

15.

MATERIAL ASSETS

Material Assets are defined in the ‘Guidelines on the Information to be contained in Environmental Impact Assessment Reports’ (EPA, 2022) ‘as *‘built services and infrastructure. Traffic is included because in effect traffic consumes transport infrastructure’*. They may be either of human or natural origin.

The cultural assets of Archaeology and Cultural Heritage are addressed in Chapter 14 of this Remedial Environmental Impact Assessment Report (rEIAR). 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 8: Land, Soils and Geology, Chapter 9: Hydrology and Hydrogeology, Chapter 10: Air Quality, and Chapter 11: Climate. Tourism and amenity resources, which are also considered material assets, are addressed in Chapter 5 on Population and Human Health. The Population and Human Health chapter also addresses existing land-uses (economic assets), including forestry and agriculture.

This chapter of the rEIAR addresses the likely significant effects of the Existing Development on transportation infrastructure (Section 15.1 Traffic and Transport), on Telecommunications and Aviation (Section 15.2), and other Material Assets (Section 15.3) which are economic material assets of human origin. As per the EPA Guidelines (2022) Waste Management is considered as part of Material Assets and is therefore included in this assessment. Waste Management pertaining to the Existing Development is set out in the 2019 Construction and Environmental Management Plan (2019 CEMP) for the Permitted Development which is included as Appendix 4-4 of the rEIAR. The 2019 CEMP includes a Waste Management Plan (WMP).

This chapter of the rEIAR has been prepared in accordance with the requirements of the Environmental Impact Assessment (EIA) legislation and guidance outlined in Chapter 1 Introduction. The assessment of likely significant effects on material assets uses the standard methodology and classification of impacts as presented in Section 1.7.2 of Chapter 1 of this rEIAR.

As detailed in Section 1.1.1 in Chapter 1 of this rEIAR, the various development components are described and assessed using the following references: ‘Subject Development’, ‘Existing Development’, ‘Prospective Development’, ‘Permitted Development’, ‘Site’, ‘Wind Farm Site’, ‘Grid Connection Site’, ‘BMEP Site’, ‘Grid Connection’, ‘November 2020 Peat Slide’, ‘2017 EIAR’ and ‘proposed turbines’ or ‘proposed turbine locations’. A detailed description of the Existing Development is provided in Chapter 4: Description, of this rEIAR.

15.1

Traffic and Transport

15.1.1

Introduction

15.1.1.1

Background and Objectives

This section considers the effect of the Existing Development on roads, traffic and transport. The construction of the Existing Development was undertaken in accordance with the Traffic Management Plan (TMP) which was included in the 2019 CEMP for the Meenbog Wind Farm and is included as Appendix 4-3 of this rEIAR. The TMP relates to the development of Meenbog Wind Farm including junction accommodation works along the turbine delivery route and connection to the national grid. The 2019 CEMP was submitted to Donegal County Council under planning compliance and prior to the commencement of any construction works.

For developments of this nature, the construction phase is the critical period with respect to the traffic effects experienced on the surrounding road network in terms of both the additional traffic volumes that

is generated on the road network, and the geometric requirements of the abnormally large loads associated with the wind turbine components. Since no turbine components were delivered to the site during the construction of the Existing Development, there were no abnormal sized loads generated during this period.

15.1.1.2 Statement of Authority

This section of the rEIAR has been prepared by Alan Lipscombe. Alan is a competent expert in traffic and transport assessments. In 2007, Alan set up a traffic and transportation consultancy providing advice for a range of clients in the private and public sectors. Prior to this Alan was a founding member of Colin Buchanan's Galway office having moved there as the senior transportation engineer for the Galway Land Use and Transportation Study. Since the completion of that study in 1999, Alan has worked throughout Ireland on a range of projects including: major development schemes, the Galway City Outer Bypass, Limerick Planning Land-Use and Transportation Study, Limerick Southern Ring Road Phase II, cost benefit analyses (COBA) and various studies for the University of Galway. Before moving to Galway in 1997, Alan was involved in a wide variety of traffic and transport studies for CBP throughout the UK, Malta and Indonesia. He has particular expertise in the assessment of development related traffic, including many wind farm developments including the following: Ardderroo, Derrinlough, Knocknamork, Shehy More, Cloncreen, Derrykillew, Ballyhorgan, Lettergull, Barnadivane, Cleanrath, Knockalough, Sheskin South and Borrisbeg.

Alan has a BEng (hons) Degree in Transportation Engineering (Napier University, Edinburgh, 1989), is a member of Engineers Ireland and of the Institute of Highways and Transportation and is a TII accredited Road Safety Audit Team Member.

15.1.1.3 Scoping and Consultations

The scoping and consultation process with statutory and non-statutory consultees is part of the EIAR process and has been used to inform the Traffic and Transport assessment undertaken. The Scoping Report was issued to over 90 consultees regarding the Subject Development; the responses relevant to Traffic and Transport are detailed below.

Fáilte Ireland

A scoping request was issued to Fáilte Ireland on 5 September 2025. A response was received on 21st October 2025, in which they attached a copy of Fáilte Ireland's (2023) *Guidelines for the Treatment of Tourism in EIA*. Fáilte Ireland highlights the need to assess the baseline in traffic assessments and how they could affect tourism sensitive sites in the area with regards to parameters such as traffic flow.

Transport Infrastructure Ireland (TII)

A scoping request was issued to TII on 5 September 2025. A response was received on 17th September 2025, which contained general comments for best practice regarding traffic assessments and policy and safety considerations to be considered regarding delivery routes and general traffic implications the Subject Development may have. As the comments relate to the assessment of the Prospective Development, they are addressed in detail in Chapter 15 of the EIAR.

Northern Ireland Department for Infrastructure

A scoping request was issued to the Department for Infrastructure (Northern Ireland) on 5th September 2025. A response was received on 28th November 2025. The response notes that potential transboundary effects should be considered as part of the EIA which are addressed in Sections 15.2.10 and 15.3.8.

Department of Transportation (DoT)

A scoping request was issued to the Department of Transportation on 5 September 2025. A response was received on 23 September 2025. DoT advised that where the developer proposed the placement of any cables (or additional cables) in one or more trenches within the extents of the public road network, it is necessary to consider impacts on Road Authority and cost of works post construction, road stability and constructability assessments, future road space and utility accommodation, and operation and maintenance requirements with the Local Authority.

It is confirmed that the points raised by the DoT were considered in the route selection and design of the Grid Connection as set out in Chapter 3 of this EIAR. However, it should be noted that the DoT response is primarily relevant for proposals to place a new cable in a public road. In this instance all works associated with the Grid Connection have been completed as part of the Existing Development, no additional works are proposed, and the Grid Connection is fully operational. All relevant licences and permissions to construct the Grid Connection were obtained and adhered to in advance of and during the construction of the Grid Connection.

15.1.1.4 Limitations and Difficulties Encountered

No limitations or difficulties were encountered during the preparation of the Traffic and Transport section of the Material Assets Chapter of the rEIAR.

15.1.1.5 Methodology

This section of the rEIAR adopts the guidance for such assessments set out by TII, in the document number PE-PDV-02045 ‘*Traffic and Transport Assessment Guidelines, May 2014*’.

This Traffic and Transport Section of the rEIAR is set out as follows:

- A review of the existing and future transport infrastructure in the vicinity of the Existing Development, an assessment of base background 2018 traffic flows (Section 15.2.4.1 Background Traffic Flows);
- A description of the nature of the Existing Development and the traffic volumes that it generated during construction (Section 15.2.6 –Trip Generation); and
- A description of effects of the Existing Development on Roads and Traffic (Section 15.2.7 – Likely Significant Effects and Associated Mitigation Measures).

15.1.2 Receiving Environment

15.1.2.1 Wind Farm Site and Grid Connection Site Location

The Wind Farm Site is located within a rural, agricultural setting in County Donegal approximately 8 km southwest of the twin towns of Ballybofey and Stranorlar and approximately 12 km northeast of Donegal Town at its nearest point. The Grid Connection Site extends southwest from the Wind Farm Site for approximately 6 km along the N15 National Road towards Donegal Town before exiting the N15 to the southeast and following Local Roads, adjacent agricultural land and private access track to the Clogher 110kV substation.

15.1.2.2 Construction Traffic Haul Route

All construction materials such as concrete, and steel entering the Wind Farm Site entered from the south and north, via the existing Wind Farm Site entrance junction on the N15 National Road. All concrete required for each of the turbine foundations was delivered to the Wind Farm Site in one day per foundation for a total of 14 days. All concrete and other deliveries provided by local quarries

accessed the Wind Farm Site via the existing Wind Farm Site entrance junction off the N15 National Road.

15.1.3 Existing Traffic Volumes Environment

It should be noted that traffic volumes are discussed in passenger car units, or PCUs, where each vehicle is expressed in terms of its demand on the network relative to the equivalent number of cars. For example, an articulated Heavy Goods Vehicle (HGV) was given an average factor of 2.4 passenger car units (as per TII Project Appraisal Guidelines for National Roads Unit 5.2).

15.1.3.1 Background Traffic Flows

A continuous traffic counter is maintained by TII on the N15 between Donegal and Ballybofey, adjacent to the rEIAR Site, at Lough Mourne, with the Average Annual Daily Traffic volume (AADT) on the N15 recorded to be 7,156 vehicles in 2018. This number has increased to 8,508 in 2025 and was at its lowest in 2020 due to the COVID pandemic reducing traffic volumes to 5,654 vehicles. This section of the N15 has an operational capacity of 11,600 AADT. A summary of AADT data for the N15 for the years 2018 to 2025 is provided in Table 15-1, below.

Table 15-1 Average Annual Daily Traffic volume for N15 at Lough Mourne, between Donegal Town and Ballybofey

Year	AADT
2018	7,156
2019	7,418
2020	5,654
2021	6,449
2022	7,569
2023	7,996
2024	8,195
2025	8,508

15.1.4 Trip Generation

The assessment of the effects of traffic generated during the construction of the Existing Development is considered as follows.

- General construction: groundworks, construction of temporary construction compounds, excavation of turbine foundations, onsite 110kV substation, internal electrical cabling
- Concrete Pouring
- Construction of grid connection

For the purpose of the traffic impact assessment, the estimation of trips generated by the Existing Development is based on actual deliveries of equipment and material to the Site.

The construction of the Existing Development was carried out in accordance with the 2019 CEMP and is included as Appendix 4-3 of this rEIAR. This CEMP was agreed with the Local Authority prior to construction commencing.

Although some construction activities have occurred on a sporadic basis throughout the period from November 2019 to the present, the vast majority of construction activities occurred during the 12-month period from November 2019 to November 2020. Furthermore, almost all HGV deliveries of plant and material to the Site occurred between November 2019 and November 2020. There are currently no on-going traffic generating activities occurring at the Site. The following is a brief timeline of construction activities at the Site:

- **November 2019 – November 2020:** Construction was ongoing until it was halted due to a peat slide. Approximately 90% of groundworks were completed during this period and a large majority of deliveries to the site occurred during this period.
- **November 2020 – July 2022:** Peat slide remediation works were carried out. Following extensive investigation, the EPA confirmed their satisfaction that the site was stable and that works could recommence. On 7 July 2022, the DCC Environment Section issued a letter confirming their satisfaction with the peat slide remediation works and closing the Section 12 notices issued. Very limited deliveries of materials occurred during this period.
- **July 2022 – December 2022:** Construction resumed, during which some additional works were carried out on site roads, internal site ducting, hardstanding areas, borrow pits, and peat cells. There were some deliveries of stone and aggregate to the site from September 2022 to November 2022.

Following the precautionary principle, a construction phase duration of 13 months has been used for purposes of the traffic impact assessment. For assessment purposes a standard 255 working days per annum was adopted, equating to 276 working days over a 13-month construction period. For the purposes of assessment it is assumed that all deliveries of plant and material occurred within this period. Of these 276 days, the assessment presented below is based on the following number of delivery days for each stage of construction:

Site preparation and groundwork = 262 days

Concrete foundation pouring = 14 days

Construction of grid connection = 152 days (undertaken concurrently to the Site preparation and groundworks)

As noted above, an additional work period where traffic was generated occurred between September and November 2022. During this period additional stone and aggregates were delivered to the site. However, following the precautionary principal, the deliveries that occurred in 2022 have been included in the general construction period for the purposes of assessing trip generation and the effects on link capacity. This allows a worst-case scenario to be presented. The traffic generated by the concrete foundation pouring, which is assessed separately, is significantly higher in terms of PCUs per day than the traffic generated by deliveries between September and November 2022.

15.1.4.1 Site Preparation and Ground Works (general construction = 262 days, concrete foundation pours = 14 days)

The construction phase of the Existing Development lasted approximately 13 months. For assessment purposes a standard 255 working days per annum was adopted, with 276 working days assumed for the site preparation and ground works stage with the total numbers of deliveries made to the site during shown in Table 15-2, below.

During construction, there were three distinct types of days with respect to trip generation. A total of 14 days were used to pour the 14 concrete wind turbine foundations. Foundations were poured one per day, with approximately 70 concrete loads required for each turbine foundation delivered to the Site over an 8-hour period. This resulted in just under 9 HGV trips to and from the site per hour. No other deliveries were made to the Site on the days on which concrete pouring occurred. On the remaining 262 working days for this stage, other general materials and equipment were delivered to the Site. Construction of the Grid Connection occurred concurrently with the general construction for 152 working days.

It is estimated that 3,612 two-way trips were made to the Site by trucks and large articulated HGVs, as set out in

Table 15-2. The daily effect on the local road network of the various works undertaken is shown in Table 15-3 to

Table 15-5. The figures show that on the 14 days that concrete was delivered to the Site an additional 337 PCUs were added to the network (comprising 70.21 two-way HGV trips or 140.42 movements, with 2.4 PCUs per movement), as shown in Table 15-3. Similarly, on the 262 days when other materials were delivered to the Site, traffic volumes on the local network increased by an average of 27 PCUs, as set out in Table 15-4. Works associated with the grid connection resulted in traffic volumes on the local network increasing by an average of 36 PCUs, for the 152 days on which grid connection works took place, as set out in

Table 15-5.

Table 15-2 Trip generation - Site preparation and general construction works – total loads

Material	Total no. Truck Loads	Truck type
Concrete	983	Trucks
Delivery and removal of plant	100	Large artic
Fencing & gates, geotextiles, drainage pipes	17	Large artic
Steel	59	Large artic
Ducting and cabling (internal)	28	Large artic
Substation building materials and equipment (Excluding aggregates)	70	Truck
Refuelling for plant	128	Large artic
Aggregates imported	1,073	Truck
Wind Farm - Total	2,458	
Grid Connection		
Materials for Grid Connection	692	Large artic
Grid route reinstatement	40	Truck
Grid route- excavated material to licenced disposal facility	422	Truck

Grid Connection - Total	1,154	
Total	3,612	

Table 15-3 Trip generation - Concrete foundation pouring – total movements and volumes per delivery day

Material	Total Truck Loads	Truck type	PCU Value	Total PCUs	2-way PCUs/day	PCU Movements /day*
Concrete	983	Concrete mixers	2.4	2,359.2	168.51	337.02

* Estimation based on 14 concrete pouring days

Table 15-4 Trip generation - Site preparation and general construction works – total movements and volumes per delivery day

Material	Total Truck Loads	Truck type	PCU Value	Total PCUs	2-way PCUs/day	PCU Movements /day*
Delivery and removal of plant	100	Large artic	2.4	240	0.9	1.8
Fencing & gates, geotextiles, drainage pipes	17	Large artic	2.4	40.8	0.2	0.3
Steel including Anchor Cage	59	Large artic	2.4	141.6	0.5	1.1
Ducting and cabling (internal)	28	Large artic	2.4	67.2	0.3	0.5
Substation building materials and equipment (Excluding aggregates)	70	Truck	2.4	168	0.6	1.3
Refuelling for plant	128	Large artic	2.4	307.2	1.2	2.3
Aggregates imported (Sand, blinding, stone)	1,073	Truck	2.4	2,575.2	9.8	19.7
Total	1,475			3,540	13.5	27
* Estimation based on groundwork period of 262 working days						

Table 15-5 Trip generation – Grid Connection works – total movements and volumes per delivery day

Material	Total Truck Loads	Truck type	PCU Value	Total PCUs	2-way PCUs/day	PCU Movements /day*
Materials for Grid Connection	692	Large artic	2.4	1660.8	10.92	21.84
Grid route reinstatement	40	Truck	2.4	96	0.63	1.26
Grid route- excavated material to licenced disposal facility	422	Truck	2.4	1012.8	6.66	13.32
Total	1,154			2,769.6	18.21	36.42
* Estimation based on groundwork period of 152 working days						

15.1.4.2 Construction Employee Traffic

During the construction of the Existing Development, it is estimated that up to 70 staff members were employed on the Wind Farm Site at any one time and an additional 16 members were employed on the construction of the grid connection. Using a precautionary scenario, if it is assumed that all staff travelled to / from the Site by car, at an average of 2 persons per car, then a total of 70 to 86 PCU movements (each trip is two way) were added to the network during the construction of the Existing Development.

15.1.4.3 Summary of construction days and trip generation

General construction of the Existing Development was undertaken for the full duration of the construction phase (i.e. 13 months), with the exception of the 14 concrete foundation delivery days, which were undertaken without any other deliveries to the site for these 14 days. Grid connection works occurred concurrently with general construction works for 152 working days. A summary of the 2-way delivery trips in terms of pcus that were generated on the 3 typical delivery days, together with the duration in days and the access route used, is shown in

Table 15-6.

Table 15-6 Summary of trip generation by delivery day and delivery route

Delivery day	Days	Daily HGV PCU Movements	Daily Car PCU Movements	Total Daily PCU Movements	Delivery route
General construction + grid construction	152	63 (27+36)	86	149	General construction materials delivered via N15
Concrete foundation delivery days	14	337	70	407	Concrete delivered via N15
General construction only	110	27	70	97	General construction materials delivered via N15

15.1.5 Construction Traffic Vehicles

Vehicles which accessed the Site to deliver materials and equipment for the construction of the Existing Development consisted of standard HGVs or LGVs. Standard HGVs and LGVs accessed the Site via the entrance from the N15.

15.1.6 Traffic Effects During Construction of the Existing Development

15.1.6.1 Effect on Link Flows – During Construction

Recorded traffic volumes and Existing Development generated traffic volumes for the three typical construction stage scenarios, discussed in Section 15.2.8, are shown in Tables 15-7 to 15-9. In terms of daily traffic flows the actual effects may be summarised as follows:

General construction + grid construction (152 days)

For 152 days, when general construction works took place simultaneously to the construction of the grid connection, an additional 149 PCUs travelled to/from the Site via the N15. During these days it is estimated that there was a 2.1% increase in traffic on the N15 between Donegal Town and Ballybofey.

Concrete foundation pouring days (14 days)

For 14 days when concrete was delivered to the Site for the construction of the turbine foundations via the identified construction delivery routes, and additional 407 PCUs will travel to/from the Site. During these days it is estimated that there was a 5.7% increase in traffic on the N15 between Donegal Town and Ballybofey.

General construction only (110 days)

For 110 days, when general construction works only took place, an additional 97 PCUs travelled to/from the Site via the N15. During these days it is estimated that there was a 1.4% increase in traffic on the N15 between Donegal Town and Ballybofey.

Table 15-7 Daily traffic volumes on delivery route – background with general construction + grid construction (PCUs)

Link	Background PCUs	Proposed Project PCUs			Total PCUs (Background + Proposed Wind Farm)	Percentage Increase over 2018 Baseline
	Total	Car	HGV	Total	Total	Percentage
N15 between Donegal Town and Ballybofey	7,156	86	63	149	7,305	2.1%

Table 15-8 Daily traffic volumes on delivery route – background with Concrete Deliveries (PCUs)

	Background PCUs	Proposed Project PCUs			Total PCUs (Background + Proposed Wind Farm)	Percentage Increase over 2018 Baseline
	Total	Car	HGV	Total	Total	Percentage
N15 between Donegal	7,156	70	337	407	7,563	5.7%

Town and Ballybofey						
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Table 15-9 Daily traffic volumes on delivery route – background with general construction only (PCUs)

Link	Background PCUs	Proposed Project PCUs			Total PCUs (Background + Proposed Wind Farm)	Percentage Increase over 2018 Baseline
	Total	Car	HGV	Total	Total	Percentage
N15 between Donegal Town and Ballybofey	7,156	70	27	97	7,253	1.4%

15.1.6.2 Link Capacity Assessment

An assessment of the impact on link capacity on the N15 between Donegal Town and Ballybofey was undertaken for construction period associated with the Existing Development. The capacity of the N15 between Donegal Town and Ballybofey is 11,600 vehicles per day.

Capacities are based on road types and widths as set out in the TII Standards document DN-GEO-03031 Road Link Design, Table 6/1. It is noted that the link capacities adopted from the TII guidelines correspond to a Level of Service D, which the guidelines describe as being the level where:

“Speeds begin to decline slightly with a slight increase of flows and density begins to increase somewhat more quickly. Freedom to manoeuvre within the traffic streams is more noticeably limited, and the driver experiences reduced comfort levels”.

Recorded traffic flows for the period from 2018 to 2025 are compared against the link capacity of the road in Table 15-6, with the percentage capacity reached also indicated. While the recorded traffic flows will have included traffic associated with the Existing Development, following the precautionary principal Table 15-6 also provides a comparison of recorded AADT plus flows generated by the Existing Development against the link capacity of the N15.

Based on this assessment, the following is the key points to note;

- N15 (between Donegal Town and Ballybofey) – Throughout the construction of the Existing Development this section of the N15 operated at between 49% and 71% link capacity based on recorded traffic levels for the years 2018 to 2025, inclusive. These recorded data will have included construction traffic associated with the Existing Development. In the scenario where for the 14 days that the concrete foundations were poured, general construction was undertaken, and the grid connections works were all underway concurrently, the Existing Development contributed a total of 407 PCUs. This represents a worst-case scenario in terms of daily trips generated by the Existing Development. Taking a highly precautionary approach and adding the maximum daily trips generated by the Existing Development to the recorded AADT, as shown in Table 15-6 below, it can be seen that this section of the N15 operated at between 53% and 77% link capacity for the years 2018 to 2025.

Table 15-10 Link Capacity and % of Link Capacity During Construction of Existing Development for N15 at Lough Mourne, between Donegal Town and Ballybofey

Year	Link capacity (Level of Service D)	Recorded AADT	Recorded Percentage of Link Capacity	Worst Case Scenario: Recorded AADT + Maximum daily PCUs generated by Existing Development	Percentage of Link Capacity Based on Worst-Case Scenario
2018	11,600	7,156	62%	7,635	66%
2019	11,600	7,418	64%	7,897	68%
2020	11,600	5,654	49%	6,133	53%
2021	11,600	6,449	56%	6,928	60%
2022	11,600	7,569	65%	8,048	69%
2023	11,600	7,996	69%	8,475	73%
2024	11,600	8,195	71%	8,674	75%
2025	11,600	8,508	73%	8,987	77%

Since the N15 between Donegal Town and Ballybofey operated well below capacity throughout the construction of the Existing Development, it is considered that the impact of construction traffic generated by the Existing Development was imperceptible with respect to link capacity.

15.1.7 Effect on Network of the Grid Connection

A detailed description of the Grid Connection is provided in Section 4.4.2.3 of Chapter 4 of this rEiAR. The 110kV onsite substation is connected by 110kV underground cabling to the existing 110kV Clogher Substation located in the townland of Cullionboy, Co. Donegal. The underground cabling route measures approximately 9.6 km of which approximately 7.4 km is located within the public road corridor with the remaining 2.2 km located on private roads and lands.

The grid connection route extends from the on-site 110kV substation at Croaghonagh, along private road for approximately 1.7 km, along the N15 National Primary Road running north to southwest for approximately 5.7 km, along the L-2595 Local Road running west for approximately 1.1 km, continuing south alongside the L-1985 for approximately 425 m, and continuing south along the L-19852 for approximately 210 m until running west along a private road for 495 m in the townland of Cullionboy to the Clogher Substation.

The extent of the Grid Connection that impacted on the public road network is considered in the 6 sections (4 on-road, 2 off-road) summarised in Table 15-7. Construction of the Grid Connection took approximately 152 working days to complete. Works on the portion of the grid connection located within private roads on the Wind Farm Site was undertaken between July 2020 and August 2020, with no direct effect on the public road network. For works that occurred within the public road network, the traffic management approach was as follows:

N15

Traffic was managed using a combination of Stop/Go systems (temporary traffic lights) and contra-flow arrangements. There were no full road closures on the N15. Traffic management was typically reduced or removed outside working hours where feasible.

L-2595

Temporary road closures were implemented on a sectional basis, with local access maintained at all times (i.e. “local access only” arrangements). This would have resulted in a maximum diversion distance of 4.1 km. See Figure 15-1 for the diversion route.

L-1985 and L-19825

These roads remained open during the works, with traffic managed by warning signage and local controls only (no closures required).

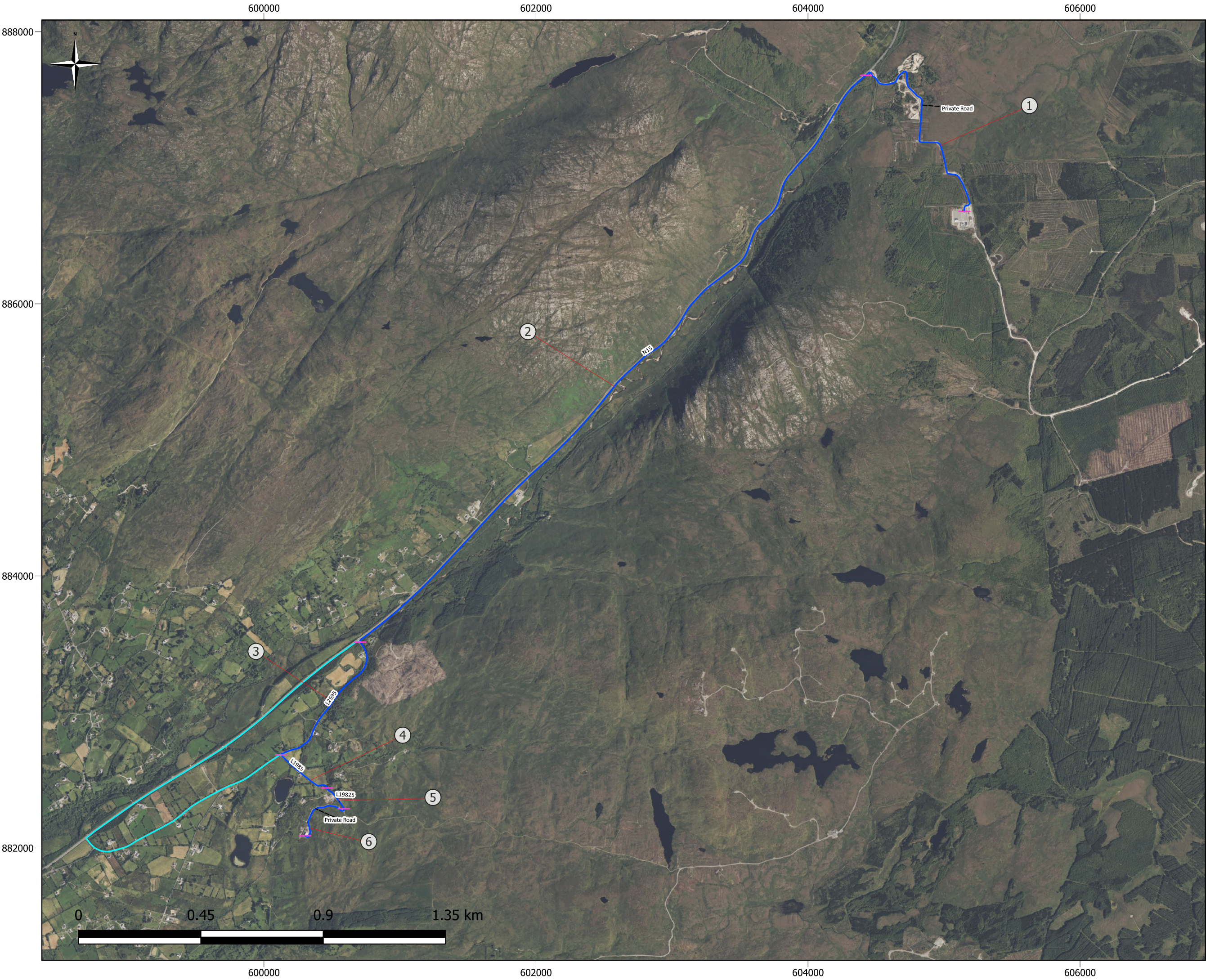
Table 15-11 Proposed Grid Connection underground cabling route link, traffic management measure, link length (km), construction duration (days)

Proposed Grid Connection Section	Traffic management	Length (kms)	Construction duration (days)
Section 1 – Private Road on Wind Farm Site	NA	1.7	34
Section 2 – N15	Stop Go & Contra flow	5.7	83
Section 3 – L-2595	Closure to through traffic. (Local access maintained)	1.1	20
Section 4 – L-1985	Open (warning signage only)	0.4	6
Section 5 – L-19825	Open (warning signage only)	0.2	4
Section 6 - Private Road to Clogher Substation	NA	0.5	5
Total		9.6	152

The impact of the additional traffic that was generated on the network during the construction of the Grid Connection is presented in Section 15.2.10.1

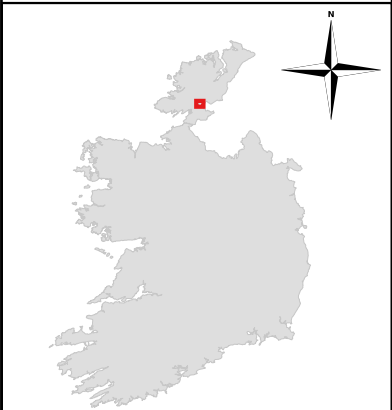
The construction methodology of providing a grid connection under and along local road networks is well established and accepted nationwide. There are in excess of 300 wind farms currently operational in Ireland and the majority of these are connected to the national grid via underground cable connections predominantly along the public road networks.

A Traffic Management Plan (TMP), was put in place during the construction of the grid connection. This TMP was agreed with the road's authority and An Garda Síochána prior to construction works commencing. A copy of this TMP is included as Appendix 4-6.



- Map Legend
- Grid Connection Route
 - Diversion Route
 - ① Sections of Grid Connection Route

Spatial Reference
Name: IRENET95 Irish Transverse Mercator
Datum: IRENET95
Projection: Transverse Mercator



SITE LOCATION - NOT TO SCALE

Drawing Title
**Grid Connection Construction
Diversion Route**

Project Title
**Meenbog Wind Farm, Co.
Donegal**

Project No.	Drawing No.	Scale
240505	Figure 15-1	1:25,000

Drawn by	Checked by	Date
EON	TB	23/06/2026



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15.1.8 Likely and Significant Effects and Associated Mitigation Measures

15.1.8.1 'Do-Nothing' Scenario

The 'Do-Nothing' Scenario is an alternative scenario to retaining and regularising the Existing Development. In this scenario, should the Existing Development not secure substitute consent it will remain in-situ as an unauthorised and partially completed Wind Farm, which is, in effect, the "Do-Nothing" option insofar as it represents the current situation as at the date of the application for Substitute Consent. There would be no additional traffic effects associated with the "Do-Nothing" scenario and the effects of the "Do Nothing" scenario would be the same as the those of the Existing Development described below.

15.1.8.1.1 Existing Development Construction Traffic Volumes

Identification of Impact

For 14 days when concrete was delivered to the Site for the construction of the turbine foundations via the identified construction delivery routes, an additional 407 PCUs travelled to and from the Site. During these days it is estimated that the increase in traffic volumes was approximately +5.7% on the N15 adjacent to the Site. This represents a **temporary, slight, negative effect**, which is Not Significant, on existing traffic on the delivery route.

During the 262 days during which the main elements of the construction of the Existing Development occurred an additional 97 PCUs travelled to and from the Site via the identified construction delivery route. During these days it is estimated that the increase in traffic volumes was approximately +1.4% on the N15 adjacent to the site. During this period the additional traffic generated by the Existing Development had a **short term, imperceptible, negative effect**, which is Not Significant, on existing traffic on the N15. The N15 operated within operational capacity for all days within the construction period.

During the 152 days during which the main elements of the construction of the Existing Development occurred concurrently with grid connection works an additional 149 PCUs travelled to and from the Site via the identified construction delivery route. During these days it is estimated that the increase in traffic volumes was approximately +2.1% on the N15 adjacent to the site. During this period the additional traffic generated by the Existing Development had a **Temporary, slight, negative effect**, which is Not Significant, on existing traffic on the N15. The N15 operated within operational capacity for all days within the construction period.

Mitigation Measures

A detailed TMP was prepared and incorporated in the 2019 CEMP. The Existing Development was constructed with this CEMP in place. Refer to included Appendix 4-3 of this rEiAR. The TMP included the following measures that were in place during the construction of the Existing Development:

- Traffic Management Coordinator – a competent Traffic Management Co-ordinator was appointed prior to and during the construction of the Existing Development who was the main point of contact for all matters relating to traffic management.
- Information to locals – when required, locals in the area were informed of any traffic related matters e.g. temporary lane/road closures via letter drops and posters in public places. An "out of hours" emergency number was also be provided.

- A Pre-Construction Condition Survey – A pre-condition survey of roads was carried out prior to construction commencement to record the condition of the road.
- Travel plan for construction workers –The construction company provided a travel plan for construction staff, which included the identification of a routes to / from the site and provided a dedicated parking area.
- Temporary traffic signs – As part of the traffic management measures temporary traffic signs were put in place at all key junctions, including the access junction on the N15, in accordance with the “Traffic Signs Manual, Section 8 – Temporary Traffic Measures and Signs for Road Works” (DoT now DoTT&S) and “Guidance for the Control and Management of Traffic at Roadworks” (DoTT&S). A member of construction staff (flagman) was present at key junctions during peak delivery times.
- Additional measures - Various additional measures were in place in order to minimise the effects of the development traffic on the surrounding road network including sweeping / cleaning of local roads where required.
- Road Opening Licence – Roads works associated with the grid connection cabling were undertaken in line with the requirements of a road opening licence as agreed with Donegal County Council.
- Trench Reinstatement - Trenches on public roads were reinstated and an agreed surface overlay to the satisfaction of the roads authority.

Residual Effects

Considering the implementation of the above mitigation measures the residual effects of construction traffic were short term, slight, and negative.

Significance of Effects

There were no significant effects on traffic and transport.

15.1.8.1.2 **Effects of Grid Connection Works on Public Road Network**

With respect to the traffic volumes that were generated during the construction of the grid connection, it is estimated that there were approximately 8 daily return trips made by a truck transporting materials, and 8 return trips made by a car to transport construction staff, to and from the Grid Connection Site. Temporary diversions and stop/go contra-flow systems were required for local traffic, as discussed in Section 15.2.11 of this EIAR. The traffic volumes that were impacted on the local road network, other than on the N15, were low. Therefore, by its nature the effects of these additional trips and diversions on the network were transient, and were therefore considered to have been temporary, and slightly negative. The effects were not significant.

Mitigation Measures

In January 2019 a detailed TMP was developed and implemented to manage traffic associated with the installation of ducting for the grid connection. This TMP is included as an appendix to the 2019 CEMP (rEIAR Appendix 4-3). The TMP includes the following measures that were in place during the construction of the grid connection:

- Pedestrians and cyclist were accommodated along the primary and secondary diversion
- routes. Operatives were made aware to watch out for oncoming pedestrians / cyclists and to advise them accordingly.
- Traffic Management Coordinator – a competent Traffic Management Co-ordinator was appointed prior to and during the construction of the Existing Development who was the main point of contact for all matters relating to traffic management.

- Information to locals – when required, locals in the area were informed of any traffic related matters e.g. temporary lane/road closures via letter drops and posters in public places. An "out of hours" emergency number was also be provided.
- Gardai were advised of the intended works to be carried out prior to commencement on the Gardai Consultation form. Emergency services using the local roads were made priority and areas where the works are being carried out were covered immediately with road plates so as to allow access.
- Temporary traffic signs – All works were signed in accordance with the “Guidance for the Control and Management of Traffic at Road Works” (Second Edition 2010). The Routine Works Traffic Management Design.
- The entire traffic management system will be set up prior to any works commencing.
 - Only approved signs were used along the works area.
 - All signs were clean and clearly visible.
 - Once signs were in place the route was assessed to ensure adequate visibility for drivers and pedestrians.
 - All signs were secured and weighted down where appropriate.
 - At the end of each day the excavation was back filled and all materials was removed from the roadside.
 - Where flag men were required, both flag men, the foreman and guarding officer all communicated via two-way radios.
- Road Opening Licence – Roads works associated with the grid connection cabling were undertaken in line with the requirements of a road opening licence as agreed with Donegal County Council.
- Trench Reinstatement - Trenches on public roads were reinstated and an agreed surface overlay to the satisfaction of the roads authority.

Residual Effects

Considering the implementation of the above measures as set out in the approved TMP, the residual effects on the local road network were at worst temporary, slight, and negative.

Significance of Effects

There were no significant effects on traffic and transport.

15.1.9 Cumulative Effects – Existing Development

The extent of the study area of the traffic and transport cumulative impact assessment is based on the guidance set out in the Traffic and Transport Assessment Guidelines, PE-PDV-02045, May 2014, TII, which states that the assessment should include “*developments granted planning permission, but which are yet to become operational as well as any planning applications that have been submitted but have yet to be determined*”.

The same guidelines are referenced to determine which of the developments that fit the above criteria had the potential for cumulative effects with the Existing Development, which is a function of the level of increase on traffic volumes that may have been experienced on a common road network.

In order for a potential cumulative effect to exist other projects would have to be existing or under construction (and generating traffic) at the same time as the construction of the Existing Development. An assessment of all existing or consented projects for the potential for cumulative traffic and transport effects with the Existing Development based on the following criteria;

- Project status (permitted, or proposed)
- Degree of overlap on the highway network (low to high)
- Traffic volumes (low to high).

A detailed list of all developments at varying stages in the development process (from pre-planning to operational), is set out in Appendix 2-1 of this rEIAR. The developments included in the cumulative impact assessment are considered under the following groups;

- Other wind farms,
- Other applications in the Environmental Impact Assessment (EIA) process.
- Strategic Infrastructure Development (SID) applications made to An Coimisiún Pleanála.

No wind farms or other large-scale projects were identified in the immediate vicinity of the Existing Development that were under construction at the same time as the Existing Development. Therefore, there was no potential for cumulative effects on Traffic and Transportation associated with the Existing Development.

The effects of the Existing Development on the local highway network were not significant. Furthermore, the AADT data for the N15 indicates that the road has operated well within operational capacity for the period from 2018 to 2025. On the basis that the N15 operated well below operational capacity (11,600 AADT) throughout the period when construction activities were ongoing it can be concluded that there were no significant cumulative effects on traffic as a result of the Existing Development in combination with the other projects in the vicinity. Further information on projects considered as part of the cumulative assessment and cumulative assessment methodology are in Section 2.9 of Chapter 2: Background of this rEIAR.

15.1.10 In-Cumulation Effects

This section considers the in-cumulation impact of the combination of the Existing Development and Prospective Development (the Subject Development). Since there is no temporal overlap and a significant temporal gap between the traffic generated by the construction of the Existing Development and the construction, operation and decommissioning of the Prospective Development there is no potential for in-cumulation effects from the Subject Development in terms of traffic and transportation.

15.1.11 Cumulative Effects – Subject Development

The potential cumulative effects of the Subject Development are therefore identical to the cumulative effects of the Prospective Development which are discussed in detail in Chapter 15 of the EIAR for the Prospective Development and are summarised below.

A total of 8 no. proposed/permitted wind farms were identified within 25 km of the Subject Development. In the event that the construction of the Prospective Development coincides with the construction phase of either of the 8 no. proposed/permitted wind farms, it is forecast that the traffic related cumulative impacts would be negative, short-term and slight, based on the potential overlap of TDRs and associated traffic generation. It is therefore proposed that the construction phase of the Prospective Development will be scheduled, where possible, to avoid the overlap of the construction phases of these proposed wind farm developments. This will ensure that the potential for cumulative effects is minimised.

No other identified large-scale developments are anticipated to have overlapping construction phases, with most developments either being operational, or expected to be operational when the Prospective Development begins construction. Therefore, there is no potential for cumulative effects between these projects and the Subject Development.

15.1.12 Transboundary Effects

The delivery routes for materials and equipment associated with the Existing Development did not cross into Northern Ireland. As such, there were no transboundary effects on traffic and transport.

The delivery routes for materials and equipment associated with the Prospective Development will not cross into Northern Ireland. Therefore, there is no potential for transboundary traffic and transport effects due to the Prospective Development

It is acknowledged that a small number of construction staff may have travelled from Northern Ireland but the number of trips generated would have been small and the traffic and transport related effects imperceptible.

As such, there are no transboundary effects on traffic and transport associated with the Subject Development.

15.2 Telecommunications, Aviation, and Other Material Assets

15.2.1 Statement of Authority

This section of the rEIAR has been prepared by Thomas Blackwell with assistance from Emma Prior and has been reviewed by Sean Creedon.

Thomas Blackwell is a Senior Environmental Consultant in McCarthy Keville O'Sullivan (MKO). Thomas has over 20 years of progressive experience in environmental consulting. Thomas' professional experience includes managing EIARs, environmental permitting, environmental due diligence and compliance, and general environmental assessment on behalf of clients in the renewable energy, mining, solid waste management, residential and commercial development, and public sectors. Thomas' multi-sector experience working on projects in multiple jurisdictions has allowed him to develop a wealth of knowledge and understanding of the challenges involved in guiding complex project through the regulatory and planning process. Thomas also has experience in habitat restoration design and implementation for impact mitigation and offsetting. Thomas holds a Bachelor of Arts Degree in Natural Science from Trinity College Dublin, and a Master of Science Degree in Environmental Resource Management from University College Dublin and is a Professional Wetland Scientist.

Emma Prior is an Environmental Scientist with MKO since September 2024. Emma holds a first-class Honours BA (Hons) in Geography & Human Development from Dublin City University and a Master of Science Degree in Environmental Resource Management from University College Dublin achieving a first-class honours Thesis. Emma's key strengths and areas of expertise are in environmental geography, field research, communication, and teamwork. Emma is skilled in report writing and QGIS mapping, with experience across a diverse range of projects including wind farms, wastewater treatment plants, quarries, and residential developments. Since joining MKO, Emma has been involved in the preparation of Environmental Impact Assessment (EIA) Scoping Reports, EIA Report Chapters, Construction Environmental Management Plans and Environmental fieldwork including surface and groundwater monitoring.

Sean is an Associate Director in the Environment Team at MKO. He oversees a team of highly skilled environmental professionals working on EIAR for large-and medium scale Renewable Energy infrastructure. Sean has directed and overseen multiple renewable energy projects across wind, solar, battery, biogas and hydrogen as well as a range of thermal and other energy related developments. He has worked on the planning and environmental impact elements within all stages of

wind farm project delivery. He is a member of the MKO senior management team responsible for developing the business, mentoring team members, fostering a positive culture and promoting continuous employee professional development. Sean has over 24 years' experience in program and project development, holds an MSc from NUI Galway and a Diploma in Project Management from Institute of Project Management Ireland.

15.2.2 Telecommunications and Aviation

Operational wind turbines can have the potential to affect signal types used for communication and aircraft navigational systems, for example overhead telecommunication tower-to-tower microwave communication links, and airborne and ground radar systems interfere with broadcast signals, by acting as a physical barrier or causing a degree of scattering to microwave links. Tall structures such as wind turbines also have the potential to be a hazard to aviation under certain conditions.

The Existing Development comprises low or below ground structures only, such as the substation, roads and borrow pits. Therefore, there has been no potential for effects on aviation, overhead broadcast communications, telecoms, or electromagnetic interference, and as such, impacts on overhead telecommunications and aviation have been scoped out of this assessment. Potential effects on telecommunications and aviation associated with the Prospective Development are discussed in detail in Section 15.2 of the EIAR.

15.2.3 Other Material Assets

15.2.3.1 Introduction

This section of the Material Assets chapter of this rEIAR assesses the likely significant effects of the Existing Development on water, gas, electricity and waste management. Section 15.2.3.6 describes the baseline environment as it relates to material assets in the vicinity of the Wind Farm Site and Grid Connection Site and the potential for effects on those assets. Section 15.2.3.7 presents an assessment of the likely significant effects (and mitigation measures that were implemented) on other material assets. This section also considers waste management during the construction phase of the Existing Development. The most up to date Gas Networks Ireland (GNI) data indicates that there is no GNI infrastructure located within or adjacent to the Wind Farm Site and Grid Connection Site with the nearest infrastructure being approximately 28 km to the west of the Wind Farm Site and Grid Connection Site. Thus, the potential for impacts on gas infrastructure is scoped out

15.2.3.2 Methodology and Guidance

The methodology for this assessment includes:

- Legislation, policy and guidance review;
- Scoping exercise with stakeholders;
- Desk study: Baseline information gathering, including review of available maps and published information, followed by mapping of constraints;
- Impact Assessment.

15.2.3.3 Legislation, Policy and Guidance

This impact assessment follows the overall methodology and guidance relating to EIA as set out in Section 1.2 and Section 1.7.2 of Chapter 1 of this rEIAR, and has regard, where relevant, to guidance and policy documents listed below:

- Donegal County Council (DCC) (2024) County Donegal Development Plan (2024-2030).

- DCC (2018) County Donegal Development Plan 2018-2024 (As varied).
- Department of Environment, Heritage and Local Government (2006) Wind Energy Development Guidelines for Planning Authorities (DoEHLG, 2006) (hereafter '*the Guidelines (DoEHLG, 2006)*');
- Department of the Environment, Heritage and Local Government (2019) Draft Revised Wind Energy Development Guidelines (DoHPLG, 2019) (hereafter '*the Draft Guidelines (DoHPLG, 2019)*');
- Irish Wind Energy Association (2012) *Best Practice Guidelines for the Irish Wind Energy Industry*.
- ESB Networks (2019) *Code of Practice for Avoiding Danger from Overhead Electricity Lines*.
- ESB (2017) *EMF & You: Information about Electric & Magnetic Fields and the electricity network in Ireland*.
- Irish Rail (2018) *CCE Department Technical Guidance Document CCE-TMS-310 Guidance on Third Party Works*.
- Irish Rail (2009) *CCE Departmental and Multidisciplinary Standard I-DEP-0121 Third Party Works: Additional Details of Railway Safety Requirements*.
- Waste Management:
 - Waste Framework Directive (2008/98/EU), as amended by Directive (EU) 2018/851.
 - Waste Management Acts 1996 to 2016, as amended.
 - European Communities (Waste Directive) Regulations 2011 (S.I. No. 126 of 2011), as amended.
 - EPA (2021) Best Practice Guidelines for the Preparation of Resources & Waste Management Plans for Construction and Demolition Projects.
 - IEMA (March 2020) Guide to Materials and Waste in Environmental Impact Assessment.
 - EPA (2020) Guidance on Waste Acceptance Criteria at Soil Recovery Facilities
 - EPA (2020) By-Product – Guidance Note, A Guide to By-products and Submitting a By-product Notification Under Article 27 of the European Communities (Waste Directive) Regulations 2011 (S.I. No 126 of 2011).
 - EPA (2019) Guidance on Stone and Soil By-Products in the context of Article 27 of the European Communities (Waste Directive) Regulations 2011.
 - TII (2017) The Management of Waste from National Road Construction Projects, GE-ENV01101
 - Government of Ireland (2020) Environmental Protection Agency (2021) National Hazardous Waste Management Plan 2021-2027

15.2.3.4 Scoping and Consultation

In order to assess the potential for significant effects on built services and waste management in the vicinity of the Subject Development, scoping requests were made to EirGrid, Uisce Éireann, Gas Networks Ireland, and numerous sections of Donegal County Council, including the Roads Department and Environment Department.

Scoping was carried out for the Subject Development in line with the EPA, 2022, and the '*Best Practice Guidelines for the Irish Wind Energy Industry*' (Irish Wind Energy Association, 2012) which provides a recommended list of telecommunications operators for consultation. Refer to Section 2.8 of Chapter 2: Background, of this rEIAR for details in relation to the EIA scoping exercise.

No scoping response was received from the Water department of Donegal County Council. A scoping response was received from Uisce Éireann as detailed below (Section 15.2.3.4.1). A scoping and consultation exercise was conducted with utilities operators, as outlined below. A full description of the

scoping and consultation exercise is provided in Section 2.9 of Chapter 2: Background to the Existing Development of this rEIAR.

The below details the responses which relate to the Existing Development, the subject of this rEIAR.

15.2.3.4.1 **Utilities**

Commission for Regulation of Utilities, Water and Energy (CRU)

A scoping request was sent to the CRU on the 5th September 2025; however, no response was received. A follow-up email was sent on 25th March 2026; however, no response has been received to date.

ESB

A scoping request was issued to ESB on the 27th May and again on the 22nd July 2025. A follow up scoping request was issued on 25th March 2026, and a response was received on the 10th of April 2026 stating ‘

Sent to the relevant teams to review and respond directly should the need arise.’

No further response has been received to date.

EirGrid

A scoping request was issued to EirGrid on 5th September 2025. An additional scoping request was issued on 25th March 2026. EirGrid responded on 25th March 2026 and provided a link to the EirGrid Electricity Transmission Infrastructure Development¹ which informs on EirGrid Engagement Protocol for UGC cables in public roads. In addition, a document was attached which was

‘issued by the RMO to County Councils. It was issued to EirGrid for information and has had no input from us nor ESB’.

The response also included a reference to the EirGrid Powering Up the North West programme, which includes the Clogher-Srananagh project².

Uisce Éireann

A scoping request was issued to Uisce Éireann on the 5th of September 2025 and a response was received on the 6th of October 2025 (dated 3rd October 2025), identifying key risks to be addressed within the EIAR such as impacts to water sources, hydrological pathways and surface water runoff. Uisce Éireann states that they do not permit building over their assets or any works which would disrupt their infrastructure, and outline that if the project is likely to affect Uisce Éireann assets the developer will need to enter into a diversion’s agreement prior to construction. Section 15.2.3.6.3 below addresses water supply infrastructure present in the vicinity of the Site. For further detail see Chapter 9: Hydrology and Hydrogeology of this rEIAR.

A data request was sent to Uisce Éireann on the 24th of March 2026 requesting shapefiles for any existing water and sewer infrastructure within the Site. The relevant data was returned from Uisce Éireann on the 30th of March 2026.

Gas Networks Ireland (GNI)

¹ [Electricity-Transmission-Infrastructure-Development-Roads-Sector-Engagement-Framework.pdf](#)

² <https://www.eirgrid.ie/northwest>

GNI supply MKO with their latest infrastructure data quarterly. The latest data share illustrating all GNI infrastructure was provided to MKO in November 2025. The data indicates that there is no GNI infrastructure located within or adjacent to the Site. Data for Northern Ireland is not as readily available, however the pipeline map³ available from Gas Networks Ireland shows that the nearest gas infrastructure within Northern Ireland is in Strabane, located approximately 27km from the Wind Farm Site. Following this response, impacts on GNI assets are not considered further.

15.2.3.4.2 **Other**

Department of the Climate, Energy and the Environment

A scoping request was sent to the Department of Climate, Energy and the Environment (DCEE) on the 5th of May 2025. While no direct response was received from DCEE, a submission was received from Geological Survey Ireland (a division of DCEE), which is recorded separately in Chapter 2. The submission on behalf of Geological Survey Ireland was received on the 19th of September 2025 recommending the use of their various data sets when conducting the EIAR, SEA, planning and scoping processes for developments, plans and policies. No information in relation to Material Assets was provided within the received response.

Donegal County Council

A scoping request was sent to the Water Department of Donegal County Council. No response has been received to date.

Telecommunication Operators- Buried services

A scoping request was issued to approximately 40. Telecoms operators on the 10th September 2025. Of those who responded, all indicated that they had no infrastructure in the area that could possibly be impacted by the Existing Development. Refer to Appendix 2-2 for scoping responses.

Córas Iompair Éireann (CIE)

A scoping request was issued to CIE on the 30th March 2026 in relating to the Grid Connection which crossed under a disused Irish Rail line. No response has been received to date.

15.2.3.5 **Desk Study**

In addition to the legislation, policy and guidance listed in Section 5.2.3.3 and information gathered through the scoping exercise, relevant data and information pertaining to the Wind Farm Site and Grid Connection Site was collated from the following sources:

- Base mapping (Osi and Google Earth imagery).
- Existing EirGrid data purchased by Project Team.
- Environmental Protection Agency (EPA) website.
- GSI Map viewer for public water supply information.
- ComReg Siteviewer (<https://siteviewer.comreg.ie/#/mobile-masts>).
- Open Infrastructure Map (<https://openinframap.org/#13.55/54.71933/7.91589>)
- Local Authority Waste Facility Register (<https://facilityregister.nwcpc.ie/>)
- 2019 Construction Environment Management Plan (Appendix 4-4).
- Waste Management Plan Logs for the Existing Development.
- Pre-construction utilities and topographical surveys (including ground penetration radar [GPR] undertaken prior to the construction of the Existing Development.

³ <https://www.gasnetworks.ie/about/what-we-do/pipeline-map>

15.2.3.6 Baseline Environment

15.2.3.6.1 Zone of Influence

There are no guidelines or criteria to define the size of the zone of influence (ZoI) for the assessment of Material Assets. As such, for the purpose of this assessment, the study area is confined to the areas in which there is potential for direct and indirect impact on built services a result of the Existing Development, i.e. the Existing Development footprint.

15.2.3.6.2 Electricity Infrastructure and Supply

There is one existing 110kV overhead line that crosses the Wind Farm Site at the main Wind Farm Site entrance. The 110kV overhead line is not affected by any of the Existing Development infrastructure at any point.

The onsite 110kV substation is connected via underground cable along the N15 national road, local roads, and agricultural fields to the existing 110kV Clogher Substation in the townland of Cullionboy, Co. Donegal. There are five existing 110kV and two 38kV overhead lines that cross the Grid Connection Site. The Grid Connection passes under the 38kV and 110kV overhead electricity lines in the townlands of Meenbog, Croaghonagh, Cashelnavean, Tawnawully Mountains, Friarsbush, Ardinawark, Keadew Upper, Keadew Lower and Cullionboy.

15.2.3.6.3 Water Infrastructure and Supply

A data request was sent to Uisce Éireann in April 2026. The data provided included the water distribution network and sewerage network in the vicinity of the Wind Farm Site. The data return concluded that there are no underground water or sewerage networks within the Wind Farm Site.

There is a water mains pipeline, including several associated hydrants and valves, that runs along a section of the N15, within the Grid Connection Site. This pipeline begins at Biddy's O'Barnes pub at Barnesmore Gap and runs within/parallel to the N15 national road in a south-westerly direction where it re-routes off the N15 onto the L-2595 local road toward Clogher Substation. Along the L-2695 there is a stop-valve and water pipe 'junction' where a different section of pipeline begins and continues along the L-2595 in a southerly direction, passing the junction leading to Clogher Substation. The Grid Connection is located within 10m of network and system valves.

Regarding groundwater resources, the Geographical Survey Ireland do not map the presence of any National Federation registered Group Water Schemes (GWS) or Public Water Schemes (PWS) or an associated Source Protection Area (SPA) within the Wind Farm Site and Grid Connection Site or in the surrounding lands. A search of private well locations (accuracy of 1 – 50 m only) was undertaken using the GSI well database (www.gsi.ie). The GSI database recorded no wells within the Wind Farm Site and Grid Connection Site. The closest well is approximately 16.5 m east of the Grid Connection Site.

Regarding Surface Water Quality, there are no mapped Drinking Water Protected Areas (DWPA) within or immediately downstream of the Wind Farm Site or Grid Connection Site. The closest DWPA is Cullionboy Lough (EU Code: IE_NW_37_210) located approximately 350 m southwest of the Grid Connection route. DCC abstract water from the Bunadaowen River within the Wind Farm Site and Grid Connection Site and pump it to Lough Mourne Reservoir (EU Code: IE_NW_01_104), approximately 1.7 km to the north. In the Donegal Bay North Catchment, the Eske_020 River Water Body (RWB) (EU Code: IE_NW_37E050400) upstream of Donegal Town and downstream of Lough Eske is listed as a DWPA, located approximately 4.5 km southwest of the Wind Farm Site and Grid Connection Site. Further detail on the impact assessment and mitigation measures of these water resources is provided in Section 9.5 of Chapter 9: Hydrology and Hydrogeology, of this rEiAR.

15.2.3.6.4 Motorways

The Existing Development did not and does not interfere with or traverse any motorways within or surrounding the Wind Farm Site or Grid Connection Site. Traffic and Transport impacts are assessed fully in Section 15.1.

15.2.3.6.5 **Railways**

There is one disused railway line that crosses the Wind Farm Site at the main Wind Farm Site entrance. The railway line once ran between Donegal-Stranorlar but officially ceased all operations in 1959. This railway line intersects the Wind Farm Site access track.

15.2.3.6.6 **Waste Management Services**

There are no EPA-licensed or local authority-authorised waste facilities or activities located within the Wind Farm Site or Grid Connection Site. The nearest licensed waste facility to the Wind Farm Site and Grid Connection Site is Ballynacarrick Landfill Site, located approximately 16 km to the southwest of the Wind Farm Site and Grid Connection Site.

A Waste Management Plan (WMP) was prepared as part of the 2019 CEMP (Appendix 4-4) for the Meenbog Wind Farm. The Existing Development was constructed in line with the 2019 CEMP. The WMP outlines the methods of waste prevention and minimisation by recycling, recovery and reuse during the construction phase of the Existing Development. Disposal of waste to landfill was a last resort.

Prior to the commencement of the construction of the Existing Development, a Construction Waste Manager (CWM) role was established on-site who ensured that all hired waste contractors had the necessary authorisations and that the waste management hierarchy was adhered to. The CWM recorded all waste dispatched from the site, including the volume, type, destination, licence no. of the waste facility. The Waste Management Records indicate that waste streams removed from site were of a relatively low volume.

Where possible, construction materials were reused on-site a number of times before they were disposed as established in the WMP. For example:

- Concrete was reused as aggregate for roads cable trench backfilling material.
- Plastic packaging was used to cover materials on-site or reused for the delivery of other materials.
- Excavated peat was reused for reinstatement of borrow pits and stored in constructed areas adjacent to site roads.

All non-hazardous waste that was produced during the construction phase including dry recyclables which could not be reused, was deposited in the on-site skips. These skips were collected by a licensed waste contractor and brought a Materials Recovery Facility (MRF), where the waste was sorted into individual waste stream for recycling, recovery or disposal. Small volumes of hazardous waste generated on site such as oil, diesel, chemicals, paints, and preservatives were stored in designated, secure, and clearly labelled areas with impermeable surfaces and secondary containment (e.g. bunded storage unit within the construction compound). Storage areas were located away from surface water drains and watercourses and protected from accidental damage. Site personnel were instructed at induction that under no circumstances could waste be brought on-site for disposal in the on-site waste skip. It was also made clear that the burning of waste material on-site was forbidden.

Further details on waste management are presented in the 2019 CEMP under which the Existing Development was built and which is included as Appendix 4-4.

15.2.3.7 **Likely Significant Effects and Associated Mitigation Measures**

15.2.3.7.1 **‘Do-Nothing’ Scenario**

The ‘Do-Nothing’ Scenario is an alternative scenario to retaining and regularising the Existing Development. In this scenario, should the Existing Development not secure substitute consent it will remain in-situ as an unauthorised and partially completed wind farm, which is, in effect, the “Do-Nothing” option insofar as it represents the current situation as at the date of the application for Substitute Consent. There would be no additional effects on Material Assets associated with the “Do-Nothing” scenario and the effects of the “Do Nothing” scenario would be the same as those of the Existing Development described below.

15.2.3.7.2 **Effects on Electricity Infrastructure and Supply**

Identification of Impact

Existing overhead and underground electricity cables and other services are present both within and in the vicinity of the Wind Farm Site and Grid Connection Site. Accidental damage to these services could have resulted in serious injury or death, as well as disruption to essential utilities. In such an event, a Short-Term, Potentially Significant Negative Effect could arise. However, no reportable accidents occurred during the construction of the Existing Development, and there were no effects on existing electricity infrastructure.

Mitigation Measures

Specific measures were applied during the construction phase to mitigate any impact on electricity. These mitigation measures are set out in the 2019 CEMP which can be found in Appendix 4-4 and below:

- Any area where excavations were planned were surveyed and all existing services were identified prior to commencement of any works.
- Liaison was held with the relevant sections of the Local Authority (DCC) including all the relevant area engineers to ensure all services are identified.
- Excavation permits were completed, and all plant operators and general operatives were inducted and informed as to the location of any services.
- The contractor complied with standard construction codes of practice in relation to working around electricity, gas, water, sewage and telecommunications networks.

Residual Effects

Following the implementation of the mitigation measures outlined above, no impacts on electricity infrastructure or supply occurred. Furthermore, no reportable incidents involving electricity infrastructure or supply were recorded. The residual effects on electricity infrastructure and supply were short term, imperceptible neutral effect.

Significance of Effects

There were No Significant Effects on electricity infrastructure and supply

15.2.3.7.3 **Effects on Water Infrastructure and Supply**

Identification of Impact

The Existing Development is not located in the vicinity of the Donegal County Council pumping station on the Bunadaowen River, or the associated water pipeline. During the construction of the Existing Development, water supply to the Wind Farm Site and Grid Connection Site was from a temporary water storage tank which was filled using a mobile water tank which sourced water locally as required. The elements of the Existing Development are not located near any existing water supply or waste infrastructure. Therefore, it can be concluded that impacts on the pumping station and associated infrastructure and supply could not have been impacted by the existing onsite elements.

The construction of the grid connection from the onsite substation to Clogher 110kV substation comprised an underground grid connection route of approximately 6km in length through the N15, approximately 1km through the L-2595 road and a small section through cutover bog/scrub.

As detailed in Section 15.2.3.6.3, the Grid Connection Site footprint interacts with mapped watermain infrastructure. Construction activities in the vicinity of this infrastructure could have led to damage and impacts to water supply. There were no reported instances of impacts, damage or otherwise to water infrastructure or supply during the construction of the Existing Development, including the grid infrastructure works.

Mitigation Measures

- Prior to the construction of the underground grid route, relevant drawings/service data was requested from Irish Water (now Uisce Éireann). These surveys confirmed the presence of services such as water supply.
- Prior to the construction of the underground grid route, underground services encountered along the route were surveyed for level/depth details.
- During the construction works, the grid cabling ducting was passed over the service where adequate cover was available. A minimum clearance of 300mm was implemented between the bottom of the ducts and the service.
- Where clearance was not achievable, the ducting was pass under the service with a 300 mm clearance between the top of the communications duct and bottom of the service.
- Back filling around any utilities encountered was with dead sand/pea shingle where appropriate.

Residual Effects

The residual effect of the construction phase activities for the Existing Development is considered to have had a Short-term, Imperceptible, Negative on water infrastructure and supply.

Significance of Effects

There were No Significant Effects on water infrastructure and supply arising from the Existing Development during the construction phase.

Effects on Waste Management Services

Identification of Impact

Construction phases of large-scale developments can generate large volumes of mixed type non-hazardous and hazardous materials which can be negative, short term significant effect on waste management services. The construction phase generated very limited amounts of hazardous waste, including small amounts of oil, diesel, chemicals, paints, and preservatives, along with mixed municipal waste and non-hazardous materials such as packaging, cables, and cardboard. All waste was transferred by a fully licensed waste contractor to a permitted MRF, where it was sorted into individual waste streams for recycling, recovery, or disposal. The MRF facility was local to the Wind Farm Site and Grid Connection Site (16km away at Ballynacarrick) which minimised emissions associated with vehicle movements. The impact on waste management services pre-mitigation was short term, negative and imperceptible.

Mitigation Measures

- The updated 2019 CEMP in place for the construction of the Existing Development, (Appendix 4-4 of this rEiAR), includes a WMP which outlines the best practice procedures during the construction phase of the project. The construction of the Existing Development followed all relevant procedures and mitigation measures set out in the CEMP.
- Waste management was carried out in accordance with *'Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects'* (2006) by the Department of Environment. The WMP outlines the methods of waste prevention and minimisation by recycling, recovery and reuse at each stage of construction of the Existing Development. Disposal of waste was seen as a last resort.
- All hazardous wastes were securely stored in a designated bunded area clearly labelled, in the temporary construction compound. These storage areas were located away from surface water drains and watercourses and protected from accidental damage. This hazardous waste was removed from the site by licensed waste contractors and transported to authorised waste recovery or disposal facilities.
- All non-hazardous waste generated on-site by the Existing Development was contained in waste skips at a dedicated waste storage area on-site. This waste storage area was kept tidy with clear signage to indicate the allowable material to be disposed of therein. This non-hazardous waste material was transferred to a MRF by a fully licensed waste contractor where the waste was sorted into individual waste streams for recycling, recovery or disposal.
- Spill prevention measures were implemented, including the provision of spill kits and drip trays, and all personnel were trained in appropriate handling procedures and emergency response.
- Site personnel were instructed at induction that under no circumstances can waste be brought to site for disposal in the on-site waste skips. It was also made clear that the burning of waste material on-site was forbidden.

Residual Effects

The residual effect of the construction phase activities for the Existing Development is considered to have had a Short-term, Imperceptible, Negative on waste management services.

Significance of Effects

There were No Significant Effects on waste management services arising from the Existing Development during the construction phase.

15.2.4 Cumulative Effects – Existing Development

An assessment of the cumulative effects associated with the construction of the Existing Development and other developments, existing and/or proposed at the time of construction, on Material Assets has been undertaken following the methodology set out in Section 2.9 of Chapter 2. The cumulative assessment takes into consideration all the relevant projects listed in Appendix 2-1. The Material Assets study area is confined to the Wind Farm Site and Grid Connection Site for utilities due to the extent and nature of impacts that could occur i.e. construction related damage/interactions. The cumulative study area for waste management covers Co. Donegal.

The construction of the Existing Development resulted in short-term Imperceptible Negative effect that is Not Significant on utilities and waste management. As discussed above, in section 15.3.8 there were no reported outages or breaks for electric or water services in the area during the construction of the Existing Development or since it has been completed. The Existing Development generated small streams of waste during the construction phase which were removed to licenced waste facilities within the study area. Little to no waste streams are currently being generated apart from very low volumes of municipal waste by EirGrid staff using welfare facilities at the 110kV substation as well as extremely small volumes of hydrocarbon waste such as oil from the substation transformer. When assessed in combination with other developments and land uses identified in Appendix 2-1, no likely significant cumulative effects on Material Assets from the construction the Existing Development or operation of the substation are identified.

15.2.5 In-Cumulation Effects

This section considers the in-cumulation impact of the combination of the Existing Development and Prospective Development (the Subject Development). Table 15-12 below details the residual in-cumulation effects of the Subject Development.

Table 15-12 Assessment of potential In-Cumulation Effects of the Subject Development

Topic		Existing Development	Prospective Development	Subject Development
Material Assets	Aviation	No potential for effect.	The Prospective Development will have no impact on Aviation, therefore the effects on aviation from the Prospective Development are considered to be Not Significant.	The effects on aviation from both the Prospective Development and Existing Development are considered to be Not Significant. There are no effects on aviation associated with the Existing Development and therefore no potential for an in-cumulation effect. The potential for in-cumulation effects on aviation from the Subject Development is Not Significant. The potential effect of the Subject Development is the same as the Prospective

				Development and is Not Significant.
	Telecoms	No potential for effect.	The Prospective Development will have no impact on telecommunications services in the vicinity of the Wind Farm Site, therefore the effects on telecoms from the Prospective Development are considered to be Not Significant.	The effects on telecoms from both the Prospective Development and Existing Development are considered to be Not Significant. There are no effects on telecoms associated with the Existing Development and therefore no potential for an in cumulation effect. The potential for In-Cumulation effects on telecoms from the Subject Development is Not Significant. The effect on Telecoms of the Subject Development is Not Significant.
	Electricity Infrastructure and Supply, Water Infrastructure and Supply, Waste Management Services	No Significant Effect	The Prospective Development will have no impact on utilities as there are none recorded within the Wind Farm Site and the BMEP Site. The effects on utilities from the Prospective Development are considered to be Not Significant.	The effects on utilities from both the Prospective Development and Existing Development are considered to be Not Significant. There is no temporal overlap between the Prospective Development and the Existing Development and therefore no potential for an in cumulation effect. The potential for In-Cumulation effects from the Subject Development is Not Significant. The effects on Utilities from the Subject Development is Not Significant

15.2.6 Cumulative Effects – Subject Development

For the assessment of cumulative effects of the Subject Development, any other existing, permitted or proposed projects (wind energy or otherwise) have been considered. The potential cumulative effects of the Subject Development and other relevant developments has been carried out with the purpose of identifying what influence the Subject Development will have on the surrounding environment when considered cumulatively.

Further information on projects considered as part of the cumulative assessment are given in Section 2.9 of Chapter 2: Background and Policy of this EIAR and also Chapter 2 Background and Policy of the EIAR. The cumulative effects assessment of the Subject development has considered the list of plans and projects listed in Appendix 2-1 of the EIAR, and Appendix 2-1 of this rEIAR.

Table 15-13 Assessment of potential Cumulative Effects of the Subject Development

Topic		Subject Development
Material Assets	Aviation	The potential for cumulative effects on aviation from the Subject Development is the same as the potential for cumulative effects for the Prospective Development as assessed in Chapter 15 of the EIAR. The EIAR concludes that there are no cumulative effects associated with the construction, operational and decommissioning phases of the Prospective Development. Therefore there is no potential for significant cumulative effects from the Subject Development. The potential for Cumulative effects on Aviation from the Subject Development is Not Significant.
	Telecoms	As discussed above, the potential effect on Telecoms associated with the Subject Development is considered to be Not Significant. The potential for Cumulative effects on Telecoms from the Subject Development in combination with other projects listed in Chapter 2 of the EIAR and rEIAR is also considered to be Not Significant.
	Electricity Infrastructure and Supply, Water Infrastructure and Supply, Waste Management Services	The potential Cumulative effect on electricity infrastructure and supply, water infrastructure and supply or waste management services as a result of both the Prospective Development and the Existing Development is Not Significant. The potential for Cumulative effects on Electricity Infrastructure and Supply, Water Infrastructure and Supply, Waste Management Services from the Subject Development is also Not Significant.

15.2.7 Transboundary Effects

This section considers the potential for transboundary effects as a result of the Subject Development. Table 15-14 below details the residual effects of the Subject Development, and the potential for which the Subject Development could affect a different jurisdiction.

Table 15-14 Assessment of potential Transboundary Effects of the Subject Development

Topic		Existing Development	Prospective Development	Subject Development
Material Assets	Aviation	No potential for effects from the existing development, therefore there is no potential for Significant Transboundary Effects from the Existing Development.	No Significant Effect on Aviation receptors within the study area, thus there is no potential for Significant Transboundary Effects from the Prospective Development.	No potential for Significant Transboundary Effects from the Subject Development
	Telecoms	No potential for effects from the existing development, therefore there is no potential for Significant Transboundary Effects from the Existing Development.	No Significant Effect on Telecoms within the study area, thus there is no potential for Significant Transboundary Effects from the Prospective Development.	No potential for Significant Transboundary Effects from the Subject Development
	Electricity Infrastructure and Supply, Water Infrastructure and Supply, Waste Management Services	No potential for effects from the existing development, therefore there is no potential for Significant Transboundary Effects from the Existing Development.	No Significant Effect on utilities as none are located within the Site, thus there is no potential for Significant Transboundary Effects from the Prospective Development.	No potential for Significant Transboundary Effects from the Subject Development