section 2.5.8 of chapter 2 – Project Description, the proposed TDR accommodations are of a very minor nature and at most consist of strengthening of road edges with minimal risk to underground services. Utility infrastructure at each of the pinch point locations (see Chapter 2 for further details) will be identified in further detail at pre-construction stage. A confirmatory survey of all existing utility services at these locations will be carried out prior to construction to verify the assumptions in this report and identify the precise locations of any services. Where assets/services are identified, the Applicant will liaise with the service provider and efforts will be made to limit disruption to service.

The accommodations required to facilitate the delivery of oversize turbine components will be varied with sections of road edge strengthening and minor additional works such as hedgerow trimming and the temporary removal of signage, etc. will also be required at various locations along the route. TDR accommodations have been considered within this EIAR.

The assessment of 'other material assets' also considers the proximity of the proposed wind farm site to mineral resources (i.e., quarries) and waste management infrastructure within County Leitrim and its surrounding counties. The study area is that shown in Figure 1-1 of Chapter 1 - Introduction.

15.3 EXISTING ENVIRONMENT

The proposed wind farm site is located in north County Leitrim between the villages of Kiltyclogher to the northeast and Manorhamilton to the southwest. The closest turbine is located approximately 3 km northeast of Manorhamilton and approximately 4 km southwest of Kiltyclogher.

The land use/activities within the site are primarily commercial forestry, with expanses of wet grassland in the centre, northwest and southeast and upland blanket bog/open peatland particularly in the north and northwest.

The proposed TDR commences at the port of entry in Killybegs, Co Donegal and extends southeast around Donegal Town before travelling southwest towards Sligo town before approaching Manorhamilton and the proposed wind farm site from the south. The accommodations required to facilitate turbine delivery are detailed in Chapter 2.

The proposed GCR runs from the proposed substation in the west of the wind farm site southwest along the public road network for approximately 32 km to the existing ESBN



110/220kV Srananagh substation in Co. Sligo approximately 22 km to the southwest of the wind farm site. The proposed GCR utilises the existing public road network where possible prioritising the use of Local and Regional roads due to the lesser environmental impact offered versus greenfield development and in line with EirGrid requirements. There will be several sections where minor deviations offroad will be necessary to facilitate Horizontal Directional Drilling (HDD) at watercourse crossings.

15.3.1 Aviation

Sligo Airport² is the closest significant airport to the proposed wind farm, located approximately 30km west of the proposed wind farm site. Finner Camp Heliport (EIFR)³, Ballyshannon, Ireland is approximately 16 km north of the proposed wind farm site.

Approximately 25 km east of the proposed wind farm site is the Enniskillen St Angelo Airport, licensed by the CAA (UK Civil Aviation Authority). Flights to and from this aerodrome operate under Visual Flight Rules (VFR) and there are no published IFPs (Instrument Flight Procedures) for this aerodrome. As the runway is over 25 km from the proposed wind farm site, there are no anticipated significant effects on the aviation activities of this aerodrome.

15.3.2 Telecommunications

There are five telecommunications operators with links in the study area of this chapter (see Figure 15-1):.

2RN

- VHF off-air radio link from Truskmore to Monaghan

Enet

- PTP radio link between Truskmore Mt and St. Michael's Primary School

ESB

- Satellite Broadband Connection #1 (SAT#1) at Faughary MV Substation
- Satellite Broadband Connection #2 (SAT#2) at Faughary MV Substation

Adelphi (Net1)

- PTP radio link between Dough Mt and Bee Park
- PTP radio link between Dough Mt and O'Donnell's Rock

Vodafone

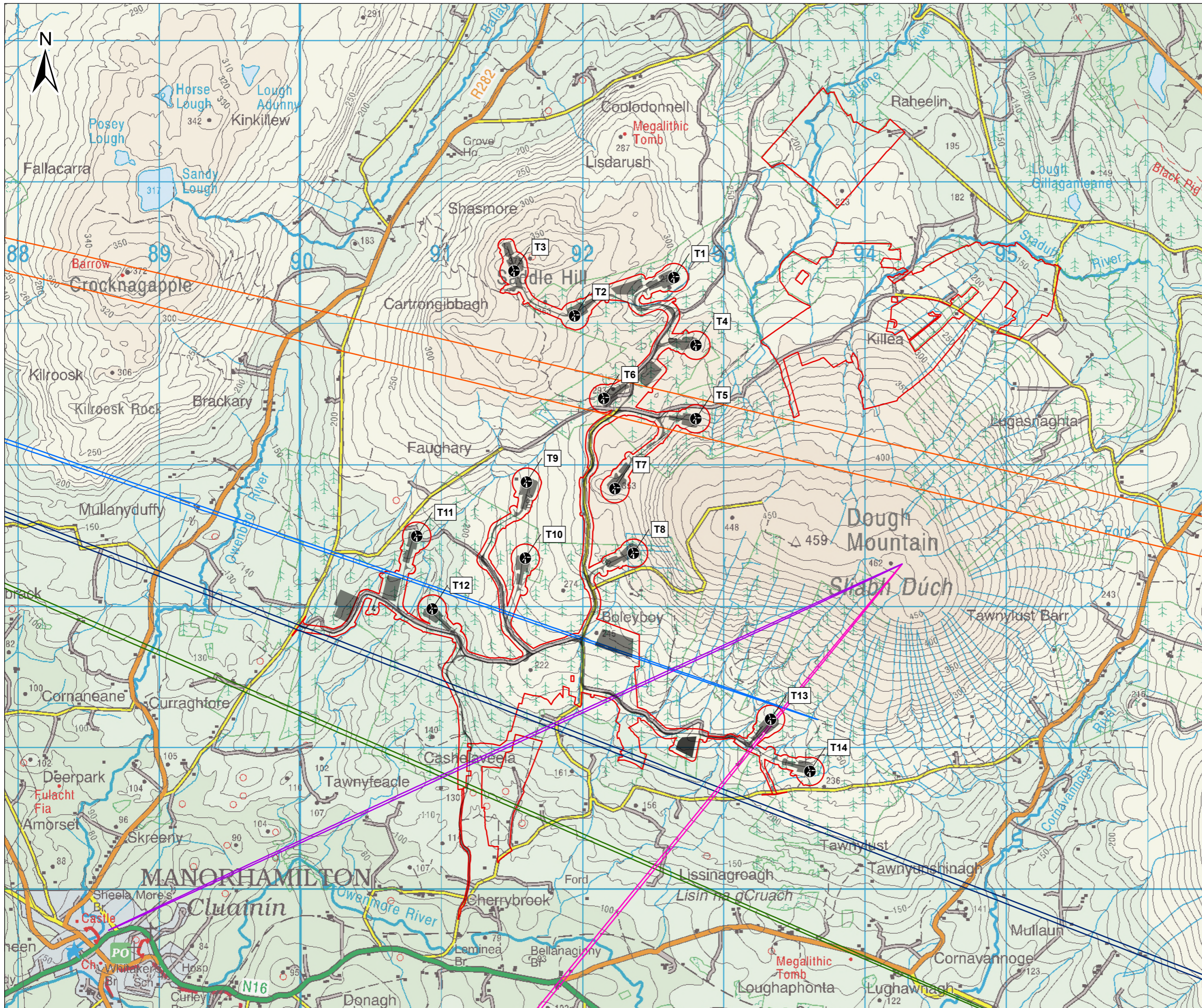
- PTP radio link between Truskmore and Lissinagroagh

PTP radio link between Truskmore and Cornagee. For further details on telecommunications, refer to the Telecommunications Impact Assessment in Appendix 15-1.

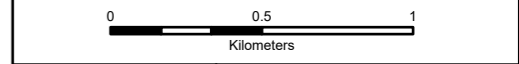
² [Sligo Airport – Sligo Airport](#)

³ [Finner Camp Heliport Ballyshannon, live arrivals and departures online \(aviatable.com\)](#)





- Legend**
- Application Boundary
 - Turbine Locations
 - Site Layout Footprint
 - 2RN Link1 (Truskmore - Monaghan)
 - Adelphi Link1 (Dough - Bee Park)
 - Adelphi Link2 (Dough - ODonnells Rock)
 - Enet Link1 (Truskmore - St Michael's P.S.)
 - Vodafone Link1 (Truskmore - Lissinagroagh)
 - Vodafone Link2 (Truskmore - Cornagee)



Spatial Reference
Datum: IRENET95
EPSG: 2157

Copyrights:
CYAL50445245
© Taitte Éireann – Surveying.

Rev	Date	Description	By	Chkd.
A	27/04/2026	Draft issue	S.P	S.R

Client:
FuturaEnergy Ireland

Project:
Lissinagroagh Wind Farm

Title:
Figure 15-1:
Telecommunication Links

Scale @ A3: 1:25,000

Prepared by: S.Pezzetta
Checked by: S.Ryan
Date: April 2026

TOBIN

Tel: +353-(0)1-8030406
Email: info@tobin.ie
www.tobin.ie

Map Ref: 10955-094-TCOM-P.App.BO-TOB-A
Draft: A

15.3.3 Other Material Assets

15.3.3.1 Electrical Infrastructure

A review of electrical infrastructure was undertaken.⁴ There are some MV/LV overhead distribution lines that interact with the proposed wind farm. There is a minor overlap in the southeast of the site at T13 and T14. There is a distribution line north of the proposed site entrance interacting with the blue line boundary. There are some distribution lines within the proposed Hen Harrier enhancement lands to the northeast of the proposed wind farm. There is also some interaction in the south of the proposed wind farm where the TDR enters the red line boundary.

Proposed GCR

The proposed GCR is illustrated in drawings no. 05773-DR-101 to drawing no. 05773-DR-117. There are several locations as illustrated in these drawings where the GCR crosses existing ESB networks (both MV and LV), existing ESB HV overhead lines and underground Irish Water services.

TDR

The TDR beginning at Killybegs encounters a number of MV lines as far as Donegal town. From Donegal south as far as Bundoran there are also HV and MV lines along the TDR route. From Bundoran south to Sligo town, there is an MV line. From Sligo town to Manorhamilton there are MV lines. In Manorhamilton there are two HV lines that the TDR intersects. From Manorhamilton to site there are predominantly MV lines. Interaction of temporary accommodation areas along the TDR are presented in Appendix 2-1 Turbine Delivery Route Report - Swept Path Analysis.

15.3.3.2 Gas Infrastructure

Data obtained from the Gas Networks Ireland (GNI) 'dial before you dig service' was reviewed in relation to gas networks infrastructure. No gas network infrastructure was identified within the proposed wind farm site, the proposed GCR or the proposed TDR works areas.

15.3.3.3 Water

Uisce Éireann responded but did not specify any site-specific concerns relating to existing water supply networks. Some general EIAR considerations were included for consideration. Further details of the scoping responses that were received are provided in Chapter 1 of this EIAR (Introduction).

15.3.3.4 Waste Management

A desk study of available information from the EPA Maps Portal EPA⁵ was undertaken to identify licensed waste and industrial facilities within the vicinity of the study area.

The nearest licensed waste site identified is the Ballynacarrick Landfill Site (W0024-04) located approximately 20 km north of the nearest point of the proposed project site. The next closest

⁴ [Ireland's Grid | EirGrid](#)

⁵ <https://gis.epa.ie/EPAMaps/> (Accessed October 2025).



waste facility is the Bruscar Bhearna Teoranta (Drumshanbo) (W0216-01) which is located approximately 30 km north of the proposed wind farm site and 23 km from the closest point on the proposed grid connection route.

In relation to EPA licensed industrial sites, IPC/ IEL sites, the nearest identified sites are; Glenfarne Wood Products Limited (P0625-01), located approximately 8 km east of the nearest point of the proposed project site, several facilities in Sligo town, located approximately 20 km from the proposed wind farm site, and approximately 12 km from the proposed grid connection route (at its nearest point) which include Saehan Media (Irl.) Limited (P0135-01), AbbVie Ireland NL B.V. (P0643-03), G. Bruss GmbH Dichtungstechnik (P0465-02), Starrus Eco Holdings Limited (Sligo) (W0058-01) and ELANCO Animal Health Ireland Limited (P0090-02).

15.3.3.5 Natural Resources – Minerals and Aggregates and Quarries

A number of quarries, concrete and aggregate facilities⁶ were identified in vicinity of the proposed project and the wider area, including:

- David K Trotter & Sons - Manorhamilton, Co. Leitrim
- Kerrigan Quarries - Killargue, Dromahair, Co. Leitrim
- Harrington Concrete & Quarries (Sligo) - Ballisodare, Co. Sligo
- Patrick McCaffrey & Sons - Ballymagroarty, Ballintra, Co. Donegal
- Moneenshinagh Quarry – Moneenshinagh, Co. Leitrim

The nearest of these sites identified to the proposed wind farm site is David K Trotter & Sons, located in Manorhamilton, approximately 3 km of the proposed wind farm site.

Effects on Mineral/Aggregate Resources associated with the proposed project are discussed in Chapter 7 (Land, Soils and Geology).

⁶ [Members Directory - Irish Concrete](#)



15.4 ASSESSMENT OF EFFECTS

15.4.1 Assessment of the Evolution of the Baseline

Should the proposed project not be constructed, there will be no potential for effect on aviation or telecommunications services, or other Material Assets. The existing lands will continue to be used for forestry with little or no significant changes anticipated in the baseline at the proposed wind farm site, the proposed GCR, and the proposed TDR accommodation areas. The surrounding material assets infrastructure will not be significantly affected with ongoing forestry felling. The future baseline environment will remain mostly as it is presently, with ongoing management of the forest and agricultural lands.

15.4.2 Construction Phase

15.4.2.1 Aviation

This section assesses the likely significant effects on aviation as a result of the construction phase of the proposed project. The requirement for an assessment of the likely effects on aviation is set in the Wind Energy Development Guidelines for Planning Authorities 2006 (and Draft Revised Wind Energy Guidelines 2019). The assessment in terms of aviation is based on the proposed turbine locations and dimensions.

The conclusions of the Aviation Review Statement (see Appendix 15-2) are summarised below. As the runway of the Enniskillen/St. Angelo aerodrome is over 25 km from the proposed wind farm site and as there are no published Instrument Flight Procedures, there are no anticipated significant effects on the aviation activities of this aerodrome and it is therefore not considered further in this assessment.

As part of the review, the following subjects were considered which are relevant from the construction phase through to the operation phase:

Annex 14 - Obstacles Limitation Surfaces (OLS): The review showed that the proposed wind farm would be located outside the Outer Horizontal Surface of the Sligo Airport Runway Obstacle Limitation Surfaces (OLS), as defined in ICAO (International Civil Aviation Organization) Annex 14. As the proposed wind farm is situated outside the Outer Horizontal Surface and there is no penetration of the take-off or approach surfaces, it is unlikely that there will be any impacts to the OLS surfaces for Sligo Airport.

Annex 15 - Aerodrome Surfaces: Following the review of "Terrain and Obstacle Requirements" as defined in ICAO Annex 15, turbines at the proposed wind farm would need to be registered if they are more than 100 meters above terrain. The distance from the centre point (ARP – Airport Reference Point) of an airport to the boundary of Area 1 of the Annex 15 Aerodrome Surface is 45km. This area encloses the TMA area i.e. Total Manoeuvring Area and this is used for circling and manoeuvring by aircraft. Should the proposed wind farm be permitted, turbines would be within 45 km of the ARP at Sligo Airport and would be greater than 100 m in height. Therefore the turbines would be required to be included in the IAA Electronic Air Navigation Obstacle Dataset.

Building Restricted Areas (BRA): A Building Restricted Area is the airspace surrounding an aviation facility that needs to be clear from physical intrusions. The purpose of the safeguarded



areas is to identify developments with the potential for causing unacceptable interference to navigation facilities. A review shows that the proposed wind farm is over 20 km from the BRA surfaces at Sligo Airport. At this distance there will be no impacts to the BRAs due to wind turbines at Lissinagroagh.

Minimum Sector Altitudes (MSA): The Minimum Sector Altitudes (MSA) is the lowest altitude which may be used that will provide a minimum obstacle clearance of 1000 ft above all obstacles within 25 nautical miles (46km) of the NDB at Sligo Airport. The maximum tip-height of the highest of the proposed turbines (T05) would be 1768 ft AMSL. This is below the relevant MSA threshold (2700 ft), therefore the Minimum Sector Altitude will not be affected and there will be no impact on the published MSA altitude figures for Sligo Airport.

Instrument Flight Procedures: There are seven published Instrument Flight Procedures for flights to/from Sligo Airport. Due to the distance of the proposed wind farm from the airport, and as there are existing obstacles nearer to the airport than the proposed wind farm, there are no anticipated impacts to these flight procedures.

Communications, Navigation and Surveillance System Safeguarding: As the proposed wind farm is approximately 29 km from the Localizer and transmitting antennas at Sligo Airport, it is very unlikely that wind turbines at the proposed wind farm site will have any impact on these ATS communications and radio navigational aids. For Radar Surveillance Systems, EUROCONTROL Guidelines require a 16 km safe distance from the surveillance radar system (SSR), for a “Zone 4 - No Assessment” condition. It has been highlighted in the analysis that turbines located at the proposed wind farm would be located at a minimum distance of 109 km from the SSR radar station at Dooncarton and in Assessment Zone 4 of the EUROCONTROL Guidelines. As turbines at the proposed wind farm would be located in Assessment Zone 4, a detailed impact assessment on Radar Surveillance Systems will not be required by the IAA.

Flight Inspection and Calibration: 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 Sligo Airport for calibration of instrument landing systems. It is unlikely that the Flight Inspection Procedures will be impacted as the test flight path and flight altitude is sufficiently far from the proposed wind farm. In addition, the Flight Inspection Procedures should already account for existing obstacles.

Aeronautical Obstacle Warning Light Scheme: In the event of a grant of planning consent the IAA are likely to request lighting of the proposed wind turbines in the interest of aviation safeguarding as the proposed wind farm would be considered as an en-route obstacle.

Irish Air Corps / Department of Defence (DoD) Safeguarding: The Irish Air Corps position on wind farms / tall structures are outlined in the draft paper which was published in 2014: “*Air Corps Wind Farm/ Tall Structures Position Paper*”. In the position paper the Irish Air Corps outlines restricted areas where they would object to the installation of wind turbines /tall structures. The areas defined by the Air Corps have been mapped and analysis shows that proposed wind farm site is located outside the restricted areas. As the proposed wind farm is not located in a restricted area it is not anticipated to impact on the Irish Air Corps activities.



Garda Air Support Unit (GASU) and Emergency Aeromedical Service (EAS): The standard concerns that are being raised in recent consultations with the Irish Air Corps also highlight the potential for obstacles that could impact the operations of the Garda Air Support Unit (GASU) and the Emergency Aeromedical Service (EAS). An assessment of GASU and EAS operations indicates that they are unlikely to be impacted by the proposed wind farm.

At the very end of the construction works, although unlikely, there is potential for the use of cranes and erection of the turbines to have effects similar to the operational phase (see Section 15.4.3.1 below). Any likely significant effects would be brief to temporary, not significant to slight, negative effect.

15.4.2.2 Telecommunications

Interference with telecommunication links is unlikely during the construction phase. Any interference or impact would be very limited and confined mainly to the final stages of construction when cranes are used to erect turbines and prior to commissioning of the turbines. These cranes will be beside the proposed turbines. There is potential interference effect with the route of the (2RN VHF off-air radio link between Truskmore and Monaghan), particularly during excavation, crane operations, and turbine erection. In the absence of mitigation, this interaction could result in degradation of signal quality and a reduction in service reliability for the affected link. The resulting impact is characterised as a moderate, negative effect prior to mitigation. This effect would be expected to be localised in extent and temporary if unmitigated. In the event of interference occurring, the protocol outlined in Section 15.5.2.2 will be deployed. For further details on the 2RN link protocol see Section 15.5.2.2 below. The proposed GCR and proposed TDR accommodations will not have the potential to impact telecommunication links due to the small scale and temporary nature of the proposed works.

Any likely significant effects would be brief to temporary, not significant and slight.

15.4.2.3 Other Material Assets

Utilities

Construction works requiring excavation have the potential to disrupt utility assets, particularly where utilities are present underground.

It is not anticipated that any underground material assets (such as underground gas, water and electricity infrastructure) will be encountered during the construction of the proposed project, with the exception of the locations within public road corridors, houses and farmyards, such as the locations of the proposed TDR accommodation areas or associated with proposed GCR. Based off existing records and available data, the anticipated cross-over with the above mentioned infrastructure is illustrated in drawings no. 05773-DR-101 to drawing no. 05773-DR-117. The grid construction methodology is described in Appendix 2-3 (of this EIAR) and mitigation is detailed below.

In the unlikely event that any unknown utility assets are discovered, there is potential to affect local network supplies, causing a direct, temporary, slight, negative effect.

Gas



No gas network infrastructure was identified within the study area, along the proposed GCR or proposed TDR accommodation areas.

A confirmatory check on the location of gas network services will be undertaken prior to commencement of construction.

It is unlikely that unknown underground gas network infrastructure will be encountered during the construction of the proposed project. In the unlikely event that any unknown services are discovered during excavation works, there is potential to have an effect on local network supplies, causing a temporary, slight, negative effect.

Water

No water network infrastructure was identified within study area. A confirmatory check on the location of water network services will be undertaken prior to commencement of construction.

Should any water network infrastructure be identified, any excavation required in the vicinity of this will require consultation with Uisce Éireann and be subject to appropriate wayleaves.

It is unlikely that unknown underground water network utilities will be encountered during the construction of the proposed project, as the above review and consultation highlighted (Section 15.3.3). In the unlikely event that any unknown services are discovered during excavation works, there is potential to have an effect on local network supplies, causing a temporary, slight, negative effect. Any such effects would be localised, reversible and quickly repaired to ensure minimal disruption to supply. Further detail on best practice mitigation measures are described below in Section 15.5.1.2.

In terms of water consumption, the average flow rate for design (per person/day) is approximately 60 litres for an open construction site, based on the Uisce Éireann 2020 Code of Practice. The maximum total wastewater required, based on this and on construction staff being onsite 48 weeks of the year and an average of 100 construction staff, would be approximately 1.73 million litres per year. Wastewater will be removed off site as required by a permitted waste collector. Potable water will be supplied in large bottles for the wind farm site.

As shown during peak construction the quantities of wastewater are not anticipated to be significant, therefore a short-term, imperceptible, negative effect on local wastewater management services is predicted. This effect is considered negative in nature due to the introduction of additional wastewater to the system; however, it is expected to be negligible in magnitude, localised, fully reversible, and within the available capacity of the existing wastewater infrastructure.

Electricity

Electricity infrastructure for the Wind Farm, the GCR and the TDR are detailed above.

The location of ESB / electricity network services will be re-consulted prior to commencement of construction.

During construction, the locations of the identified infrastructure will be marked to ensure there are no ground works within the immediate areas of the ESB / electricity infrastructure. Should any ESB / electricity infrastructure be identified, any excavation within the area of this



would require consultation with ESB, adhere to ESB / EirGrid requirements, and be subject to appropriate wayleaves.

It is unlikely that unknown underground ESB / electricity network infrastructure will be encountered during the construction of the proposed project, based on a review of available utility mapping and consultation with relevant service provider. In the unlikely event that any unknown services are encountered during excavation works, there is potential for accidental damage or temporary isolation of these services. This could result in short-term disruption to local electricity supplies, causing a temporary, slight, negative effect. Any such effects would be localised, of limited duration, fully reversible, and confined to the construction phase.

Best-practice mitigation measures are described below.

Waste and Natural Resources

During the construction phase, quantities of municipal waste (site office, canteen), wastewater (site welfare facilities) and construction waste (soil and stones, wood, packaging, metal, etc.) will be generated, requiring management and collection and transport to appropriate waste management facilities.

The EPA reports on national waste generation statistics on a regular basis. The latest reference year available in terms of Construction and Demolition (C&D) waste statistics is 2022, released in September 2024. The EPA reports that 8.3 million tonnes of C&D waste was managed in Ireland in 2022, a decrease of 9% on the previous year (9 million tonnes) (EPA, 2024b). The overall composition of C&D waste generated has changed slightly between 2021 and 2022.

In 2022, soil and stones (and similar material) made up the vast majority (82%) of C&D waste collected, remaining at a similar level as 2020 (85.1%). The next largest C&D waste types generated in 2022 were concrete, brick, tile and gypsum waste at 7% (remaining similar to 2020 at 6.7%), and mixed C&D waste at 7% (an increase on 4% in 2021). The proportion of segregated (wood, paper, glass, plastic and metal) waste collected remained small at 4% (EPA, 2024b).

In Ireland, the vast majority of C&D waste (94%) underwent final treatment in Ireland in 2022, with 6% exported abroad for final treatment. Most C&D waste was backfilled (81%), with only 10% recycled and 7% and sent for disposal. Recycling was the main treatment operation for metals at a 100% recycling rate. In terms of non-hazardous C&D waste other than soil and stone, Ireland achieved 82% material recovery (EPA, 2024b).

C&D waste can vary depending on the nature of the project, and waste types and volumes can vary significantly from one project to another, depending on project type and the waste management practices employed on-site. The assessment of management of cut/fill volumes (soil and stone volumes requiring management) are addressed in Chapter 8 (Land, Soils and Geology). Volumes of other C&D waste types (e.g., concrete, brick, tile and gypsum waste, mixed C&D waste, and wood, paper, glass, plastic and metal) are anticipated to be small and will be segregated and managed appropriately on site and will be removed off site to a suitably licenced facility by a permitted waste collector.

In terms of municipal waste, the amount generated in Ireland was 3.19 million tonnes in 2022, up slightly by 0.6% from the 2021 figure of 3.17 million tonnes (CSO, 2025). Due to population growth, the municipal waste per capita figure fell from 625 kg per capita in 2021 to 615 kg per



capita in 2022 (CSO, 2025). As the municipal waste average accounts for household waste collections, an assumption of 50% of this average has been taken for an employee during construction. Based on a 24-month construction period and an average of 100 construction staff each year, the maximum municipal waste generated for the proposed project is expected to be in the region of 61,500 kg over 2 years. This is a precautionary approach based on national statistics for the average person.

Of this total, according to the National Waste Statistics figures for treatment of municipal waste in 2022, approximately 26% will be recycled, 43% will undergo energy recovery, 15% will be composted / undergo anaerobic digestion (AD), and 14% will be sent to landfill (EPA, 2024a). Under the assumption that waste generated during the construction phase will undergo similar management and treatment, over the construction period for the proposed project the following is anticipated, approximately:

- 15,990 kg will be recycled;
- 26,445 kg will be treated through energy recovery;
- 9,225 kg will be composted / undergo AD; and
- 8,610 kg will be sent to landfill.

During peak construction, the quantities of municipal waste and other C&D waste types (e.g., concrete, brick, tile and gypsum waste, mixed C&D waste, and wood, paper, glass, plastic and metal) are not anticipated to be significant. A short-term, negative, not significant effect on waste management services is predicted. This effect will be permanent, negative and not significant for any waste removed from site to landfill.

Details of required construction materials and any subsequent waste generated (i.e., cut/fill (soil and stone volumes requiring management)) from the construction phase are provided and assessed as part of Chapter 7 (Land, Soils and Geology) of this EIAR. Effects on Mineral/Aggregate Resources associated with the proposed project are also discussed / assessed in Chapter 8. During peak construction, the quantities of natural resources (i.e., minerals/aggregates) required are not anticipated to be significant. A long-term to permanent, negative, not significant effect on natural resources is predicted.

15.4.3 Operational Phase

15.4.3.1 Aviation

This section assesses the likely significant effects on aviation as a result of the operational phase of the proposed project. Considering operational phase activity the aviation impact statement (described above in Section 15.4.2.1), the consultation feedback obtained and the proposed projects distance from aviation infrastructure, significant effects during the operational phase in relation to aviation are considered unlikely.

The consultation exercise did not raise any specific operational phase concerns for the proposed project in relation to aviation. An Aviation Review (see Appendix 15-2) concluded that there are no impacts anticipated from the proposed project. Two observational items were raised in relation to Aerodrome Surfaces and the Aeronautical Obstacle warning light scheme, where advisories were issued where the Irish Aviation Authority (IAA) may request that the proposed



turbines be fitted with Aeronautical Obstacle Warning Lights in accordance with industry standards.

Significant effects during the operational phase in relation to aviation are considered unlikely. In the absence of any mitigation, effects on aviation as outlined in Appendix 15-2, would result in an unlikely, slight, long-term, negative effect.

The proposed GCR and TDR accommodation areas would have no potential for effects on aviation during the operational phase.

15.4.3.2 Telecommunications

Turbines can interfere with microwave communications link systems, as they can cause electromagnetic interference and/or reflect and physically block microwave link signals.

The telecommunications impact assessment identified potential effects on one link. The 3D analysis indicated that turbines T05 and T06 would obstruct the Fresnel Zone of the radio link, potentially affecting the operation of the 2RN VHF off-air radio link between Truskmore and Monaghan. This will have an interference effect. In the absence of mitigation, this interaction could result in degradation of signal quality and a reduction in service reliability for the affected link. The resulting impact is characterised as a moderate, negative effect prior to mitigation. This effect would be expected to be localised in extent and would persist for the operational lifespan of the proposed wind farm if unmitigated.

3D analysis indicated that there will be no impacts to the Adelphi Link 2 (PTP radio link between Dough Mt and O'Donnell's Rock) however it should be noted that the 3D analysis indicates that the clearance distance between Turbine T13 and the Adelphi Net1 radio link between Dough Mt and O'Donnell's Rock would be relatively small. While no direct impacts are anticipated, this proximity suggests that potential interference could arise during the operational phase of the wind farm without the implementation of mitigation measures. Mitigation measures are discussed below.

The proposed GCR and TDR works areas will have no potential for effects to telecommunications during the operation phase as accommodations are minimal.

15.4.3.3 Other Material Assets

No significant excavations or works are proposed during the operational phase, therefore no effects on underground services are predicted.

Once operational, it is estimated that the wind farm will support 2-3 long term, high quality technical jobs in operation and maintenance. Based on the Uisce Éireann 2020 Code of Practice average flow rate of 50 litres (per person / activity / per day for 'Office / Factory without canteen'), wastewater for 3 no. staff using welfare facilities visiting the site once per month, is estimated to be 1,800 litres/year (based on up to three staff working 1 days per month). However as low-flow toilet cisterns and sink faucets would be used and the number of staff required for visits may vary, it is anticipated that this volume will be lower. Wastewater will be removed as required by a permitted waste collector.

The operational phase is anticipated to have an extremely low rate of production of municipal waste (compound office, canteen) and wastewater (site welfare facility) which will need to be



processed at local waste processing facilities. The quantities of these wastes are anticipated to be significantly smaller than the construction phase, on the basis that there will be up to 3 no. staff working at the site periodically once operational.

Based on the latest National Waste Statistic data for Ireland (2022), the maximum municipal waste generated each year for the proposed project is expected to be in the region of 922.5 kg (based on 3 no. employees). This is a precautionary assessment for the proposed project based on national statistics for the average person.

Of this total, according to the national statistics total, approximately 26% will be recycled, 43% will undergo energy recovery, 15% will be composted / undergo anaerobic digestion (AD), and 14% will be sent to landfill, equating to the following estimated waste volumes over the construction period for the proposed project:

- 240 kg will be recycled;
- 423 kg will be treated through energy recovery;
- 138 kg will be composted / undergo AD; and
- 129 kg will be sent to landfill.

The operation of the proposed GCR will have no potential for direct significant effects to other material assets infrastructure (i.e., utility services) or resources (i.e., minerals/aggregates/quarries) during the operational phase. There will be a potential long-term, imperceptible, negative effect on local waste services related to any waste generated during the operation and maintenance of the proposed project. This effect will be permanent for any waste that goes to landfill.

During the operational period requirement for natural resources (i.e., minerals/aggregates) are not anticipated. A long-term, neutral, not significant effect on natural resources is predicted.

15.4.4 Decommissioning Phase

The wind turbines are expected to have a lifespan of 35 years. Following the end of their useful life, the site will be decommissioned fully, with the exception of the electricity substation, grid connection and site roads and drainage which will remain in situ. Further details regarding decommissioning activities are available in Chapter 2 and in Appendix 2-4 – Construction Environmental Management Plan.

During decommissioning, the activities required to facilitate wind turbine decommissioning and removal from site will be similar to those outlined for the construction phase, albeit in reverse and to a lesser extent and duration than during the construction stage. Therefore, for the purpose of this assessment, it is anticipated that the impacts on telecommunications, aviation and other material assets receptors associated with decommissioning phase will be less than those identified for the construction phase.

15.5 MITIGATION MEASURES

15.5.1 Construction Phase

15.5.1.1 Aviation

As discussed above in Section 15.4.2.1 and 15.4.3.1 no significant effects on aviation are anticipated during the proposed construction phase. Therefore no specific mitigation measures are proposed in terms of aviation. However, the following standard practices will be undertaken:

- An aeronautical warning light scheme will be agreed with the IAA and Irish Air Corps;
- The final as-constructed coordinates, dimensions and elevations of each turbine will be mapped and provided to Leitrim County Council and other stakeholders, including the IAA and Irish Air Corps prior to erection of turbines to ensure that maps and databases are up-to-date for flight navigation;
- 30 days' notice will be given to the IAA prior to any crane operations commencing during the construction phase.

15.5.1.2 Telecommunications

Potential interference to communication links during the construction phase are unlikely. Any interference would be very limited and would only be possible in the final stages of construction when cranes are being used to erect the turbines, and when the turbines have been erected (prior to commissioning). Should any construction related works impact the communication links then the 2RN link protocol will be implemented (see Section 15.5.2.2 below). The proposed GCR and proposed TDR works areas will not have the potential to impact telecommunication links and therefore no mitigation measures are proposed.

15.5.1.3 Other Material Assets

During construction, the locations of the identified infrastructure will be marked to ensure there are no ground works within the immediate areas of the gas lines. Should any gas infrastructure be identified any excavation within the area of this would require a special permit from GNI and be subject to appropriate wayleaves.

No significant effects on utilities are anticipated during the proposed construction phase. Therefore, no specific mitigation measures are proposed in terms of utilities. However, as with any excavations, particularly in the public road network, there is a potential to disrupt local underground services if present. Standard measures / practices to avoid or otherwise minimise impacts to existing utility assets and/or services provision will be undertaken, including:

- Prior to the commencement of the construction phase, there will be engagement with all utility asset owners / service providers;
- A confirmatory survey of all existing services (electrical/ESB, water/Uisce Éireann, gas/Gas Networks Ireland (GNI), telecoms cables etc.) will be carried out prior to construction to verify the assumptions in this report and confirm the precise locations of any services. Where assets / services are identified, the Applicant will liaise with the service provider;



- Utility assets / services (underground and overhead) will be identified and clearly marked prior to any pre-construction (site clearance) / construction / demolition activity occurring;
- No excavations will take place without prior consultation with relevant utility asset owners / service providers;
- Digging around existing services, if present, will be carried out as per best practice/guidance⁷ by hand to minimise the potential for accidental damage;
- Prior to any mechanical excavation taking place ESBN will be consulted with and the exact locations of all underground electricity cables established and verified;
- All works undertaken in the vicinity of underground assets will be carried out in accordance with current HSA guidance, namely the HSA 'Code of Practice for Avoiding Danger from Underground Services';
- All works will be undertaken with in accordance with the exclusion and safe operating distances around electricity infrastructure as set out in the ESB Code of Practice, as well as HSA guidance including the 'Code of Practice for Avoiding Danger from Overhead Electricity Lines';
- Any proposed works will require a minimum clearance distance of 1 m either side of electrical cables;
- Liaison with asset owners / service providers will continue as required throughout the construction phase.

Waste

No significant effects on waste / waste management are anticipated during the proposed construction phase. Therefore, no specific mitigation measures are proposed in terms of waste / waste management.

Appropriate, best practice waste management practices will be employed. Segregation of waste will be carried out to maximise the potential for waste recycling and minimise potential effect on waste services. Suitably permitted commercial waste collectors will be employed to remove any waste arisings generated from construction to the nearest appropriately licensed waste management facilities.

Wastewater from the staff welfare facilities will be managed by means of a sealed storage tank, with all wastewater being tankered off-site occasionally (as required) by a permitted waste collector to a wastewater treatment plant. The permitted waste collector will also be responsible for ensuring clean water storage tanks are topped up. The proposed wastewater storage tank will be fitted with an automated alarm system that will provide sufficient notice that the tank requires emptying. It is proposed to use low volume flush toilets (such as those in commonly used port-a loos) and low volume sink faucets to significantly reduce the volume of wastewater produced. In addition, the number of staff is likely to fluctuate rather than being constantly at 100 people per day, thereby reducing the volume of wastewater produced.

Waste management measures are set out within the CEMP Appendix 2-4 of this EIAR.

⁷ [https://www.gasnetworks.ie/home/safety/dial-before-you-dig/Transmission Policies and Standards \(eirgridgroup.com\)/ Publications \(esbnetworks.ie\)](https://www.gasnetworks.ie/home/safety/dial-before-you-dig/Transmission-Policies-and-Standards(eirgridgroup.com)/Publications(esbnetworks.ie))



15.5.2 Operational Phase

15.5.2.1 Aviation

No significant effects on aviation are anticipated during the proposed operational phase. Therefore no specific mitigation measures are proposed in terms of aviation. However, the following standard practices will be undertaken:

- The turbines will be included in the IAA Electronic Air Navigation Obstacle Dataset;
- Lighting of the proposed wind turbines in the interest of aviation safe-guarding (i.e., an aeronautical warning light scheme), as the proposed project would be considered as an en-route obstacle, will be required, will be agreed with the IAA, and Irish Air Corps;
- As-constructed coordinates of the turbines will be provided to the IAA;
- 30 days' notice will be given to the IAA prior to any crane operations commencing during the operational phase, in the event that a major component repair or replacement is required.

As mentioned, the details regarding lighting will be agreed with the IAA and will be applied to the appropriate turbines and met mast. This will ensure the required visibility of the proposed project to any local aircraft during the operational phase. The final locations and dimensions of each turbine will have been mapped and provided to Leitrim County Council and other stakeholders (including the IAA) prior to erection of turbines to ensure that maps and databases are up-to-date for flight navigation.

15.5.2.2 Telecommunications

Consultation with 2RN to date has indicated that they have no objection to the proposed wind farm proceeding, provided that any necessary mitigation measures are implemented at the expense of the Applicant. Further consultation will take place with 2RN as the proposed project progresses.

2RN has outlined their preferred mitigation solutions in order of priority:

1. Re-routing the radio link via an alternative transmitter site.
2. Utilising fibre circuits at existing Points of Presence (POP) sites.
3. Replacing the current link with an alternative point-to-point (PTP) radio link.

Following further consultation prior to construction, one of the above mitigation strategies will be chosen and implemented, and there will be no significant effects to this link.

Regarding the Adelphi Net1 radio link between Dough Mountain and O'Donnell's Rock, the 3D analysis indicates a minimal clearance distance between the blade-tip of Turbine T13 and the radio link's Fresnel Zone. While no direct impacts are anticipated, this proximity suggests that potential interference could arise during the operational phase of the wind farm without the implementation of mitigation measures.

Adelphi Net1 has expressed no opposition to the proposed wind farm and has agreed that any necessary mitigation measures for this radio link would be the responsibility of the Applicant.

The potential mitigation solutions for the Adelphi radio link are as follows:



1. Increasing the installation height of the radio antenna at Dough Mountain.
2. Relaying the link via a relay mast situated within the proposed wind farm site.

Following further consultation prior to construction, one of the above mitigation strategies will be chosen and implemented and there will be no significant effects to telecommunications infrastructure.

15.5.2.3 Other Material Assets

No significant effects on utilities are anticipated during the proposed operational phase. Therefore, no specific mitigation measures are proposed in terms of utilities.

No significant effects on waste / waste management are anticipated during the proposed operational phase. Therefore, no specific mitigation measures are proposed in terms of waste / waste management.

Appropriate, best practice waste management practices will be employed. Segregation of waste will be carried out during operation of the proposed wind farm site to maximise the potential for waste recycling and minimise any potential for effects on waste services. A licensed waste collector will be used to remove any waste that does occur as part of the operation of the proposed wind farm site. A low-flush cistern will be fitted to reduce the volume of wastewater produced and a rainwater harvesting system will be used as the source of water for this and hand-washing basin, with all potable water being brought onsite in bottles.

15.5.3 Decommissioning Phase

During decommissioning, the activities required to facilitate wind turbine decommissioning and removal from site will be similar to those outlined for the construction phase, albeit in reverse and to a lesser extent and duration than during the construction stage.

Therefore, mitigation measures proposed for the decommissioning phase will be proposed at the time of decommissioning and will be similar than those identified for the above ground elements of the construction phase.

15.6 RESIDUAL EFFECTS

This section summarises the residual effects associated with the proposed project.

15.6.1 Construction Phase

Considering the works proposed as part of the proposed project (including the wind farm site, along the proposed GCR or at the proposed TDR works areas), the consultation feedback obtained and the proposed project's distance from aviation infrastructure, (Section 15.3.2 of this chapter), significant effects during the construction phase in relation to aviation are considered unlikely. Potential residual effects are discussed below.

15.6.1.1 Aviation

No significant effect related to aviation is anticipated during the construction phase and no specific mitigation measures are proposed, other than the embedded mitigation by design.

It is noted that in the event of a grant of planning consent:

- The turbines will be included in the IAA Electronic Air Navigation Obstacle Dataset;
- Lighting of the proposed wind turbines in the interest of aviation safe-guarding, as the proposed project would be considered as an en-route obstacle, will be required; and
- The IAA will be notified 30 days in advance of construction (i.e. of the erection of cranes).

As such, no significant residual effect is predicted in relation to aviation as a result of the proposed project, including the proposed TDR accommodations and GCR accommodations.

15.6.1.2 Telecommunications

No significant effect related to utilities is anticipated during the construction phase. As noted above, mitigation strategies will be agreed with 2RN and Adelphi should the proposed project receive planning permission.

As such, no residual effect is predicted in relation to construction post mitigation as a result of the proposed project, including the proposed TDR accommodations and GCR accommodations..

15.6.1.3 Other Material Assets

No significant effect related to utilities is anticipated during the construction phase. Should any existing underground services be encountered during construction, particularly along the proposed GCR, or at the locations of the proposed TDR works areas, the Standard measures / practices discussed (see Section 16.5.1.3) in relation to underground services will be undertaken to reduce any potential residual effects to an unlikely, brief, negative, not significant effect.

A short-term, imperceptible, neutral, residual effect is predicted with regard to waste services, with this being permanent with regard to any waste generated which requires disposal at landfill.

15.6.2 Operational Phase

15.6.2.1 Aviation

With the implementation of the above mitigation measures, the proposed project will have no significant residual effects.

15.6.2.2 Telecommunications

No significant effect related to utilities is anticipated during the operational phase. As noted above, mitigation strategies will be agreed with 2RN and Adelphi should the proposed project receive planning permission.

In the event that a link/cable/end user had their service interrupted, there may be a temporary, not significant, negative effect until it is resolved, however, it will be the Applicant's responsibility to fix any such issue as soon as possible.

15.6.2.3 Other Material Assets

No residual effects related to utilities or natural resources are anticipated. A long-term, imperceptible, negative residual effect is predicted with regard to waste services related to any



waste generated during the operation and maintenance of the proposed project. This effect would be permanent for any portion of the waste generated that goes to landfill.

15.6.3 Decommissioning Phase

No significant effects are anticipated during the decommissioning phase and no specific mitigation measures are proposed at this time. No residual effects are predicted in relation to aviation, telecommunications and other material assets (i.e., utilities, waste and natural resources).

15.6.3.1 Aviation

No effect related to aviation is anticipated during the decommissioning phase, mitigation measures proposed for the decommissioning phase will be proposed at the time of decommissioning and will be similar than those identified for the above ground elements of the construction phase, as such, no residual effect is predicted in relation to aviation.

15.6.3.2 Telecommunications

There will be no residual effect on telecommunications following the implementation of appropriate mitigation measures during the decommissioning phase.

15.6.3.3 Other Material Assets

There will be no residual effect on other material assets during the decommissioning phase, the mitigation measures will be undertaken to reduce any potential residual effects to unlikely brief slight negative.

An imperceptible short-term negative residual effect is predicted with regard to waste management infrastructure / services. This effect would be permanent for any fraction of the waste that goes to landfill.

15.7 TRANSBOUNDARY EFFECTS

At its nearest distance, the proposed Wind Farm Site is located 3.6km south of the border with Northern Ireland. Accordingly, the potential for transboundary effects has been considered, where necessary.

As part of the review in Appendix 15-2 – Aviation Review Statement, the aeronautical network infrastructure (aerodromes, radar sites, NAVAIDs, etc.) that is used to manage aviation activities in the vicinity of the proposed development has been considered. The extent of this considers transboundary items. No likely significant effects are anticipated in relation to aviation, including those of a transboundary nature.

As part of the review in Appendix 15-1 – Telecommunications Impact Assessment, a consultation was held to all telecommunications operators, including any transboundary operators. The assessment covered the potential for transboundary effects. The Assessment concluded no potential significant effect on transboundary telecommunication operators.

As stated in Section 15.4, the proposed project will not result in any significant effects in relation to telecommunications and utilities. As the project progresses the applicant is responsible for



continued engagement with relevant stakeholders. In the event of any impact the Applicant is responsible for ensuring that the necessary mitigatory measures are in place.

15.8 CUMULATIVE EFFECTS

A cumulative assessment was carried out for the proposed project to include the consideration of projects discussed in Chapter 1 - Introduction of this EIAR (see Appendix 1-6 – Relevant Plans and Projects Considered for Cumulative Assessment). The findings relevant to Material Assets are outlined below.

With regard to Aviation and Telecommunications, the following projects identified within the cumulative assessment have been noted:

- Faughary Wind Farm containing three (3) 119 m high wind turbines. The nearest turbine is located 530 m west of T6 of the proposed project.
- Derrykillew Wind Farm, Ballyshannon, Co. Donegal, containing 5 turbines, located approximately 18 km south of the proposed project.
- Tullynamoyle Wind Farm, 19 turbines, located approximately 10 km to the west of the proposed project.
- Kerrigan Quarries Carrickoghil, Killarga is located c. 10km south of the proposed project.
- Leitrim County Development Plan 2023-2029

As discussed in Section 15.4 and as outlined in the Aviation Review Statement (Appendix 15-2), no significant effects in relation to aviation are anticipated during the construction, operational or decommissioning phases of the proposed project. The projects identified in the cumulative impact assessment and outlined above are not anticipated to have a significant cumulative effect on aviation due to their location with respect to the proposed project. The applicant remains responsible for continued engagement with relevant Aviation stakeholders and following the implementation of the mitigation measures discussed in Section 15.5, no significant cumulative effects are anticipated.

As discussed in Section 15.4 and as outlined in the Telecommunications Assessment Report (Appendix 15-1), no significant effects in relation to telecommunications are anticipated during the construction, operational or decommissioning phase of the proposed project. The projects identified in the cumulative impact assessment and outlined above are not anticipated to have a significant cumulative effect on telecommunication assets. Mitigation measures detailed in Section 15.5 will be agreed with 2RN and implemented to prevent any potential effects as a result of the proposed development and consequently any significant cumulative effects on telecommunications.

Waste volumes from the proposed project are anticipated to be generally low, with the exception of the decommissioning phase (primarily in relation to turbines and met mast). Should the decommissioning phase of the proposed project and neighbouring wind farm overlap there will be an increase in waste generated. However, the majority of wastes from decommissioned infrastructure will be recyclable, and the large items (turbines, met mast) will be collected and processed by appropriately licensed specialist companies. There will be no significant



cumulative effect on waste services. The neighbouring operational wind farm currently exports electricity to the national grid network. The proposed project, if consented, will increase renewable electricity generation in the area.

The Leitrim County Development Plan (2023-2029) outlines a number of objectives and policies in relation to material assets including telecommunications, energy infrastructure, waste management and water infrastructure and supply. All new plans and projects proposed within the county must adhere to the relevant policies and objectives. Adherence to the Council's policies and objectives will therefore ensure that all plans and projects proposed will not result in significant effects. There is no potential for negative cumulative effects between the Leitrim County Development Plan 2023-2029 and the Proposed Project.

Overall, significant cumulative effects from the proposed project on material assets when considered alongside the other developments/projects/activities in the area are not anticipated.

15.9 CONCLUSION

Following consultation with material asset stakeholders (i.e., aviation, telecommunication and service operators), and a review of other material assets present in the local and wider area (i.e., water, electricity supply, gas, waste services, mineral/aggregates/quarry sites etc.), a number of potential areas of effects were identified and assessed. With the application of the mitigation measures outlined in this chapter, it is not anticipated that the proposed project will result in significant effects in relation to the material assets described at any stage (i.e., construction, operational and decommissioning phases).

Design stage considerations, such as turbine locations, proposed GCR and TDR routes, and embedded mitigation measures outlined in this chapter, other relevant technical chapters, and the CEMP will be put in place to ensure that effects from the proposed project are mitigated for and in compliance with the relevant standards and agreements to ensure that there will be no significant adverse effects on material assets.

Overall, following consideration of the residual effects as set out in Section 15.6, it is considered that the proposed project will not result in a significant negative effect on material assets in the local or wider area. In summary, there are no likely significant effects during the construction, operation or decommissioning phases or in terms of cumulative impact with other projects.



15.10 REFERENCES

<https://www.gsi.ie/en-ie/data-and-maps/Pages/Minerals.aspx#>

EirGrid (2025a). EirGrid Transmission System Map. Available at: <https://cms.eirgrid.ie/sites/default/files/publications/EirGrid-Transmission-System-Map-February-2025.pdf>

EirGrid (2025b). EirGrid Transmission Policies and Standards. Available at: <https://www.eirgrid.ie/grid/transmission-policies-and-standards>

Environmental Protection Agency (EPA) (2024). National Waste Statistics. Available at: <https://www.epa.ie/our-services/monitoring--assessment/waste/national-waste-statistics/>

EPA (2024a). National Waste Statistics 2022 – Municipal Waste. Available at: <https://www.epa.ie/our-services/monitoring--assessment/waste/national-waste-statistics/municipal/>

EPA (2024a). National Waste Statistics 2022 – C&D Waste. Available at: <https://www.epa.ie/our-services/monitoring--assessment/waste/national-waste-statistics/construction--demolition/>

EPA (2025a). Licensing and Permitting. Available at: <https://www.epa.ie/our-services/licensing/waste/>

EPA (2025b). Search for a Licence/Permit. Available at: <https://www.epa.ie/our-services/licensing/licencesearch/>

EPA (2025c). Waste Licensing. Available at: <https://www.epa.ie/our-services/licensing/waste/waste-licensing/>

EPA (2025d). EPA Maps Portal. Available at: <https://gis.epa.ie/EPAMaps/>

ESB (2025). Publications & Consultations. Available at: <https://www.esbnetworks.ie/about-us/publications-consultations>

Gas Networks Ireland (2025). Gas Network Infrastructure Data - <https://www.gasnetworks.ie/home/safety/dial-before-you-dig/>

HSA (2025). Quarries in Ireland. Available at: <https://www.hsa.ie/eng/your-industry/quarrying/quarries-in-ireland/>

Irish Concrete (2025). Members Directory. Available at: <https://irishconcrete.ie/members-directory/>

Irish Concrete (2025). Quarries and Aggregates. Irish Concrete (2025). <https://irishconcrete.ie/backbone-sustainable-construction/quarries-and-aggregates/>

Uisce Éireann Water Data – Data requests

Uisce Éireann (2020). Code of Practice for Wastewater Infrastructure, Uisce Éireann, July 2020 (Revision 2). Available at:



<https://www.water.ie/sites/default/files/docs/connections/faqs/Wastewater-Code-of-Practice.pdf><https://www.gsi.ie/en-ie/data-and-maps/Pages/Minerals.aspx#>

<https://cms.eirgrid.ie/sites/default/files/publications/EirGrid-Transmission-System-Map-February-2025.pdf>

<https://irishconcrete.ie/members-directory/>

<https://irishconcrete.ie/backbone-sustainable-construction/quarries-and-aggregates/>

https://www.hsa.ie/eng/your_industry/quarrying/quarries_in_ireland/

<https://www.gsi.ie/en-ie/data-and-maps/Pages/Minerals.aspx#>

