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| Technical Appendix 14-1: Abnormal Indivisible Load Route Survey
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Acronyms and Abbreviations

AADT	Annual Average Daily Traffic
AIL	Abnormal Indivisible Load
AP	Access Point
ATC	Automatic Traffic Counter
BA	Bachelor of Arts
BESS	Battery Energy Storage System
CBGM	Cement Bound Granular Material
CC	County Council
CEMP	Construction Environmental Management Plan
CTMP	Construction Traffic Management Plan
ECC	Earth Continuity Conductor
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EPA	Environmental Protection Agency
ESBN	ESB Networks
EU	European Union
GCR	Grid Connection Route
GPR	Ground Penetrating Radar
Grid Connection Route (GCR)	Refers to the proposed Grid Connection Route as defined in Chapter 1 of this EIAR.
HDD	Horizontal Directional Drilling
HDV	Heavy Duty Vehicle
IEMA	Institute of Environmental Management and Assessment
km	Kilometre
kph	Kilometres per Hour
kV	Kilovolt
LGV	Light Goods Vehicle
LTP	Long-Term Programme
Main Wind Farm Development Site	The site where the Proposed Development is located. As defined in Chapter 1 of this EIAR.
MCC	Mayo County Council
MW	Megawatt
NGO	Non-Governmental Organisation
PIC	Personal Injury Collision
Proposed Project	Refers to the Proposed Development including the GCR.
PSV	Public Service Vehicle
RSA	Road Safety Authority

RTC	Road Traffic Collision
SEAI	Sustainable Energy Authority of Ireland
SI	Statutory Instrument
TAA	Traffic and Transport Assessment
TDR	Turbine Delivery Route
TII	Transport Infrastructure Ireland
TLI	Transmission Line Ireland
Turbine Delivery Route (TDR)	Refers to the proposed turbine delivery route as defined in Chapter 1 of this EIAR.
Veh	Vehicle
WTC	Wind Turbine Component
WTG	Wind Turbine Generator

Introduction

Background

- 14.1 This chapter of the EIA Report (EIAR) assesses the potential traffic and transport effects during the construction and decommissioning phases of the Proposed Project. The operational phase is predicted to have negligible effects and is therefore scoped out of detailed assessment.
- 14.2 The assessment outlines the potential transport-related effects of the Proposed Project and sets out the adopted methodology for assessing them prior to, and following, the application of mitigation measures to reduce their potentially adverse effects. It also sets out the existing conditions as a baseline against which the effects of the Proposed Project are measured and assessed.
- 14.3 Potentially significant traffic related environmental effects may result from the following:
- The transport configurations required for the movement of wind turbine components (including blade, tower sections and nacelle), and the substation transformer as Abnormal Indivisible Loads (AILs). AILs are those which exceed the length, weight or height criteria defined in ‘Road Traffic (Permits for Specialised Vehicles) Regulations 2009, S.I. No. 147 of 2009’, and ‘Road Traffic (Specialised Vehicle Permits) (Amendment) Regulations 2010, S.I. 461 of 2010 ‘; and
 - the import of general construction materials transported via ‘conventional’ (HDVs) and low loaders.
- 14.4 The assessment detailed within this chapter is based around a precautionary estimate made for the purpose of forming a conservative assessment of the Proposed Project within the parameters identified in **Chapter 2**. The assessment includes all other associated elements of the Proposed Project including grid connection route, battery energy storage system (BESS), access tracks, temporary construction compounds and substation.
- 14.5 The chapter is supported by **Figures 14-1 – 14-6**, and **Technical Appendices 14-1 – 14-4**, which are referenced in the text where appropriate.
- 14.6 The transport routes for the wind turbine components (WTCs) and the vehicle configurations identified for transporting them to the Main Wind Farm Development Site have been considered in a separate Turbine Delivery Report (TDR) assessment prepared by Pell Frischmann (see **Technical Appendix 14-1**), which includes swept path analysis and a detailed review of the preferred routes for access; the findings from the report have been reviewed to inform this chapter.
- 14.7 During operation, the Proposed Project will generate regular maintenance trips which are not anticipated to lead to any variation in the baseline traffic flows beyond that of everyday fluctuation. Given that there is a 35-year lifetime for the Proposed Project some operational flows may include short periods of HDV/AIL activity. These events will result from instances of replacing equipment onsite which cannot be planned and is not predictable. These flows will be less intensive than the construction phase, which would be subject to construction traffic management measures. Therefore, the focus of the assessment within this chapter is the construction phase.
- 14.8 During the decommissioning of the Proposed Project there will be traffic generated by activities such as dismantling the turbines and decommissioning of the Main Wind Farm Development Site. The turbine components will be broken down into smaller constituent parts for removal, with no abnormal load transport required. As such, there will be

significantly fewer vehicle trips generated during the decommissioning phase than the construction phase.

- 14.9 The traffic effect assessment and reporting required for the preparation of this chapter has been undertaken by SLR Consulting Ltd.

Statement of Authority

- 14.10 The preparation of this chapter has been undertaken under direct supervision of Cerian Philips, BA (Hons), MSc, employed by SLR Consulting. Cerian has 13 years' experience in the field of transport planning and assessment and preparing EIA Report chapters.
- 14.11 This chapter has been prepared by Tom Monk, Senior Transport Planner at SLR Consulting. Tom joined SLR in February 2022 after graduating from Cardiff University with a BSc (Hons) in Urban Planning and Development. Tom has contributed to several EIA Traffic chapters across the UK and Ireland.
- 14.12 A technical review of this chapter has been undertaken by Ian Cronshaw, BA (Hons), PGDip, MCIHT, who is a Technical Director at SLR Consulting. Ian has 19 years of experience in Transport Planning, including preparation of Transport Assessments and EIAR chapters, including in the renewable energy sector.
- 14.13 Traffic Surveys were conducted by Paul Castle Associates, a survey company with over 40 years of experience in providing traffic surveys across the UK and Ireland.

Scoping and Consultation

Scope of the Assessment

- 14.14 SLR prepared scoping material for discussion with the competent authority (An Coimisiún Pleanála) and with other relevant stakeholders and organisations, including Transport Infrastructure Ireland (TII) and Mayo County Council Roads departments. A scoping report was distributed to consultees in April 2024. The recipients included the Local Authority, Government Departments, non-governmental organisations (NGOs), interested parties and key stakeholders. Consultees were invited to contribute to the EIAR by suggesting baseline data, survey methodologies and potential effects to be considered as part of the effect assessment process and in preparation of the EIAR.
- 14.15 Account has been taken of the scoping responses received and **Table 14-1** summarises the identified key issues with the access, traffic and transport aspects of the Project, and where these issues have been addressed in this chapter.

Table 14-1: Summary of Scoping Key Issues

Consultee and Date	Summary of Key Issues	Where addressed in Chapter
Mayo County Council (MCC) Roads	Concerns regarding the proposed grid connection route and its potential effect on the structural integrity and strategic importance of the N59 and adjacent local roads. No alternative routes have been identified.	The chapter discusses potential effects on local and regional road networks, with consideration of the N59. GCR feasibility work was undertaken which considered two potential route options. Route Option 1 was the most direct route and will provide the most favourable grid connection option out of two options considered.
Department for Transport	Key issues include potential restriction of Road Authority functions, risk to road stability (particularly on legacy roads), reduced available road space for future utilities, operational challenges during maintenance, need to evaluate all technology and routing options, careful placement of cables and jointing bays, avoidance of bridges, and consolidation of cables to reduce disruption.	These concerns are considered within the construction stage work and route planning carried out as part of the GCR feasibility work which has been undertaken. Route Option 1 was the most direct route and will provide the most favourable grid connection option out of two options considered for the GCR.
Transport Infrastructure Ireland (TII)	General guidance provided regarding adherence to EIAR requirements, effects on national roads, consideration of cumulative effects, and need to identify haul routes and abnormal loads.	General compliance with EIAR guidelines is confirmed in the methodology section. Potential effects on national roads and cumulative effects are addressed. TDR identification and AIL effects are outlined in Technical Appendix 14-1 . Haul routes are discussed in Paragraph 14.107 of this chapter.

Scoped Into the Assessment

14.16 The following points were scoped into the assessment and included within the Scoping Report:

- The extent of the proposed study area (the L1206 and L1205 leading to the Proposed Project accesses and the R313);
- The scope of the traffic surveys in capturing traffic within the study area;
- A list of cumulative developments within a reasonable vicinity of the Proposed Project; and
- The use of IEMA (2023)) ‘Environmental Assessment of Traffic and Movement’ guidance was acknowledged and not objected to by TII in their scoping response dated May 2024, as set out in correspondence documented in **Technical Appendix 14-2**.

Scoped Out of the Assessment

- 14.17 Due to the negligible environmental effects which will occur during the operational phase of the Proposed Project, it is proposed that operational effects are scoped out of the access, traffic and transport assessment for the EIAR.
- 14.18 No material change in HDV or light vehicle traffic flows are expected during the operational phase. The only activities anticipated to be undertaken on the Main Wind Farm Development Site during the operational phase are maintenance activities which will consist of 2-3 van trips monthly. It is anticipated turbine components will need to be replaced during the operational life of the Proposed Project. It is however anticipated that any replacement of this infrastructure will be undertaken on an ad hoc basis. Even when replacement works are required, none of these activities are expected to generate material levels of traffic.
- 14.19 AILs are considered in more detail within **Technical Appendix 14-1**; the findings and recommendations from this report are discussed from **Paragraph 14.119-14.122** of the EIAR report with any effects identified and assessed as required.

Legislation, Policy and Guidance

- 14.20 A review of the national, regional and local planning policy and guidance relevant to this chapter is summarised below. The Planning Statement submitted to support the planning application provides a more detailed overview of the relevant planning policy and guidance relevant to the Proposed Project.

Legislation, Planning Policy and Development Control

- Regional spatial and economic strategy for the Northern & Western region (Northern & Western Regional Assembly 2020-2032).¹
- Mayo County Development Plan 2022-2028.²
- Project Ireland - National Planning Framework 2040 (Department of Housing, Planning and Local Government, 2025).³
- Directive (EU) 2023/2413 as regards the promotion of energy from renewable sources (2025).⁴

Guidance

- 2006 Wind Energy Development Guidelines.⁵
- Transport Infrastructure Ireland (TII), Spatial Planning and National Road, Guidelines for Planning Authorities (January 2012).⁶
- TII Traffic and Transport Assessment guidelines (2014).⁷

¹ <https://www.nwra.ie/pdfs/NWRA-RSES-2020-2032.pdf>

² <https://www.mayo.ie/planning/county-development-plans/2022-2028>

³ <https://www.npf.ie/wp-content/uploads/Project-Ireland-2040-NPF.pdf>

⁴ <https://eur-lex.europa.eu/eli/dir/2023/2413/oj/eng>

⁵ <https://ie.rwe.com/-/media/RWE/RWE-UK/downloads/wind-energy-development-guidelines-2006.pdf>

⁶ <https://www.tii.ie/media/iz1fbvn3/spatial-planning-and-national-roads.pdf>

⁷ <https://cdn.tii.ie/publications/PE-PDV-02045-01.pdf>

- National Roads Authority (2014) – Traffic and Transportation Assessment Guidelines.⁸
- Life-cycle of an Onshore Wind Farm IWEA (March 2019).⁹
- 2019 Draft Revised Wind Energy Guidelines.¹⁰
- TII Project Appraisal Guidelines for National Roads Unit 5.3 - Travel Demand Projections (2021).¹¹
- Environmental Protection Agency (EPA) ‘Guidelines on the Information to be Contained in Environmental Impact Assessment Reports’, 2022.¹²
- Institute of Environmental Management and Assessment (IEMA) ‘Environmental Assessment of Traffic and Movement’ (IEMA, July 2023), and other departmental design standards.¹³

Technical Standards

- Design Manual for Roads and Bridges, Highways Agency (1997), now Standards for Highways.¹⁴
- Transport Infrastructure Ireland (2023) Rural Road Link Design – DN-GEO-03031.¹⁵
- Transport Infrastructure Ireland (2023) Geometric Design of Junctions (priority junctions, direct accesses, roundabouts, grade separated and compact grade separated junctions) DN-GEO-03060.¹⁶

Approach and Methodology

Assessment Methodology

14.21 This section sets out the assessment methodology. It sets out the types of effects that will be addressed, how sensitive receptors are identified and how significance is assessed. The assessment methodology is in accordance with the IEMA guidelines and other guidance outlined above.

Sensitivity of Receptor

14.22 The assessment is required to evaluate the effects of the Proposed Project and to determine the magnitude and significance of the effects on the identified sensitive receptors. The main receptors which are sensitive to increased traffic levels and environmental effects are anticipated to be sparsely located along the L5252, L1206 and the N59 and comprises mostly residential dwellings and farmsteads.

⁸ <https://cdn.tii.ie/publications/PE-PDV-02045-01.pdf>

⁹ <https://windenergyireland.com/images/files/iwea-onshore-wind-farm-report.pdf>

¹⁰ <https://assets.gov.ie/static/documents/draft-revised-wind-energy-development-guidelines-december-2019-385c92c2-16f9-4511-80bf.pdf>

¹¹ <https://cdn.tii.ie/publications/PE-PAG-02017-03.pdf>

¹² https://www.epa.ie/publications/monitoring--assessment/assessment/EIAR_Guidelines_2022_Web.pdf

¹³ <https://www.hwa.uk.com/site/wp-content/uploads/2025/01/24.15-Environmental-Assessment-of-Traffic-Movement-July-2023.pdf>

¹⁴ <https://www.standardsforhighways.co.uk/dmrb>

¹⁵ <https://cdn.tii.ie/publications/DN-GEO-03031-12.pdf>

¹⁶ <https://cdn.tii.ie/publications/DN-GEO-03060-03.pdf>

- 14.23 The assessment also considers the construction phase impacts associated with the transport of the turbine components, the installation of the cable for the Grid Connection Route, the substation and BESS.

Assessment of Effects

Evaluation Methodology

- 14.24 The likely significance of the potential effects has been determined by considering the magnitude of change in traffic movements and the sensitivity of the receptors which will be affected by these changes. This has been undertaken in accordance with the IEMA guidance (IEMA, 2023) and standard good practice, based on the experience of the assessor.
- 14.25 The IEMA guidelines suggest two thresholds when considering predicted increase in traffic, whereby a full assessment of the effect is required:
- Include road links where traffic flows are predicted to increase by more than 30% (or where the number of HDVs is predicted to increase by more than 30%); and
 - Include any other specifically sensitive areas where traffic flows are predicted to increase by 10% or more.
- 14.26 The IEMA guidance suggests that a day-to-day traffic flow variation of +/- 10% is to be expected in the baseline situation, and that projected traffic flow increases of less than 10% will be imperceptible to the general public and will create no discernible environmental impact. Therefore, increases in traffic levels of below 10% are considered insignificant.
- 14.27 Based on the IEMA guidance, the following factors have been identified as being the most discernible potential environmental effects likely to arise from changes in traffic movements. These are therefore considered in the assessment as potential effects which may arise from changes in traffic flows resulting from the Proposed Project:
- **Severance of Communities** – severance is the perceived division that can occur within a community when it becomes separated by major transport infrastructure and the separation of people from places and other people.
 - **Road user and pedestrian safety** – the potential effect on road users, but in particular, vulnerable users of the road (e.g. pedestrians/cyclists).
 - **Road vehicle driver and passenger delay** – traffic delays to non-development traffic which may occur at various locations depending on the type and scale of development.
 - **Pedestrian and non-motorised user delay** – possible delays and increased severance to non-motorised users of the roads affected, predominantly related to the crossing of roads.
 - **Non-motorised user amenity** – the impact to the ‘pleasantness’ of a journey, taking into account pedestrian fear and intimidation.
 - **Fear and intimidation** on and by road users – the effect on the perceived vulnerability of pedestrian traffic relating to changes in traffic flows and or speed.
 - **Hazardous/large loads** – the potential effect on road users and local residents caused by an increase to the number of hazardous and large loads, to include the movement of AILs.

Significance of Effect

- 14.28 Criteria for the determination of sensitivity (e.g. 'high', 'medium', or 'low') or of importance (e.g. 'international', 'national', 'regional', or 'authority area') have been established based on prescribed guidance from IEMA (2023), legislation, statutory designation and/ or professional judgement.
- 14.29 The significance of the likely effect has been determined by consideration of the sensitivity of receptors to change, are they able to adapt and recover from the effects, taking account of the specific issues relating to the study area, and then the magnitude of that change.
- 14.30 The potential sensitivity of receptors to changes in traffic levels has been determined by considering the study area and the presence of receptors in relation to each potential effect.
- 14.31 The IEMA (2023) guidelines are intended for the assessment of environmental effects of major new developments, as opposed to short-term construction. In the absence of alternative guidance these guidelines have been applied to assess the short-term construction phase of the Proposed Project. The use of IEMA guidance has been accepted for a similar Windfarm development in an application considered by Co. Mayo and Co. Sligo. The application on An Coimisiún Pleanála PA16.317560 considered proposals for a:
“Proposed windfarm development including 13 no. wind turbines in Bunnyconnellan, Co. Mayo and hydrogen plant in Castleconnor, Co. Sligo.”
- 14.32 This application was granted permission in December 2024.
- 14.33 Where existing traffic levels are generally low (e.g. rural roads and some unclassified roads), any increase in traffic flow may result in a predicted increase that will be higher than the IEMA (2023) guideline thresholds. In these situations, it is important to consider any increase in terms of overall traffic flow in relation to the capacity of the road, before making a conclusion on whether the effect is significant as defined under the EIA Regulations.
- 14.34 Any change in traffic flow which is greater than the thresholds set out in the IEMA (2023) guidelines will be subject to additional mitigation measures. The magnitude of potential effects will be identified through consideration of receptor sensitivity against the degree of predicted change to baseline conditions, the duration and reversibility of this change, considered with professional judgement.

Sensitivity of Receptors

- 14.35 Each receptor has been assessed individually to determine its sensitivity and the criteria used to define sensitivity are shown in **Table 14-2**. The ability of a receptor to adapt to change, tolerate the effects or recover from the effects is key in assessing its vulnerability to the effect.
- 14.36 The sensitivity of a road can be defined by the vulnerability of the user groups who may use it e.g. elderly people or children, as explained in the IEMA Guidelines at para's 1.28 to 1.32. A sensitive area may be where pedestrian activity is high, for example in the vicinity of a school, or where there is already an existing accident issue. It also takes account of the existing nature of the road e.g. an existing National road is likely to have a lower sensitivity than a residential road as it is already used by a larger volume of traffic therefore increases of varying magnitudes will have a smaller change in the nature of the road.

Table 14-2: Receptor Sensitivity

Receptor Sensitivity	Definition
High	The receptor has little ability to absorb change without fundamentally altering its present character or is of international or national importance. Receptors of greatest sensitivity to traffic flow include schools, colleges, playgrounds, accident clusters, retirement homes, roads without footways that are used by pedestrians.
Moderate	The receptor has moderate capacity to absorb change without significantly altering its present character or is of high importance. Medium traffic flow sensitive receptors include congested junctions, doctors' surgeries, hospitals, shopping areas with narrow roadside frontage, roads with narrow footways, recreation facilities.
Low	The receptor is tolerant of change without detriment to its character or is of low or local importance. Receptors with low sensitivity to traffic flow include places of worship, public open space, tourist attractions and residential areas with adequate footway provision.
Negligible	No pedestrians will be present on the link. For example, strategic roads such as motorways and trunk roads or rural roads where there are no pedestrian-generating land uses within the vicinity.

Magnitude of Impact

14.37 The magnitude of an impact is based on a range of factors. The definitions provided in **Table 14-3** are for guidance only and may not be appropriate for all impacts. For example, an impact may occur in a very small area but at very high intensity for a long period of time. In such cases expert judgement is used to determine the most appropriate magnitude ranking and this is explained as part of the assessment.

Table 14-3: Magnitude Criteria

Magnitude	Criteria
High	The impact is very likely to occur or will occur frequently. The impact occurs over a large area, resulting in widespread changes to the baseline. These changes are long term or permanent and affect a large percentage of the receptor population.
Moderate	The impact is likely to occur or will occur at a moderate frequency. The impact will occur over a local to medium extent resulting in short to medium term changes to the baseline. A moderate percentage of the receptor population will be affected.
Low	The impact is unlikely to occur and will be localised, temporary or short term in nature. Change to baseline will be detectable and will affect a small percentage of the receptor population.
Negligible	The impact is very unlikely to occur, will be localised and short term with slight or imperceptible changes to the baseline. The small receptor population will recover fully.
No change	No effect, therefore, no change in receptor condition.

Summary of Magnitude of Derivation

- 14.38 Based on the definitions of each impact above (**Paragraph 14.27**), the criteria that have been used to determine magnitude of change from the baseline conditions as a result of the Proposed Project are set out in **Table 14-4** below. Determination of a step change associated with fear and intimidation is also outlined in **Table 14-5** and **Table 14-6**.
- 14.39 It is also be noted however, that the absolute effect is also important e.g. the total flow of traffic or HDVs on a link. This is because an increase of 100% in the traffic flow on a road is likely to lead to an insignificant impact if the existing flows are low. Where this is applicable, professional judgement is applied and commentary provided.

Table 14-4: Definitions of Magnitude of Change

Change to:	Negligible	Low	Medium	High
Severance	Change in total traffic or HDV flows of less than 30%	Change in total traffic or HDV flows of 30-60%	Change in total traffic or HDV flows of 60-90%	Change in total traffic or HDV flows of over 90%
Road Safety	A judgement based on quantitative analysis as set out in the Transport Assessment and summarised in this chapter.			
Driver Delay	Application of professional judgement.			
Pedestrian Delay	Two-way traffic flow <1,400 vehicles per hour	A judgement based on the road links with two-way traffic flows exceeding 1,400 vehicles per hour in context of the individual characteristics.		
Non-Motorised User Amenity	Change in total traffic or HDV flows <100%	A judgement based on the routes with >100% change, in the context of their individual characteristics.		
Fear and Intimidation	No change in step changes	One step change in level, with: <ul style="list-style-type: none"> <400 Vehicle (Veh) increase in average 18 hr All Vehicle (AV) two-way all vehicle flow, and/or <500 HDV increase in total 18 hr HDV flow 	One step change in level but with: <ul style="list-style-type: none"> >400 Veh increase in average 18hr AV two-way all vehicle flow, and/or >500 HDV increase in total 18hr HDV flow 	Two step changes in level
Hazardous Loads	The estimated number of such loads must be outlined including AILs. Where the number of vehicles/movements carrying loads is considered to be significant, the assessment will include a risk catastrophe analysis.			

Table 14-5: Fear and Intimidation Degree of Hazard

Average traffic Hourly – all vehicles 2-way (a)	Total 18-hour heavy vehicle flow (b)	Average vehicle speed (c)	Degree of hazard score
+1,800	+3,000	->40	30
1,200-1,800	2,000-3,000	30-40	20
600-1,200	1,000-2,000	20-30	10
<600	<1,000	<20	0

Table 14-6: Levels of Fear and Intimidation

Level of fear and intimidation	Total hazard score (a) + (b) + (c)
Extreme	71+
Great	41-70
Moderate	21-40
Small	0-20

Significance of Effect (Potential Effects)

- 14.40 Sensitivity and magnitude of change as assessed under the criteria detailed above have then been considered collectively to determine the significance of effect, as described in **Table 14-7**. The collective assessment is a considered assessment by the assessor, based on the likely sensitivity of the receptor to the change (e.g. is a receptor present which will be affected by the change), and then the magnitude of that change. Effects of ‘major’ and ‘moderate’ significance are considered to be ‘significant’ in EIA terms and additional mitigation measures may be required.
- 14.41 For the assessment of potential community severance and driver delay associated with the use of open trenching technology, the sensitivity of each link has been based on professional judgement and identified based on the following:
- The strategic importance of the road hierarchy;
 - The existing types of users of the road; and
 - Availability of suitable alternative routes.

Table 14-7: Significance of Effects

Sensitivity of Receptor	Magnitude of Impact				
	No Change	Negligible	Low	Medium	High
High	Neutral	Slight	Slight or Moderate	Moderate or Major	Major or Very Major
Medium	Neutral	Negligible or Slight	Slight	Moderate	Moderate or Major
Low	Neutral	Negligible or Slight	Negligible or Slight	Slight	Slight or Moderate
Negligible	Neutral	Negligible	Negligible or Slight	Negligible or Slight	Slight

The following terms have been used to define the level of the effects identified and these can be 'beneficial' or 'adverse'.

- **Very Major:** where the Proposed Project will be expected to have very considerable effects (by extent, duration or magnitude), which will have a high material influence on the decision-making process.
- **Major effect:** where the Proposed Project is likely to cause a considerable change from the baseline conditions, and the receptor has limited adaptability, tolerance or recoverability or is of the highest sensitivity.
- **Moderate effect:** where the Proposed Project is likely to cause either a considerable change from the baseline conditions at a receptor which has a degree of adaptability, tolerance or recoverability or a less than considerable change at a receptor that has limited adaptability, tolerance or recoverability.
- **Slight effect:** where the Proposed Project is likely to cause a small, but noticeable change from the baseline conditions on a receptor which has limited adaptability, tolerance or recoverability or is of the highest sensitivity; or where the Proposed Scheme is likely to cause a considerable change from the baseline conditions at a receptor which can adapt, is tolerant of the change or/and can recover from the change.
- **Negligible:** where the Proposed Project is unlikely to cause a noticeable change at a receptor, despite its level of sensitivity or there is a considerable change at a receptor which is not considered sensitive to a change.
- No Impact.

14.42 Where a very major, major or moderate effect has been identified then these are classed as significant in EIA terms. Where a slight or negligible effect has been identified then these are classed as not significant.

14.43 The duration of the effect has been assessed as either ‘short-term’, ‘medium-term’ or ‘long-term’. Short-term is considered to be up to 1 year, medium-term is considered to be between 1 and 10 years and long-term is considered to be greater than 10 years.

Potential Cumulative Effects

14.44 An assessment has been undertaken to establish potential cumulative effects from all relevant developments upon the local road network within the study area, including local wind farms close to the Main Wind Farm Development Site (either in the planning system or under construction) which may utilise the same local road network and access routes as the Proposed Project. The selection process for appropriate cumulative developments is outlined in **Chapter 2**. The cumulative developments have been investigated for traffic movements within the study area. The sites that were considered by this assessment are summarised in **Table 14-8**.

Table 14-8: Cumulative Development

Development	Planning Reg. Ref.	Description	Distance from Proposed Development
Bellacorick Wind Farm	ABP-316178-23	18 wind turbines and ancillary works	17km
Sheskin Wind Farm (Phases 1 and 2)	P15/825 / 19457	Amendments to an existing planning permission (Mayo County Council Ref. P15/825) for 8 wind turbines with an overall maximum height of 150m and associated infrastructure. Main amendment relates to increase in tip height of the turbines.	18.5 km east
Grid Connection for Sheskin Wind Farm	311157 Granted by ABP 31/08/2022	10.4 km of 38kV underground cable from the granted Sheskin Wind Farm to connect the wind farm to the national grid at the existing Bellacorick 110kV ESB Station	15.7 km east
Sheskin South Wind Farm	ABP-315933-23 Granted by ABP 13/03/2024	21 no. turbines (max blade tip height 200m),	15.4 km east
Oweninny Wind Farm	PA0029 / Granted by ABP 02/06/2016 / PM16.307261	Proposed Oweninny Wind Farm of 112 no. turbines (370 MW output)	17 km east
Bunnahowen Wind Farm	18873 Granted by MCC 07/02/2019	Permission to modify the existing permission, P08/1997, to erect three (3) 1 MW turbines,	4.6 km north
Mayo Green Hydrogen Production Plant	22502 Granted by MCC 26/03/2023	Green Hydrogen Production Plant with Hydrogen Storage Area, Gas Injection Compound, Substation, Water Storage and Abstraction,	19.7 km east

Development	Planning Reg. Ref.	Description	Distance from Proposed Development
SEAI Substation	16356 - Granted by MCC 23/11/2016 PL16.247758 Granted by ABP 18/04/2017	Construction of a 20 kV substation building and underground cable	12.7 km north-east
Lennon Quarries Ltd. Tallagh, Belmullet, Co.Mayo	21638 - Granted by MCC 24/11/2021	The development will consist of the recontouring of 12.419 hectares of agricultural land using 348,816 tonnes of imported inert soil and stone material over a 15-year period for the consequential benefit to agriculture. This application was accompanied by an EIAR	13.1 km north-east

14.45 The total traffic impact of the cumulative developments outlined above in **Table 14-8**, is provided below in **Table 14-9**. The distribution of cumulative development traffic is based on the details provided in their relevant traffic chapters. Based on the assessments outlined by these chapters. It is assumed that cumulative traffic is likely to route along the N59, however it is not assumed to utilise the other local roads close to the Main Wind Farm Development Site such as the L1206, and the L5252.

Table 14-9: Cumulative Development Traffic on the N59

Daily Two-Way Traffic (AADT)	
Total	HDV
364	258

Approach to Mitigation

14.46 The Proposed Project has been designed to include a range of measures to mitigate potential effects and the assessment assumed that general good practice will be deployed, with a CTMP which is provided within **Technical Appendix 14-4**.

Identification of Residual Effects

14.47 Following consideration of mitigation measures, an assessment of the residual effects has been made. Potential residual effects include general wear and tear to roads and verges as a result of increased traffic, and temporary road closures caused by AIL deliveries.

Statement of Significance

14.48 A statement of significance is provided at the end of the chapter which provides a summary of the complete assessment for each receptor, taking into consideration any proposed mitigation measures, and it reports the significance of the residual effects in compliance with the EIA Regulations.

Assumptions, Limitations and Confidence

- 14.49 The assessment of the potential effects to the baseline traffic relies on the accuracy of the traffic flow data. The traffic counts have been undertaken by an experienced survey company (Paul Castle Associates). The data have been proof-read for likely errors and have been determined to be reliable.
- 14.50 The commissioning of bespoke traffic flow surveys to record data was required in order to undertake the assessment. There is insufficient data available in the public domain or published by TII. The closest TII traffic counter is located on the N59 between Bangor Erris and Crossmolina on the N59 approximately 33 km away from the Main Wind Farm Development Site.

Study Area

- 14.51 The Main Wind Farm Development Site is situated within a coastal region of County Mayo, encompassing two cluster areas. The Main Wind Farm Development Site is also in proximity to several smaller settlements within a 5 km radius, with Bangor Eris located approximately 8 km away and the village of Gweesalia located approximately 0.5 km away (see **Figure 14-1**).
- 14.52 Geographically, the Main Wind Farm Development Site lies north of the intersection of roads L1205 and L1206. The L1206 skirts the southern edge of the Main Wind Farm Development Site, while the L1205 runs westward and leads to the R313, located approximately 4 km north of the Main Wind Farm Development Site.
- 14.53 The study area for the transport assessment also includes the roads that associated with the GCR as part of the wider Proposed Project. The study area provided at scoping includes:
- N59 approximately 1.6 km from its junction with the R313 in the eastbound direction;
 - L1206 approximately 1.2 km south-west of Mount Jubilee and 900m south of Tristia; and
 - The L5252 approximately 2.4 km south-east of Muingmore and west of L1206.

Information and Data Sources

- 14.54 Sources of data used to inform the EIA process, are set out in **Table 14-10**.

Table 14-10: Baseline Data Sources

Source	Summary
Road Safety Authority	Collison Data for the local road network.
Paul Castle Associates (Survey Company)	Traffic Count Data.
TII	Traffic Count Data

Baseline Conditions

- 14.55 The Main Wind Farm Development Site is on land dissected into two clusters by the L5252 branching from the L1206 (see **Figure 14-3**). This road runs longitudinally through the Main Wind Farm Development Site, spanning from northwest to southeast, connecting the L1205

and L1206. Planning Figure **501.065301.00001 Overall Project Location Map and Turbine Delivery Route** provides an overview of the road network.

Existing Road Network

14.56 The study area for this assessment has been defined as the L5252 leading to the three access points, the L1206 and R313. in the TDR are:

- TDR up to the study area:
 - The R263 from the Killybegs Port to the N56;
 - The N56 north of Killybegs to the junction with N15;
 - The N15 to the junction with N4 at Silgo;
 - The N4 to the junction with N59;
- The TDR within the study area:
 - The N59 to the junction with R313 at Bangor Erris;
 - The short section of R313 between its junctions with N59 and L1206;
 - The L1206 southbound from its junction with R313 to its junction with L5252;
 - The L5252; and
- The proposed T1-T2 Access; or
- The proposed T3-T7 Access; or
- The proposed T8-T13 Access.

R263

14.57 The R263 is a regional road arranged as a dual lane single carriageway that forms a part of the TDR route. This section of the R263 links from Killybegs Harbour to the N56 to the north. Within Killybegs footways are provided on both sides of the carriageway for the majority of the town, however there are instances of footways only being provided on one side of the carriageway. Outside of Killybegs footways are no longer provided.

N56

14.58 The N56 is a national road arranged as a dual lane single carriageway that forms a part of the TDR. This section of the N56 links to N15 located approximately 25 km to the east of the Killybegs. Provision of footways is limited across the extent of the road except where the N56 passes through settlements such as Dunkineely, and Donegal.

N15

14.59 The N15 is a national road arranged as a dual lane single carriageway that occasionally broadens into dual carriageway that forms a part of the TDR. This section of the N15 links to the N4 located approximately 60 km to the south of Donegal. Provision of footways is limited across the extent of the road except where the N56 passes through settlements such as Sligo.

N4

14.60 The N4 is a national road arranged as a dual lane dual carriageway that forms a part of the TDR. This section of the N4 links to the N59 located approximately 7.5 km to the south of Sligo. Provision of footways is limited across the extent of the road except where the N56 passes through settlements such as Sligo.

N59

14.61 The N59 is a national road arranged as a dual lane single carriageway that forms a part of the TDR. This section of the N59 links to the L1206 located in Bangor Erris, approximately 95 km to the west of Belladrihid. Provision of footways is limited across the extent of the road except where the N59 passes through settlements such as Ballina.

R313

14.62 The R313 is a regional road arranged as a dual lane single carriageway that forms a part of the TDR. This section of the N59 links to Bangor Erris located approximately 95 km to the west of Belladrihid. Provision of footways is limited across the extent of the road except where the R313 passes through settlements such as Bangor Erris.

L1206

14.63 The L1206 is a local road arranged as a dual lane single carriageway that forms a part of the TDR. This section of the L1206 links to the L5252 located approximately 9 km to the southwest of Bangor Erris. Provision of footways is limited across the extent of the road except where the L1206 passes through settlements such as Bangor Erris.

L5252

14.64 The L5252 is a local road arranged as a single lane carriageway that forms a part of the TDR. This section of the L5252 links to the Main Wind Farm Development Site accesses. The L5252 also provides occasional passing places. As the L5252 is a rural road no pedestrian footways are provided.

14.65 The majority of construction traffic will utilise the routes and links identified to access the Main Wind Farm Development Site, therefore the wider network has been excluded from this assessment.

Field Survey

14.66 Baseline traffic flows have been obtained using Automatic Traffic Counters (ATC) installed at three locations as shown in **Figure 14-2** including:

- A section of the N59 just east of Bangor Erris;
- A section of L1206 close to its junction with the L5252 used to access the Main Wind Farm Development Site; and
- The L5252 close to the accesses to the Main Wind Farm Development Site.

14.67 As per the scoping response provided by TII in May 2024, TII are concerned with any significant effects associated with the National road network. This traffic survey scope includes all National roads associated with the Grid Connection Route (GCR). The GCR is being assessed in this EIA, but will be subject to a separate planning application. Furthermore, a high-level assessment of TII traffic counters on the TDR, has indicated that traffic flows are significantly higher on sections of the National Road Network beyond the N59. The higher flows experienced on roads such as the N4, N15 and N56 suggest that construction traffic will not have a significant effect on traffic and therefore have been scoped out of further assessment.

14.68 A review of these routes suggests that they are mostly rural routes with scattered residential dwellings. Based on the criteria outlined in **Table 14-2**, **Table 14-11** provides the estimated sensitivity of each receptor and provides a justification for the conclusion.

Table 14-11: Receptor Sensitivity

Link No.	Link	Sensitivity Level	Rationale for Receptor Sensitivity
1	N59, approximately 1.6 km from its junction with the R313 in the eastbound direction.	Low	As detailed in Table 14-2 this receptor is located in a mostly rural area with some connection to residential dwellings with adequate footway provision.
2	L1206, approximately 1.2 km southwest of Mount Jubilee and 900m south of Tristia.	Low	As detailed in Table 14-2 , this receptor is located in a very rural area that will typically be characterised as negligible in sensitivity. There are, however, some residential dwellings located sparsely along the route. Although adequate footway provision is not provided for these dwellings, it is judged that this link is unlikely to be used by pedestrians as residents are likely to drive in order to undertake their day-to-day travel.
3	L5252, approximately 2.4 km southeast of Muingmore and west of L1206.	Low	As detailed in Table 14-2 , this receptor is located in a very rural area that will typically be characterised as negligible in sensitivity. There are, however, some residential dwellings located sparsely along the route. Although adequate footway provision is not provided for these dwellings, it is judged that this link is unlikely to be used by pedestrians as residents are likely to drive in order to undertake their day-to-day travel.

14.69 The ATC surveys were undertaken between 27 November 2023 and 3 December 2023. The traffic survey report is available in **Technical Appendix 14-3**. The survey recorded classified vehicle data and speeds.

14.70 A summary of the average weekday (00:00 to 24:00) traffic obtained from the ATC for the three locations is provided in **Table 14-12**, **Table 14-14** and **Table 14-16** whereas the traffic survey results are provided in **Technical Appendix 14-3** of this EIAR. The data includes directional and two-way flows. HDV numbers are those identified in the Ordinary Goods Vehicle 2 category.

N59

14.71 A summary of a 24-hour weekday traffic flow along the N59 has been provided in the **Table 14-12** below.

Table 14-12: Average Weekday Traffic Flows (N59)

Period	Eastbound			Westbound			Two- Way		
	Total	HDVs	%HDV	Total	HDVs	%HDV	Total	HDVs	%HDV
24 Hour	1237	81	7%	1159	85	7%	2397	165	7%

Period	Eastbound			Westbound			Two- Way		
	Total	HDVs	%HDV	Total	HDVs	%HDV	Total	HDVs	%HDV
12 Hour	1118	74	7%	1023	65	6%	2142	139	6%

14.72 The Table shows that 2,397 vehicles were recorded along this section of the N59 during an average weekday including 165 HDVs.

14.73 Recorded speeds on the N59 have been measured and are summarised in **Table 14-13** below.

Table 14-13: Average and 85th Percentile Speeds [kph] (N59)

	Eastbound	Westbound	Two-Way
85th Percentile Speed	94.1	89.3	92.1
Average Speed	81.1	75.3	78.3

14.74 **Table 14-13** demonstrates that 2,037 (85% of traffic) vehicles out of the total weekday average of 2,397 vehicles travelling along the N59 did not exceed speeds of 92 kph, which is significantly higher than the national speed limit of 80kph, to which the road is subject.

L1206

14.75 A summary of a 24-hour weekday traffic flow along the L1206 has been provided in **Table 14-14** below.

Table 14-14: Average Weekday Traffic Flows (L1206)

Period	Eastbound			Westbound			Two-Way		
	Total	HDV	%HDV	Total	HDV	%HDV	Total	HDV	%HDV
24 Hour	392	19	5%	551	25	5%	943	44	5%
12 Hour	304	18	6%	466	22	5%	770	39	5%

14.76 **Table 14-14** shows that 943 vehicles were recorded along this section of the L1206 with 44 HDVs recorded.

14.77 Speed performance of the L1206 has been measured and is summarised in **Table 14-15** below.

Table 14-15: Average and 85th Percentile Speeds [kph] (L1206)

	Eastbound	Westbound	Two-Way
85th Percentile Speed	57.3	63.4	61.3
Average Speed	52.3	56.2	54.5

14.78 **Table 14-15** demonstrates that 802 vehicles (85% of traffic) out of the total weekday average of 943 vehicles travelling along the L1206 do not exceed 61.3 kph which is slightly higher than the national speed for rural road (60kph) limit to which the road is subject.

L5252, West of L1206

14.79 A summary of a 24-hour weekday traffic flow along the L5252 west of the L1206 has been provided in **Table 14-16** below.

Table 14-16: Average Weekday Traffic Flows (L5252)

Period	Eastbound			Westbound			Two-Way		
	Total	HDV	%HDV	Total	HDV	%HDV	Total	HDV	%HDV
24 Hour	30	6	19%	30	6	19%	61	12	19%
12 Hour	29	6	20%	29	6	20%	57	12	20%

14.80 The Table shows minimal traffic flow through the L5252 with 61 vehicles passing along this section of the L5252 west of L1206 with 12 HDVs recorded.

14.81 Speed performance of the L5252 has been measured and is summarised in **Table 14-17** below.

Table 14-17: Average and 85th Percentile Speeds [kph] (L5252)

	Eastbound	Westbound	Two-Way
85th Percentile Speed	50.0	50.0	49.9
Average Speed	42.3	42.3	42.3

14.82 The Table above shows that 52 vehicles (85% of traffic) out of the total weekday average of 61 vehicles travelling along the L5252 west of the L1206 move at speeds not exceeding 49.8 kph which is significantly lower than the national speed limit for rural local roads (60kph) to which the road is subject.

Road Safety Records

14.83 Personal Injury Collisions (PIC) data will usually be obtained for the study area to cover the most recent five-year period spanning 2015-2019. This data is then used to determine the existing road safety situation and to establish a base against which the effects of the Proposed Project are assessed. However, the Road Safety Authority (RSA) is currently in the process of reviewing its road traffic collision (RTC) data sharing policies and procedures and as such it is not making the RTC data available. As a result, it has not been possible to obtain PIC data specifically for the roads within the study area.

14.84 A review of the available information has identified that road collision annual reports provide information on Road Casualties and Collisions in Ireland annually up to 2019; in addition, it is possible to look at the five-year trend analysis of fatalities and serious injuries from 2017 to 2021. An additional assessment of fatalities is also provided by RSA and has also been assessed.

14.85 The 'Road Casualties and Collisions in Ireland 2019 – Tables [Online]' dated June 2022¹⁷, has been reviewed. Data is provided for each County confirming the number of persons killed or injured between 2015 and 2019. This information provides statistics which have been obtained from all road traffic collisions as reported to An Garda Síochána, with data presented to confirm the number of persons killed or injured. The relevant information has been summarised in **Table 14-18** and **Table 14-19**.

Table 14-18: Summary of Persons Killed or Injured (2015 – 2025*)

Year	Killed		Injured	
	Total (Ireland)	Total (Co. Mayo)	Total (Ireland)	Total (Co. Mayo)
2015	162	13	7,840	227
2016	182	4	7,773	209
2017	154	13	7,779	193
2018	135	9	7,998	212
2019	140	3	7,598	204
2020	141	-	-	-
2021	132	-	-	-
2022	152	-	-	-
2023	179	-	-	-
2024	171	-	-	-
2025	183	-	-	-

Table 14-19: Summary of All Casualties by Road User Type in Ireland (2015 – 2019)

Year	Pedestrians	Pedal Cyclists	Motor Cyclist	Car User	Other*	Total
All Casualties						
2015	1,074	943	360	4,999	626	8,002
2016	1,077	981	405	4,860	632	7,955
2017	1,166	1,074	374	4,759	560	7,933
2018	1,135	1,087	475	4,750	686	8,133
2019	1,112	1,139	467	4,381	639	7,738
Serious Casualties Only						
2020	223	268	146	389	-	1,216
2021	231	313	186	502	-	1,470
2022	374	274	198	563	-	1,696
2023	302	225	175	494	-	1,458

*(Public Service Vehicles (PSV) such as buses, Goods vehicle and other or unknown road or vehicle users)

¹⁷ <https://www.rsa.ie/docs/default-source/road-safety/r2---statistics/road-collision-annual-reports/road-casualties-and-collisions-in-ireland-2019.pdf>

- 14.86 Although the records shown in both tables do not show a steady downward trend, it can be seen from spot checks of 2015 and 2019 that the number of people injured and killed in road collisions has reduced in both Ireland and in County Mayo between both years.
- 14.87 **Table 14-19** confirms that more casualties were recorded amongst pedestrians and other road users including HDVs between both years, however, the total casualties between both years can be seen to have reduced.
- 14.88 Taking into account later reports that have been released by RSA that only cover the whole of Ireland, regarding fatalities and serious casualties, there were some increases in casualties identified. Following the COVID pandemic which predominantly impacted 2020-2021 fatalities across the whole of Ireland increased from 140 in 2019 to 183 in 2025. Although there is currently not enough data to identify a clear pattern.
- 14.89 While the data shows aggregate trends at the county-wide and nationwide level not specific to the roads within the study area, it can be assumed that the trend depicts the general safety levels to be expected within the study area.

Future Baseline

- 14.90 The background traffic on the road links in the study area may increase between the baseline and the anticipated years of construction on the Project. The Central Growth Rates for County Mayo (2016-2030) have been taken from the TII Document PE-PAG-02017-03 to account for the growth on the local roads. The growth factors are: 1.013 [light vehicles] and 1.033 [heavy vehicles]. This growth is considered in addition to the cumulative development outlined above.
- 14.91 All elements of the Proposed Project are described in **Chapter 2** of this EIAR.
- 14.92 The Proposed Project will primarily consist of a wind farm of 13 wind turbine generators (WTGs), one substation compound along with ancillary civil and electrical infrastructure, BESS, grid connection route and works along the turbine delivery route.
- 14.93 For the purposes of assessment it is estimated that the total installed capacity of the Main Wind Farm Development Site is between 74.1 to 91MW (please note: the MW output is stated here based on turbines of a 5.7, 6 and a 7 MW output and only for the purposes of assessment of benefits towards climate as set out in **Chapter 8**).

Main Wind Farm Development Site Entrances

- 14.94 Construction and operational access to both northern and southern clusters comprising the Main Wind Farm Development Site will be gained from the L5252 which extends west from the L1206. Access to the individual turbines will then be secured from internal access tracks stemming from the access points AP1, AP2 and AP3 which connect to the L5252 through the Main Wind Farm Development Site (**Figure 14-3**).

AP1 (Associated with Turbines 1-2)

- 14.95 AP1 is located on the L5252 and will serve as access to Turbines 1-2. The access takes the form of a standard priority T-junction, a design considered appropriate for a single carriageway according to Table 5.1 of the TII May 2023 guidance on the Geometric Design of Junctions. The access features large 45-degree radius turns for both west and eastbound traffic and leads onto a 6 m wide access track that proceeds into the Main Wind Farm Development Site.

- 14.96 As shown **Planning Application Drawing 501.065301.00001.D23-1**, the junction has been designed to provide appropriate visibility with a 215 m sightline provided in both directions which is more than appropriate for the speed of the road according to Table 5.5 of the TII May 2023 guidance on the Geometric Design of Junctions, and the Access Visibility Requirements outlined in Section 7.6 of the Mayo County Development Plan 2022-2028.
- 14.97 As detailed on **Planning Application Drawing 501.065301.00001.D24-1**, appropriate tracking is shown for a 16.5 m HDV to access and egress the Main Wind Farm Development Site.
- 14.98 As detailed on **Planning Application Drawing 501.065301.00001.D25-1**, which accompanies the application, the appropriate tracking is shown for a long blade AIL vehicle to access the Main Wind Farm Development Site. As shown on this drawing, AILs will be provided an extended area of hard standing at the access junction connecting to T1 and T2. This provision of hard standing will allow AILs to access without any over sail into third-party land.

AP2 (Associated with Turbines 3-7)

- 14.99 AP2 is located on the L5252 and will serve as access to Turbines 3-7. The access takes the form of a standard priority T-junction, a design considered appropriate for a single carriageway according to Table 5.1 of the TII May 2023 guidance on the Geometric Design of Junctions. The access features large 45-degree radius turns for both west and eastbound traffic and leads onto a 6 m wide access track that proceeds into the Main Wind Farm Development Site.
- 14.100 As shown on **Planning Application Drawing 501.065301.00001.D23-1**, the junction has been designed to provide appropriate visibility with a 215 m sightline provided in both directions which is more than appropriate for the speed of the road according to Table 5.5 of the TII May 2023 guidance on the Geometric Design of Junctions.
- 14.101 As detailed on **Planning Application Drawing 501.065301.00001.D24-2**, the appropriate tracking is shown for a 16.5 m HDV to access and egress the Main Wind Farm Development Site.
- 14.102 As detailed on **Planning Application Drawing 501.065301.00001.D25-2** which accompanies the application, the appropriate tracking is shown for a long blade AIL vehicle to access the Main Wind Farm Development Site.

AP3 (Associated with Turbines 8-13)

- 14.103 AP3 is located on the L5252 and will serve as access to Turbines 8-13. The access takes the form of a standard priority T-junction, a design considered appropriate for a single carriageway according to Table 5.1 of the TII May 2023 guidance on the Geometric Design of Junctions. The access features large 45-degree radius turns for both west and eastbound traffic and leads onto a 6 m wide access track that proceeds into the Main Wind Farm Development Site.
- 14.104 As shown on **Planning Application Drawing 501.065301.00001.D23-3**, the junction has been designed to provide appropriate visibility with a 215 m sightline provided in both directions which is more than appropriate for the speed of the road according to Table 5.5 of the TII May 2023 guidance on the Geometric Design of Junctions.
- 14.105 As detailed on **Planning Application Drawing 501.065301.00001.D24-3** which accompanies the application, the appropriate tracking is shown for a 16.5 m HDV to access and egress the Main Wind Farm Development Site.

14.106 As detailed on **Planning Application Drawing 501.065301.00001.D25-3** which accompanies the application, the appropriate tracking is shown for a long blade AIL vehicle to access the Main Wind Farm Development Site.

Development Site Construction Haul Routes

14.107 All construction vehicles will enter the northern cluster and southern cluster along the L5252 which extends west from the L1206 with all construction traffic originating from the N59. The N59 acts as a link between the Proposed Development and the wider National Road Network which will be the preferred way to access the Main Wind Farm Development Site.

14.108 All sub-base, base course and final running layer materials for the access road and Turbine Hardstand construction will require importation. Specific grades of rock fill may be required as fill under Turbine Foundations. The crushed stone as well as rock fill and concrete for Turbine Foundations, concrete blocks for the construction of substation buildings and precast chambers for site cabling will be sourced from one of the local quarries in the area. Concrete, crushed stone and concrete blocks for construction of the Proposed Project will come from licenced quarries in the locality such as (see **Figure 14-4**):

- A - Barretts Quarry, Bangor Erris
 - 12.2 km Haul from origin to Main Wind Farm Development Site
- B - Killala Rock Quarry, Killala
 - 66.1 km Haul from origin to Main Wind Farm Development Site
- C - Coolturk Quarries Ltd., Crossmolina
 - 42.8km Haul from origin to Main Wind Farm Development Site
- D - Harringtown Concrete & Quarries, Abbeytown
 - 105.0 km Haul from origin to Main Wind Farm Development Site
- E - Molloy Concrete Limited, Ballina
 - 64.9 km Haul from origin to Main Wind Farm Development Site

14.109 The delivery routes proposed primarily use the national road network from Co. Donegal to Co. Mayo. All of the above licenced quarries and concrete are suitably located so that they can deliver material to their existing customers and for the Proposed Project works. All locations are capable of quickly joining the N59 or are located on the N59.

14.110 Although not assessed in this chapter, due the fact that it does not conform to the precautionary conservative assessment, there is potential that a minor number of trips (Car or LGV only) will originate from the west of the Main Wind Farm Development Site. However, the level of traffic will not be at significant levels, and it is unlikely to result in a significant effect.

14.111 If alternative sources of material are identified at a future date, consultation will be undertaken with MCC to agree the suitability of these routes.

14.112 Mitigation measures that will be implemented on the L5252 consist of providing additional passing places, or controlling the timing of deliveries to ensure any potential conflict arrivals and departures is minimised. These details are included within the CTMP provided as **Technical Appendix 14-4**.

Internal Access Tracks

- 14.113 The Proposed Project will require approximately 6.8 kilometres of new internal access tracks, and 1.95 kilometres of existing internal access tracks to be upgraded.
- 14.114 **Figure 14-3** illustrates the internal access tracks within the Main Wind Farm Development Site. This track layout will permit access for vehicles during the construction phase, for maintenance during the operational phase, and for vehicles to decommission the turbines at the end of the life of the Proposed Project.
- 14.115 It is assumed the GCR will remain in situ at the end of the life of the Proposed Project.
- 14.116 A network of agricultural access tracks exists within the Main Wind Farm Development Site. These existing access tracks have been utilised where appropriate to facilitate the Proposed Project. All access tracks will be approximately 6 m wide along straight sections and wider at bends. The tracks will be finished with a well graded aggregate. Existing drainage infrastructure will be maintained and upgraded where necessary.
- 14.117 It is anticipated that the stone required for the construction of all new internal access roads will be sourced from quarries that have been identified above and are located close to the N59.
- 14.118 Access track formation will consist of up to 800mm of hard core on up to two geotextile membranes. The construction methodology for newly constructed tracks will be as follows:
- the formation will be prepared to receive the geotextile membrane.
 - stone will be placed and compacted in layers, to a specified elevation where another geotextile will be installed depending on construction stage constraints.
 - A final compacted layer will be placed upon the mid-geotextile where applicable.
 - drainage will be provided along the sides of the track.
 - cable trenches will be constructed along the side of the tracks where applicable.
 - surplus excavated material will be placed along the side of sections of the tracks and dressed to blend in with surroundings landscaping.

Turbine Delivery Route (TDR)

- 14.119 The proposed TDR is presented in **Figure 14-5**, with Over-run Areas shown on **Figure 2-4b-d**. A TDR selection and assessment were carried out to identify the optimum delivery route to the Main Wind Farm Development Site.
- 14.120 Turbine delivery will be from Killybegs port and delivered along one distinctive route. The TDR will leave Killybegs, via the R263 to merge with N56 north of Killybegs. Continuing along N56 south through Dunkineely, Mountcharles Bypass, and onto Donegal Bypass. At this point it will merge onto the N15 and follow it for approximately 65 km through Ballyshannon, Bundoran, before merging onto N4 at Sligo. The route continues on N4 southbound to junction S1, then onto N59 through Ballysadare. From here it will follow the N59 through Dromore West, turning south to Ballina. Continuing on N59 through Crossmolina to Bangor Erris. At Bangor Erris, the TDR follows the R313 before branching onto the L1206. It then follows the L1206 to the local access road to the Main Wind Farm Development Site.
- 14.121 Further discussion on this route selection assessment is found in **Technical Appendix 14-1** found in Volume 3 of this EIAR.

- 14.122 As discussed in the assessment scope an AIL assessment of this route has been undertaken by Pell Frischmann (**Technical Appendix 14-1**) which shows that various road modifications, structural reviews and interventions are required to successfully access the Main Wind Farm Development Site. However, if these are undertaken, access to the Main Wind Farm Development Site is considered feasible for turbine components, with dimensions up to and including:
- Tip Height: 180 m;
 - Hub Height 98.5 m and;
 - Rotor Diameter: 163 m.

Grid Connection Route

- 14.123 The GCR will not form part of the planning application but is assessed in this EIAR. The associated cable route will consist entirely of an underground cable spanning a total length of approximately 25.5 km to establish connection between the Main Wind Farm Development Site substation and the Bellacorick Substation.
- 14.124 This element of the Proposed Project is to be a permanent fixture and will be taken in charge by EirGrid and ESNB at the end of the construction phase. These works are expected to be conducted over a 12-month period of time.

Substation

- 14.125 It is proposed to construct one electricity 110 kV substation within the Main Wind Farm Development Site as shown in **Figure 14-3**. This substation will provide a connection point between the Main Wind Farm Development Site and the grid connection route. The electricity generated from wind turbines between the northern and southern clusters will be collected as medium voltage 33 kV buried cable circuits which will follow the onsite access tracks.

Battery Energy Storage System (BESS)

- 14.126 It is proposed to construct one BESS within the Main Wind Farm Development Site as shown in **Figure 14-3**. This BESS will connect to the onsite 110 kV substation and will be delivered as a part of the wider Proposed Project.

Construction Programme

- 14.127 The construction phase of the Proposed Project, which includes civil, electrical, grid works, and turbine assembly will take 24 months once the proposed turbines are acquired via a competitive tender process. The main activities will include:
- Mobilisation & Site set up.
 - Site Clearance and Felling.
 - Site access and internal access tracks.
 - Turbine Hardstands.
 - Turbine Foundations.
 - Turbine Delivery & Erection, and Permanent Met Mast.
 - On Site Cabling.

- Onsite substation, BESS & Grid connection cable works.
- Commissioning & Testing.
- Landscaping, reinstatement and demobilisation.

14.128 The main construction works which are expected to generate the most vehicle trips to the Proposed Project will be undertaken during months 1 to 19, with the final months of the construction programme accommodating commissioning & testing, and landscaping, reinstatement and demobilisation. An indicative construction programme has been prepared and is set out in the construction timeline shown in **Chapter 2**, as summarised in **Table 14-20**.

Table 14-20: Indicative Construction Programme

Activity	Construction Programme (Months)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1-Mobilisation & Site set-up	█	█																						
2-Site Clearance and Felling		█	█	█	█																			
3-Site access and internal access tracks			█	█	█	█	█	█																
4-Turbine Hardstands					█	█	█	█	█	█	█	█												
5-Turbine Foundations								█	█	█	█	█	█	█										
6-Onsite substation, BESS and Grid Connection cable works									█	█	█	█	█	█	█	█	█	█	█	█	█			
7-On Site Cabling										█	█	█	█	█	█	█								
8-Turbine Delivery & Installation													█	█	█	█	█	█	█	█	█			
9-Commissioning & Testing																						█	█	
10-Landscaping, reinstatement and demobilisation																							█	█

Proposed Project Construction Traffic Generation

Main Wind Farm Development Site Works

- 14.129 The construction phase working hours for the Proposed Project will be 07:00 to 19:00 Monday to Friday and 07:00 to 13:00 at weekends. It is noted that out of necessity some activity, for example WTC deliveries and the lifting of the turbine rotors, may need to occur outside the specified hours stated, although they will not be undertaken without prior approval from Mayo County Council as the Roads Authority. The effect of the Proposed Project has been assessed over a 12-hour weekday period, which considers the natural peak usage of the road network.
- 14.130 The Proposed Project will require the transportation of a range of construction materials to the Main Wind Farm Development Site. The aggregate material required onsite will be sourced locally, with a number of existing quarries being available. These are all located in various locations around the Main Wind Farm Development Site. The key elements of construction work which will result in vehicle trip generation have been summarised in **Table 14-21**. Loads and movements are broken down into Cars and Light Good Vehicles (LGVs) (Under 3.5 tonnes) and HDVs (Over 3.5 tonnes).

Table 14-21: Construction Activities Requiring Vehicle Trips

Activity	Item	Veh type	Loads		Movements	
			Total	per month	per month	per day
1	Cabins	HDVs	13	7	13	1
	Generators	HDVs	1	1	1	0
	GeoGrid	HDVs	12	6	12	1
	Heras Fencing	HDVs	1	1	1	0
	Plant	HDVs	6	3	6	0
	Signage & pedestrian walkways	HDVs	1	1	1	0
	Staff	Cars and LGVs	267	134	267	13
	Type 1	HDVs	1200	600	1200	60
	Cabins	HDVs	13	7	13	1
	Generators	HDVs	1	1	1	0
	GeoGrid	HDVs	12	6	12	1
	Heras Fencing	HDVs	1	1	1	0
	Signage & pedestrian walkways	HDVs	1	1	1	0
	Type 1	HDVs	1200	600	1200	60
	2	Timber Removal	HDVs	453	113	227
Plant		HDVs	6	2	3	0

Activity	Item	Veh type	Loads		Movements	
			Total	per month	per month	per day
	Staff	Cars and LGVs	427	107	214	11
3	GeoGrid	HDVs	50	8	17	1
	Plant	HDVs	14	2	5	0
	Staff	Cars and LGVs	1280	213	427	21
	Type 1	HDVs	7116	1186	2372	119
	Type 1	HDVs	989	165	330	16
4	Type 1	HDVs	3447	431	862	43
	GeoGrid	HDVs	2	0	1	0
	Concrete	HDVs	800	100	200	10
	Plant	HDVs	10	1	3	0
	Staff	Cars and LGVs	1494	187	374	19
	Type 1	HDVs	9006	1126	2252	113
	GeoGrid	HDVs	3	0	1	0
5	Concrete	HDVs	1625	232	464	23
	Plant	HDVs	8	1	2	0
	Staff	Cars and LGVs	1120	160	320	16
	Type 1	HDVs	1208	173	345	17
6	Plant	HDVs	3	0	1	0
	Staff	Cars and LGVs	467	67	133	7
	Type 1	HDVs	969	138	277	14
7	Plant	HDVs	3	0	1	0
	Staff	Cars and LGVs	1067	133	267	13
	Turbine Components	HDVs	104	13	26	1
8	Type 1	HDVs	3166	264	528	26
	Type 1	HDVs	3502	292	584	29
	Concrete	HDVs	244	20	41	2
	transformer	HDVs	1	0	0	0
	Plant	HDVs	16	1	3	0
	Staff	Cars and LGVs	3840	320	640	32

Activity	Item	Veh type	Loads		Movements	
			Total	per month	per month	per day
9	Staff	Cars and LGVs	320	107	213	11
10	Cabins	HDVs	13	7	13	1
	Generators	HDVs	1	1	1	0
	GeoGrid	HDVs	12	6	12	1
	Heras Fencing	HDVs	1	1	1	0
	Plant	HDVs	4	2	4	0
	Signage & pedestrian walkways	HDVs	1	1	1	0
	Staff	Cars and LGVs	267	134	267	13
	Stone removal	HDVs	1200	600	1200	60
	Cabins	HDVs	13	7	13	1
	Generators	HDVs	1	1	1	0
	GeoGrid	HDVs	12	6	12	1
	Heras Fencing	HDVs	1	1	1	0
	Signage & pedestrian walkways	HDVs	1	1	1	0

* Any AIL vehicles are counted with HDVs

14.131 An estimation of the material quantities for all elements of the Proposed Project has been made; it has been assumed that the type of aggregate required for construction will be imported, with Traffic arriving to the Main Wind Farm Development Site via the N59 and wider TDR route. **Table 14-22** provides a summary of the material quantities required on site.

Table 14-22: Estimated Quantities (Total)

Item	Number	Units
Cabins	26	Cabins
Concrete	21,345	m ³
Generators	4	Generator
GeoGrid	248,288	m ²
Heras Fencing	400	Panels
Plant	70	Plant
Signage & pedestrian walkways	4	Number
Staff	117	Staff per vehicle per day
Stone removal	9,600	m ³
Timber Removal	453	unit

Item	Number	Units
Transformer	1	AIL
Turbine Components	104	AIL
Type 1	254,398	m ³

14.132 **Table 14-23** provides material quantities for all non-aggregate materials.

Table 14-23: Estimated Material Quantities (Per Element)

Acti vity	Item	Input type	Units	Dimensions (m)				No.	Repe ats?	If repeats, Total Instances
				L	W	De	DI			
1	Cabins	Units	Cabins					13	No	
	Generators	Units	Generator					1	No	
	GeoGrid	Units	m ²					9,600	Yes	3
	Heras Fencing	Units	Panels					100	No	
	Plant	Units	Plant					6	No	
	Signage & pedestrian walkways	Units	Number					1	No	
	Type 1	Units	m ³					9,600	No	
	Type 1	Units	m ³					9,600	No	
	Cabins	Units	Cabins					13	No	
	Generators	Units	Generator					1	No	
	GeoGrid	Units	m ²					9,600	Yes	3
	Heras Fencing	Units	Panels					100	No	
	Signage & pedestrian walkways	Units	Number					1	No	
	Staff	Units	Vehicle per day					10	No	
2	Timber Removal	Units	unit					453	No	
	Plant	Units	Plant					6	No	
	Staff	Units	Vehicle per day					8	No	
3	GeoGrid	Dimensio ns (straight)	m ²	8,758	7	1			Yes	2
	Plant	Units	Plant					14	No	
	Staff	Units	Vehicle per day					16	No	

Activity	Item	Input type	Units	Dimensions (m)				No.	Repeats?	If repeats, Total Instances
				L	W	De	DI			
	Type 1	Dimensions (straight)	m ³	8,758	6.5	1		No		
	Type 1	Units	m ³				7,910	No		
4	Type 1	Units	m ³				2,121	Yes	13	
	GeoGrid	Units	m ²				2,121	Yes	2	
	Concrete	Units	m ³				492	Yes	13	
	Plant	Units	Plant				10	No		
	Staff	Units	Vehicle per day				14	No		
	Type 1	Units	m ³				5,542	Yes	13	
	GeoGrid	Units	m ²				3,117	Yes	2	
5	Concrete	Units	m ³				1,000	Yes	13	
	Plant	Units	Plant				8	No		
	Staff	Units	Vehicle per day				12	No		
	Type 1	Units	m ³				743	Yes	13	
6	Plant	Units	Plant				3	No		
	Staff	Units	Vehicle per day				5	No		
	Type 1	Units	m ³				7,749	No		
7	Plant	Units	Plant				3	No		
	Staff	Units	Vehicle per day				10	No		
	Turbine Components	Units	AIL				8	Yes	13	
8	Type 1	Units	m ³				25,326	No		
	Type 1	Units	m ³				28,014	No		
	Concrete	Units	m ³				1,949	No		
	transformer	Units	AIL				1	No		
	Plant	Units	Plant				16	No		
	Staff	Units	Vehicle per day				24	No		
9	Staff	Units	Vehicle per day				8	No		
10	Cabins	Units	Cabins				13	No		
	Generators	Units	Generator				1	No		

Activity	Item	Input type	Units	Dimensions (m)				No.	Repeats?	If repeats, Total Instances
				L	W	De	DI			
	GeoGrid	Units	m ²					9,600	Yes	3
	Heras Fencing	Units	Panels					100	No	
	Plant	Units	Plant					4	No	
	Signage & pedestrian walkways	Units	Number					1	No	
	Staff	Units	Vehicle per day					10	No	
	Stone removal	Units	m ³					9,600	No	
	Cabins	Units	Cabins					13	No	
	Generators	Units	Generator					1	No	
	GeoGrid	Units	m ²					9,600	Yes	3
	Heras Fencing	Units	Panels					100	No	
	Signage & pedestrian walkways	Units	Number					1	No	

*Length, Width, Depth, Diameter

Proposed Project Grid Connection Route

- 14.133 Construction of the substation, BESS and internal cable network, in conjunction with wider Proposed Project grid connection route works to the National Grid, will be carried out in tandem to the wind farm sequenced activities during months 9 to 20 of the construction programme. Where the works require trenching in the public road, partial road closures will be required.
- 14.134 The cable will be laid in a trench within the road, backfilled and resurfaced. The GCR will require a road opening licence under Section 254 of the Planning and Development Act 2000, as amended from Mayo County Council.
- 14.135 The construction of the GCR will be conducted as a 250 m moving lane closure as works are carried out at each section of the route. The area subject to lane closure will act as its own construction compound. These works will not result in a full road closure. All works will be carried out in accordance with the conditions attached to any licence granted under Section 254. Public traffic movements will be maintained during these works using trench covers and traffic management measures.
- 14.136 The works associated with the GCR are also summarised in **Table 14-24** and **Table 14-25** below. This estimate includes a precautionary 25% uplift for all activities that may result from traffic management, edge protection, warning tape, marker strips, pull ropes, steel plates, material wastage, plant and equipment, excavation extending out width identified extents, jointing kits etc.

Table 14-24: GCR Estimates

Element	Units	Value
Electrical Cables		
Total length of cable route	m	25,500
Total length of electrical cables needed	m	76,500
Total number of cable drums for single cable	-	27
Total number of cable drums needed	-	81
Number of HDV movements	-	81
Communications Cables		
Total length of cable route	m	25,500
Total length of electrical cables needed	m	76,500
Total number of cable drums for single cable	-	27
Total number of cable drums needed	-	54
Number of HDV movements	-	27
ECC Cables		
Total length of cable route	m	25,500
Total length of electrical cables needed	m	25,500
Total number of cable drums for single cable	-	27
Total number of cable drums needed	-	27
Number of HDV movements	-	14
General Trenching		
Length of trenching	m	23,556
Total asphalt removal volume	m ³	8,215.155
Total asphalt removal HDV Movements	-	1,027
Total subsoil removal volume	m ³	16,430.31
Total subsoil removal HDV movements	-	2,054
Total CBGM import volume	m ³	8,881.0945
Total CBGM import HDV movements	-	1,111
Total cable duct length	m	70,668
Number of cable ducts required	-	5,889
Total cable duct HDV movements	-	295
Total communications duct length	m	47,112
Number of communications ducts required	-	3,926
Total communications duct HDV movements	-	116
Total ECC duct length	m	23,556
Number of ECC ducts required	-	236
Total ECC duct HDV movements	-	59

Element	Units	Value
Total asphalt import volume	m ³	7,119.801
Total asphalt import HDV movements	-	890
Number of HDV movements	-	5,552
Trench Culvert Crossings		
Number of culvert crossings	-	18
Total length of culvert crossings	m	144
Total asphalt removal volume	m ³	79.38
Total asphalt removal HDV Movements	-	10
Total subsoil removal volume	m ³	71.442
Total subsoil removal HDV movements	-	9
Total sub-base removal volume	m ³	63.504
Total sub-base removal HDV movements	-	8
Total concrete import volume	m ³	94.1442084
Total concrete import HDV movements	-	16
Total cable duct length	m	432
Number of cable ducts required	-	36
Total cable duct HDV movements	-	2
Total communications duct length	m	288
Number of communications ducts required	-	24
Total communications duct HDV movements	-	1
Total ECC duct length	m	144
Number of ECC ducts required	-	2
Total ECC duct HDV movements	-	1
Total asphalt import volume	m ³	7.73955
Total asphalt import HDV movements	-	1
Number of HDV movements	-	48
HDD Crossings		
Number of HDD Crossings	-	12
Total length of HDD crossings	m	1,800
Number of HDD Entry / Exit Pits	-	72
Total asphalt removal volume	m ³	203
Total asphalt removal HDV Movements	-	26
Total asphalt import volume	m ³	176
Total asphalt import HDV movements	-	22
Total cable duct length	m	5,400
Number of cable ducts required	-	450

Element	Units	Value
Total cable duct HDV movements	-	27
Total communications duct length	m	3,600
Number of communications ducts required	-	300
Total communications duct HDV movements	-	9
Total ECC duct length	m	1,800
Number of ECC ducts required	-	18
Total ECC duct HDV movements	-	5
Total length of HDD	m	5,400
Total volume of excavated material	m ³	1,051
Number of excavated material removal HDV movements	-	132
Total volume of drill fluid required for drilling	m ³	3,294
Drill fluid import HDV movements	-	183
Total volume of drill fluid removed from site	m ³	540
Number of waste drill fluid HDV movements	-	30
Total mass of bentonite required for drilling	kg	135,000
Number of bags required	-	5,400
Number of bentonite HDV movements	-	26
Number of HDV movements	-	460
Joint Bays		
Number of joint bay locations	-	26
Number of C2 Chambers	-	26
Number of C2 Chamber HDV movements	-	5
Number of Link Box Chambers	-	26
Number of Link Box Chamber HDV movements	-	7
Number of Joint Bays	-	26
Number of Joint Bay HDV movements	-	52
Volume of concrete blinding required	m ³	34
Concrete blinding HDV movements	0	6
Total asphalt removal volume	m ³	181
Total asphalt removal HDV Movements	-	23
Total asphalt import volume	m ³	119
Total asphalt import HDV movements	-	15
Total sub-soil removal volume	m ³	1,257
Total sub-soil removal HDV movements	-	158
Total sub-base removal volume	m ³	119
Total sub-base removal HDV movements	-	15

Element	Units	Value
Number of HDV movements	-	281

Table 14-25: GCR Trip Generation

Activity	Total HDV Movements (including 25% increase for miscellaneous allowances)	Total HDV Two-Way Trips (including 25% increase for miscellaneous allowances)
Electrical Cables	102	204
Communications Cables	34	68
ECC Cables	18	36
General Trenching	6940	13880
Trench Culvert Crossings	60	120
HDD Crossings	575	1150
Joint Bays	352	704

Trip Generation

14.137 The total number of HDV trips predicted to arise during the construction phase of the Proposed Project has been calculated based on estimated material quantities provided in **Table 14-22**, **Table 14-23**, **Table 14-24**, and **Table 14-25**. These trips have been doubled to provide the two-way movements that will occur from delivery and then returning vehicles, as shown in **Table 14-26**.

Table 14-26: Total Number of Trips (HDVs)

Activity	Start	Duration	HDV Movements	Two-Way HDV Trips
1-Mobilisation & Site set-up	1	2	2,462	4,924
2-Site Clearance and Felling	2	4	459	918
3-Site access and internal access tracks	3	6	8,169	16,338
4-Turbine Hardstands	5	8	13,268	26,536
5-Turbine Foundations	8	7	2,841	5,682
6-Onsite substation, BESS and Grid Connection cable works	9	12	7,358	14,716
7-On Site Cabling	10	7	972	1,944
8-Turbine Delivery & Installation	13	8	107	214
9-Commissioning & Testing	20	3	0	0
10-Landscaping, reinstatement and demobilisation	23	2	1,260	2,520

14.138 The two-way trips for HDVs have been spread over the construction programme according to the relevant activity. The total two-way trip generation has been divided by the number of construction working days in each month to provide daily two-way trip generation.

- 14.139 For ease of phasing the construction period, the following categories have been used (the final three months, not included, are reserved for commission of the wind turbines and for takeover):
- Mobilisation & Site set-up.
 - Site Clearance and Felling.
 - Site access and internal access tracks.
 - Turbine Hardstands.
 - Turbine Foundations.
 - Onsite substation, BESS and Grid Connection cable works.
 - On Site Cabling.
 - Turbine Delivery & Installation.
 - Commissioning & Testing.
 - Landscaping, reinstatement and demobilisation.
- 14.140 The vehicles trips to be generated in association with the management of waste during construction will be limited and are not accurate to predict. However, the robust traffic generation figures set out in **Table 14-21** include an element of 'rounding' to take account of unknown elements.
- 14.141 The total two-way daily vehicle generation figures within each month (assuming 22 working days) of the 24-month programme, can be seen in **Table 14-27**.
- 14.142 The 'precautionary estimate' is described as such because the likely significant effects will occur with the highest level of traffic generation from the Proposed Project, which will occur when various different construction activities occur at the same time. IEMA Guidelines state that the assessment will identify the 'worst' effects¹⁸.

¹⁸ Institute of Environmental Management and Assessment (IEMA) 'Guidelines for the Environmental Assessment of Road Traffic' (IEMA, 1993).

Table14-27: Vehicle Movements (Sum of Arrivals and Departures) Per Month During Construction Programme

Construction Activity	Vehicle Type	Months																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1-Mobilisation & Site set-up	HDV	2,462	2,462																						
2-Site Clearance and Felling	HDV		230	230	230	230																			
3-Site access and internal access tracks	HDV			2,723	2,723	2,723	2,723	2,723	2,723																
4-Turbine Hardstands	HDV					3,317	3,317	3,317	3,317	3,317	3,317	3,317													
5-Turbine Foundations	HDV								812	812	812	812	812	812	812										
6-Onsite substation, BESS and Grid Connection cable works	HDV									1,243	1,243	1,243	1,243	1,243	1,243	1,229	1,229	1,229	1,191	1,191	1,191				
7-On Site Cabling	HDV										278	278	278	278	278	278	278								
8-Turbine Delivery & Installation	HDV													27	27	27	27	27	27	27	27				
9-Commissioning & Testing	HDV																								
10-Landscaping, reinstatement and demobilisation	HDV																							1,260	1,260
Staff Movements	Cars and LGVs	267	481	640	640	1,014	800	800	1,120	1,422	1,555	1,555	1,555	1,448	1,448	1,128	1,128	995	995	995	1,208	213	213	267	267
TOTAL	-	2,729	3,172	3,593	3,593	7,283	6,840	6,840	7,972	6,793	7,204	7,204	7,204	3,807	3,807	2,661	2,661	2,250	2,212	2,212	2,426	213	213	1,527	1,527

Wind Turbine Construction Traffic Generation

HDV Trip Generation

- 14.143 The above table (**Table 14-27**) shows that the maximum level of trip generation will occur during months five to ten of the construction period, when various construction activities will coincide. The precautionary assessment undertaken within this chapter will use month 8. Month 8 sees a total of 7,972 movements within a month, when spread evenly across the month (assuming 22 working days) this results in 311 two-way HDVs generated per day.

Trip Generation for Wind Turbine Components

- 14.144 Each wind turbine consists of up to eight WTC deliveries: three blades, four tower sections and the nacelle (generator). Other loads will be associated with the delivery of the hub, cranes and drilling rigs, which will not be considered to be AILs. Towers will be carried in a 4+7 clamp adaptor style trailer, whereas loads such as the hub, nacelle housing and top towers will be carried on a six-axle step frame trailer (see **Technical Appendix 14-1**). All components will be transported under suitable traffic management procedures.
- 14.145 Subject to the supply of turbines for the Main Wind Farm Development Site, turbine delivery and erecting will take place over a four-month period requiring a total of 208 AIL movements (in and out).

Light Vehicles and Staff Trip Generation

- 14.146 Light vehicles consisting of smaller vehicles such as cars, and goods vehicles under 3.5 tonnes, which will typically be associated with the workforce, have also been calculated to provide total two-way vehicle movements predicted to arise from the Proposed Project. It is envisaged that a maximum of 56 movements daily will take place in Month 8. It is expected that staff will travel to the Proposed Project in standard light vehicles including the assumption that staff will have the potential to travel to the Proposed Project together. For the purposes of this assessment, it is assumed that there will be an average of 1.5 staff per vehicle.

Trip Generation

- 14.147 **Table 14-28** provides the calculated daily and hourly two-way movements during Month 8, which will generate the most trips during the construction phase.

Table 14-28: Wind Farm, Substation & BESS Trip Generation (Two-Way)

	HDV/ AIL	Lights	Total
Precautionary Estimate (Month 8)			
Daily	311	51	362
Hourly	26	4	30

- 14.148 All construction vehicles will enter the Main Wind Farm Development Site from the L5252, with the majority of vehicles originating from the northeast along the N59 east of Bangor Erris where all trips will route on the L1206 and onto the L5252.
- 14.149 AIL deliveries will travel from the N56, N15 and N4 having collected the WTCs from the port at Killybegs. The WTCs for all other turbines will be transported along the L1206 and then onto the L5252 to each of the three access points.
- 14.150 Light vehicle trip generation will see 51 two-way trips each day during the peak months; this will see 28 light vehicles arrive at the Main Wind Farm Development Site at the start of the day and 28 leave at the end of the day. It has been assumed that the light vehicles that travel to the Main Wind Farm Development Site will come from the N59 to the northeast.

Grid Connection Traffic Generation

- 14.151 **Table 14-29** provides an indication of the number of workers and deliveries expected for each stage of the cabling works. It is noted that not all works will be concurrent and therefore a peak daily trip generation is also provided below.

Table 14-29: Estimated Daily Cabling Trip Generation

Work Stage	Workers LGVs (1.5 per vehicle)	Deliveries (HDVs)	Total Vehicle Trips (per day)
Electrical Cables	8	8	16
Communications Cables	4	4	8
ECC Cables	2	2	4
General Trenching	72	72	144
Trench Culvert Crossings	2	2	4
HDD Crossings	14	14	28
Joint Bays	22	22	44
Peak GCR route Trips	88	88	176

- 14.152 During the cabling works it is predicted that a maximum of 176 two-way vehicles movements per day. These vehicles will travel on roads described above, with the cable construction vehicles travelling from the wider road network to the N59 and then to the temporary lane closure, staff will be transported to the moving lane closure via a minibus. The most significant increase will be on the N59 in the vicinity of the Main Wind Farm Development Site, where the combination with the Main Wind Farm Development Site construction traffic will result in the largest increase above the existing traffic levels.
- 14.153 It is noted that not all phases of construction are concurrent activities so the realistic maximum adverse scenario will be the month with the highest number of overlaps. This is Month 8 which will experience works from site tracks, crane hardstanding, and turbine foundation excavation and piling. The trips associated with cabling will not be concurrent with these activities.

Assessment of Construction Stage Effects

Direct Effects

- 14.154 The predicted increases in traffic levels against the baseline levels have been calculated in this section for the wind farm, the grid connection route and the substation; an assessment of the significance of the effect has been made against the criteria described in **Table 14-2** and **Table 14-3**.
- 14.155 Both the IEMA guidelines and TII guidance inform thresholds when considering predicted increases in traffic, whereby further consideration of effects will be required:
- where the total traffic will increase by 30% or more (10% in sensitive areas or National Roads as per TII); and/or
 - where the HDV traffic will increase by 30% or more (10% in sensitive areas);
- 14.156 In line with preapplication advice received from TII and in line with TAA 2014 the threshold of 10% has been applied for the N59.
- 14.157 The L5252 will see development generated traffic increase against the baseline levels and while there are a limited number of sensitive receptors along this road, the increase is likely to be more significant due to the proximity of the properties to the Main Wind Farm Development Site.
- 14.158 The predicted development generated traffic has been applied to the roads within the study area, as summarised in **Table 14-30**.

Table 14-30: Distribution of Site Generated Traffic (Total Two-Way)

Development Element	Vehicle Type	N59 North (70%)	L1206 (100%)	L5252 (100%)
Mobilisation & Site set-up	HDV	3447	4924	4924
Site Clearance and Felling	HDV	643	918	918
Site access and internal access tracks	HDV	11437	16347	16347
Turbine Hardstands	HDV	18575	26536	26536
Turbine Foundations	HDV	3977	5682	5682
Onsite substation, BESS and Grid Connection cable works	HDV	10301	14716	14716
On Site Cabling	HDV	1361	1944	1944
Turbine Delivery & Installation	HDV	150	214	214
Commissioning & Testing	HDV	0	0	0
Landscaping, reinstatement and demobilisation	HDV	1764	2520	2520
Staff Movements	Car & LGV	784	1120	1120
Total	-	52439	74912	74912

14.159 Construction phase working hours for the Proposed Project will be 07:00 to 19:00 Monday to Friday and 07:00 to 13:00 at weekends, other than in exceptional circumstances. It is noted that out of necessity some activities, for example AIL deliveries and the lifting of the turbine rotors, may need to occur outside the specified hours stated, although they will not be undertaken without prior approval from Mayo CC, Sligo CC, and Donegal CC as the Roads Authorities. The effect of the Proposed Project has been assessed over a weekday, which considered the natural peak usage of the road network.

14.160 **Table 14-31** shows the predicted daily total and HDV traffic increases for all links. The baseline flows are those observed on an average weekday over a 24-hr period. This effect is detailed for both the baseline (2023 surveys) and future year (2023 surveys with growth and cumulative development) scenarios.

Table 14-31: Predicted Daily Increase in Traffic along the Study Area – 24 Hour Flows

Link No.	Location	Construction Traffic (Peak Construction)		Base Year (2023)		Future Year (Base With Growth & Cumulative)		Base Year (2023) + Development				Future Year (+Growth) + Development			
		Two-Way Traffic		Two-Way Traffic		Two-Way Traffic		Two-Way Traffic				Two-Way Traffic			
		Total	HDV	Total	HDV	Total	HDV	Total	HDV	Impact %	HDV Impact%	Total	HDV	Impact %	HDV Impact%
1	N59 approximately 1.6 km from its junction with the R313 in the eastbound direction.	254	218	2,397	165	2,791	429	2,650	383	11%	132%	3,045	647	125%	379%
2	L1206 approximately 1.2 km southwest of Mount Jubilee and 900 south of Tristia.	362	311	943	44	955	46	1,306	356	38%	701%	1,318	357	38%	679%
3	L5252 approximately 2.4 km southeast of Muingmore and north of L1206.	362	311	61	12	62	12	423	323	596%	2,659%	424	324	589%	2574%

Decommissioning Phase

- 14.161 The traffic effects during the decommissioning phase can only be assessed in detail closer to that period where there is greater certainty over future baseline conditions. As elements of the Proposed Project will remain in situ (such as substation, grid connection route, collector, access tracks and foundations), the traffic flows associated with the decommissioning works will be lower than those associated with the construction phase.
- 14.162 The construction phase therefore represents a worst-case assessment in terms of traffic generation and associated effects.
- 14.163 The decommissioning effects have therefore been considered qualitatively in this EIAR chapter, as the effects are assumed to be no greater than during the construction phase.
- 14.164 At the end of the Proposed Projects operational life, there may be an impact on the study area due to the movements of vehicles associated with the removal of equipment and materials from the Main Wind Farm Development Site. However, it is noted that the number of vehicle movements associated with decommissioning works is anticipated to be lower than that predicted during the construction phase, as some of the elements, such as concrete turbine foundations, will remain in-situ. The effects of the decommissioning phase are therefore assumed to be no greater than the effects of the construction phase.
- 14.165 The construction phase represents a conservative precautionary estimate in terms of traffic generation and associated effects. In comparison, the decommissioning phase is anticipated to generate less traffic than the construction phase. As the construction phase represents the reasonable worst-case scenario, a separate traffic assessment for the decommissioning phase has not been undertaken.
- 14.166 Detailed decommissioning proposals will be set out within a Decommissioning Plan, which will be submitted to and approved by Mayo County Council prior to the commencement of decommissioning works. The Decommissioning Plan will incorporate appropriate traffic management and mitigation measures, and it is anticipated that a proportion of the project infrastructure will be retained in situ, thus reducing the volume of decommissioning related traffic compared to the construction phase. Based on Guidance from the Irish Wind Energy Association it is also expected that the decommissioning phase will be a shorter process that will be undertaken across 12 months.
- 14.167 A Decommissioning Management Plan will perform a similar role to the CEMP for the construction phase, setting out the mitigation measures to be implemented.
- 14.168 On this basis, traffic effects during the decommissioning phase will be no greater than those assessed for the construction phase and are therefore not expected to give rise to any significant or residual effects.
- 14.169 Traffic during decommissioning will be managed under a Decommissioning Traffic Management Plan (DTMP), the details of which will be agreed in advance with Mayo County Council.

Assessment of Effects

- 14.170 The links that have been assessed are outlined above in **Table 14-11**. As detailed above in **Table 14-31** the effect of the Proposed Project is expected to exceed the threshold for assessment in both the baseline and future year scenarios and therefore are assessed further.

- 14.171 It is noted that the percentage impact of the construction is not universally higher in the future year + construction assessment. The magnitude of the impacts considered for each effect is therefore based on more conservative of the two assessments:
- Link 1 – Future Year + Construction (127% total vehicle impact, and 398% HDV impact);
 - Link 2 – Baseline + Construction (38% total vehicles impact, And 679% HDV impact); and
 - Link 3 – Baseline + Construction (596% total vehicles impact, And 2,659% HDV impact).

Embedded Mitigation Measures

Construction Stage

Embedded Design

- 14.172 As outlined above, the Access Points to the site will provide appropriate sightline visibility and are able to demonstrate appropriate tracking from standard HDVs and AILs. Access tracks are 6 m wide and allow for two-way HDV working.

CTMP

- 14.173 The Construction Traffic Management Plan (CTMP) will provide suitable mitigation during the construction phase.
- 14.174 The CTMP is a key construction contract document, which will ensure that all necessary mitigation measures are implemented. A CTMP is found in **Technical Appendix 14-4**. The CTMP will be used by the contractor to ensure that the appropriate traffic and transport management measures are implemented throughout the construction phase, to include mitigation measures.
- 14.175 It is noted that all assessments of effects have considered mitigation that will be embedded into the project. Therefore, when deciding the ultimate Significance of a given effect according to **Table 14-4** this assessment will assume the lesser of the two Significance. This is due to the fact that the embedded mitigations include a Construction Traffic Management Plan (CTMP). As per the EPA 2022 EIAR guidelines, the CTMP will act as form of mitigation by reduction, prevention, and avoidance and includes the following mitigation measures:

Mitigation by Reduction

- Road condition surveys will include photographic records to ensure the conditions of carriageway surfaces, verges and other road infrastructure are appropriately restored as necessary following the construction phase.
- Reduce total traffic associated with the Proposed Project by encouraging use of minibuses or car share.
- Regular visual surveys of the road network in the vicinity of the Proposed Development will be carried out during construction phase. Where identified/required, the Contractor will carry out road sweeping operations, employing a suction sweeper to remove any related dirt and material deposited on the road network by construction/delivery vehicles. It will be a requirement of the works contract that the Contractor(s) will be

required to provide wheel cleaning facilities, and any other necessary measures to remove mud and organic material from vehicles.

- A maximum 24 kph speed limit will be imposed for all construction traffic on private roads and tracks, which will be reinforced through temporary construction traffic speed limit signs, increasing safety and reducing accidents.
- Prior to the movement of abnormal loads, extensive public awareness is required to allow residents to plan and time their journeys to avoid disruption.
- Post-consent, the Applicant will establish a Community Liaison Forum, in collaboration with the Council and local representatives. The forum will allow the community to be kept up to date with project progress and allow communication on the provision of transport-related mitigation and publicise the timings of turbine component deliveries. The Community Liaison Forum will be maintained until construction is complete and the Proposed Development is operational.

Mitigation by Prevention

- Signage and streetworks will regulate entry to and egress from the public road network, reduce queuing at the Main Wind Farm Development Site entrances, and protect local road users.
- Traffic marshals will ensure safe movement of vehicles, managing interactions between Proposed Project traffic and vulnerable road users passing the Main Wind Farm Development Site. Where necessary marshals will stop Proposed Project traffic to allow slow moving vulnerable users, such as equestrians, to pass before releasing traffic.
- Vehicles exiting the compounds from all areas of the Main Wind Farm Development Site will be required to utilise the wheel washing facilities to prevent any transfer of material from the access tracks to the local road network, to minimise disruption to other local traffic.
- Where appropriate or needed, a "Stop/go" system will be utilised to implement manual traffic control. This will help to control sections of road, such as the L5252, in a single direction due to GCR construction works.
- Contractors – all contractors will have experience in wind farm construction projects and will be required to supply details of method statements which incorporate mitigation measures. A Project Supervisor Construction Stage (PSCS) and Environmental Clerk of Works will be appointed.
- Turbine delivery management - prior to the movement of abnormal loads, extensive public awareness is required to allow residents to plan and time their journeys to avoid disruption. In line with the turbine manufacture's requirements, the haulage contractor will remain responsible for obtaining all necessary permits from the relevant road and bridge authorities along the access route. The movement of abnormal loads will be timed to avoid periods of heavy traffic flow to minimise disruption to the public. The appropriate permits will be secured and escorts appointed.
- The hauliers will be contractually responsible for applying for the necessary abnormal load permits and ensuring that such deliveries are undertaken in accordance with the statutory requirements. These permits will apply to the entire abnormal load delivery route from the point of entry to the Main Windfarm Development Site. The hauliers will ensure that no abnormal loads are allowed to be transported unless the required permits are in place.

- Each transport haulier will be responsible for agreeing a final delivery schedule with the relevant authorities with regards to the number of deliveries per convoy and the number of those convoys travelling to The Main Windfarm Development Site per day. It is envisaged that an optimum number of abnormal loads per convoy will be implemented, such that it will reduce the overall number of convoys without significantly impacting on local traffic flows.

Mitigation by Avoidance

- Hours of operation / Delivery scheduling will avoid allow traffic to be spread across the day and allow for avoiding peak traffic hours on the network.
- Appropriate haul routing (as shown on **Figure 14-4**), avoiding sensitive receptors, maximising use of appropriate national roads and mimicking contact with features such as bridges.
- Prior to the movement of abnormal loads, extensive public awareness is required to allow residents to plan and time their journeys to avoid disruption. In line with the turbine manufacture's requirements.
- All vehicles directly owned by the client or main contractor will have a communications system installed that will be legal to use while the vehicle is in motion. The communications system will be used to advise drivers of any issues on the road network or on the Main Wind Farm Development Site, allowing them to re-route as necessary, adjust driving speed or adjust destination. The communications system will also be used by drivers to report issues, and to call for immediate assistance if required.
- Information on the project will be distributed using a variety of methods including the project website, local newsletters, public notices and public meetings by the project Community Liaison Officer. Contact details for key project staff will be provided to the community in order for any complaints or information requests to be actioned.
- All works will be forward planned wherever practicable taking into account the anticipated weather conditions. At the start of the day, the foreman will assess the weather conditions prior to permitting their operatives to access the Main Windfarm Development Site.

Principles for AIL Traffic Management

14.176 Management of AIL movements to and from the Main Wind Farm Development Site will include:

- Continuous interaction will occur within the County Council's Transportation department and An Garda Síochána during the delivery phase of AILs to coordinate escorts, timing, and local traffic controls.
- A detailed programme of deliveries, particularly for turbine components, will be submitted to the relevant county councils prior to commencement.
- Local residents will be informed in advance of any traffic-related impacts, such as temporary lane or road closures or night-time deliveries.
- Notices will include the developer's representative contact details for the public and County Council's details for any queries during working hours.
- An out-of-hours emergency contact number will also be provided.

- A Garda escort will be required to facilitate the delivery of the AILs. It is proposed that an advance escort will warn oncoming vehicles ahead of the convoy, with one escort staying with the convoy at all times. The escorts and convoy will remain in radio contact at all times, where possible.

- 14.177 The AIL convoys will be no more than three vehicles long, or as advised by the Garda, to permit safe transit along the delivery route and to allow limited overtaking opportunities for following traffic where it is safe to do so. The times in which the convoys will travel will need to be agreed with local Garda, who have sole discretion on when loads can be moved. Consideration will be given to abnormal load deliveries being undertaken overnight to reduce the potential for disruption and delay, subject to approval by Mayo County Council and the Garda.
- 14.178 The movement of such convoys may take place at times outside of typical working days and hours, and so there will be a convoy around every four days on average. Signage will be erected at points along the entire route, warning of AIL movements and giving other road users the chance to alter their journey to avoid any chance of being affected by the AIL movements.

Effects of Community Severance

- 14.179 The sensitivity of Link 1 is Low. The magnitude of change for total HDV traffic is greater than 90%. Therefore, as per **paragraph 14.27** and **Table 14-4**, this is a Low sensitivity link with a traffic flow impact that is classed as High (Greater than 90%) and is of either Slight or Moderate Significance (in accordance with **Table 14.7** definitions). i.e. this is a Low sensitivity link with an impact that is assessed to be High, and including the embedded mitigation provided by the CTMP, is of Slight Significance (**Not Significant**).
- 14.180 The sensitivity of Link 2 is Low. The magnitude of change for total HDV traffic is greater than 90%. Therefore, as per **paragraph 14.27** and **Table 14-4**, this is a Low sensitivity link with a traffic flow impact that is classed as High (Greater than 90%) and is of either Slight or Moderate Significance (in accordance with **Table 14.7** definitions). In line with IEMA guidance it is indicated that very low baseline flows are unlikely to experience severance impacts even with high percentage changes in traffic, and including the embedded mitigation provided by the CTMP, this effect is of Slight Significance (**Not Significant**).
- 14.181 The sensitivity of Link 3 is Low. The magnitude of change for total HDV traffic is greater than 90%. Therefore, as per **paragraph 14.27** and **Table 14-4**, this is a Low sensitivity link with a traffic flow impact that is classed as High (Greater than 90%) and can be judged to be Slight or Moderate in significance (in accordance with **Table 14.7** definitions). In line with IEMA guidance it is indicated that very low baseline flows are unlikely to experience severance impacts even with high percentage changes in traffic, and including the embedded mitigation provided by the CTMP, this effect is of Slight Significance (**Not Significant**).

Secondary Mitigation or Enhancement

- 14.182 No mitigation or enhancement proposed.

Residual Effect

- 14.183 As this is a medium-term temporary increase in traffic there is considered to be no residual impact.

Significance

14.184 This effect is considered to be **Not Significant**.

Effects on Road Safety

- 14.185 There are no general thresholds used when determining the significance of increased traffic on road safety, therefore professional judgement is required to identify the potential road safety effects associated with the construction phase. The IEMA guidance confirms that existing road accident rates and professional judgement are needed to assess the implications of the cumulative construction traffic. It is noted that this assessment does not constitute a road safety audit.
- 14.186 It has not been possible to obtain injury accident data for the study area (Links 1-3) as no location specific data is currently available from the RSA. The national data reviewed has identified that the number of accidents within the County of Mayo reduced in 2019 from previous years and that there were three fatalities in the County in 2019. While this data does not allow any conclusions about road safety within the study area to be confirmed, it does imply that there are no significant road safety issues within the County.
- 14.187 Due to the lack of information available regarding existing road safety within the study area, and in line with **Table 14-4**, in order to provide a conservative assessment, the construction traffic is considered to have a High Magnitude impact.
- 14.188 All the links on the network are considered to be of Low sensitivity. A High magnitude of impact on a Low sensitivity link can be considered to be of Slight or Moderate Significance (in accordance with **Table 14.7** definitions). When considering the rural nature of the Proposed Project and the embedded mitigation that will be provided by the CTMP it is assumed the Significance of this effect is Slight (**Not Significant**).

Secondary Mitigation or Enhancement

14.189 No mitigation or enhancement proposed.

Residual Effect

14.190 As this is a medium-term temporary increase in traffic, it is considered to be no residual impact.

Significance

14.191 This effect is considered to be **Not Significant**.

Effects on Driver Severance and Delay

- 14.192 Across all links (1, 2 and 3). The assessment of impact to driver delay is based on professional judgement as per **Table 14-4**. based on a 12-hour work day, there will be an increase of up to 30 vehicle movements (per hour) on any one link.
- 14.193 On Link 1, an increase of 30 trips in either the AM Peak (08:00-09:00) or PM peak (17:00-18:00) is a maximum increase of 20%. i.e. this is a Low sensitivity link with a traffic flow impact that is classed as Negligible (Less than 30%), and notwithstanding the embedded mitigation within the CTMP, is of Negligible Significance (**Table 14.7**) (**Not Significant**).

- 14.194 On Link 2, an increase of 30 trips in either the AM Peak or PM peak is a maximum increase of 61%. i.e. this is a Low sensitivity link with a traffic flow impact that is classed as Medium (Greater than 60%), and notwithstanding the embed mitigation within the CTMP, is of Slight Significance (**Table 14.7**) (**Not Significant**).
- 14.195 On Link 3, an increase of 30 trips in either the AM Peak or PM peak is a maximum increase of 1300%. i.e. this is a Low sensitivity link with a traffic flow impact that is classed as High (Greater than 90%) and is of either Slight or Moderate Significance (**Table 14.7**). As discussed above in community severance this “High” magnitude is a result of very low baseline flows. In reality this is an increase in the AM peak of 30 trips to a baseline flow of 2 which, regardless of the temporary nature of the construction process, and notwithstanding the embedded mitigation within the CTMP, is unlikely to result in a significant delay. Therefore, it is assessed that this is an effect of only Slight Significance (**Not Significant**).

Secondary Mitigation or Enhancement

- 14.196 No mitigation or enhancement proposed.

Residual Effect

- 14.197 As this is a medium-term temporary increase in traffic there is considered to be no residual impact.

Significance

- 14.198 This effect is considered to be **Not Significant**.

Pedestrian and Non - Motorised User Delay

- 14.199 The sensitivity of Link 1 is Low. The magnitude of change is considered to be Negligible as two-way traffic flows are less than 1,400 vehicles per hour and the Proposed Project does not cause the link to exceed 1,400 vehicles per hour. Therefore, it is assessed to be a direct, temporary, short-term, adverse effect which, notwithstanding the embed mitigation within the CTMP, is considered to be Negligible (**Not significant**).
- 14.200 The sensitivity of Link 2 is Low. The magnitude of change is considered to be Negligible as two-way traffic flows are less than 1,400 vehicles per hour and the Proposed Project does not cause the link to exceed 1,400 vehicles per hour. Therefore, it is assessed to be a direct, temporary, short-term, adverse effect which, notwithstanding the embed mitigation within the CTMP, is considered to be Negligible (**Not significant**).
- 14.201 The sensitivity of Link 3 is Low. The magnitude of change is considered to be Negligible as two-way traffic flows are less than 1,400 vehicles per hour and the Proposed Project does not cause the link to exceed 1,400 vehicles per hour. Therefore, it is assessed to be a direct, temporary, short-term, adverse effect which, notwithstanding the embed mitigation within the CTMP, is considered to be Negligible (**Not significant**).

Secondary Mitigation or Enhancement

- 14.202 No mitigation or enhancement proposed.

Residual Effect

14.203 As this is a medium-term temporary increase in traffic there is considered to be no residual impact.

Significance

14.204 This effect is considered to be **Not Significant**.

Non-motorised User Amenity

14.205 As stated in **Table 14-4** the determination of the magnitude for non-motorised user amenity is based on professional judgment of the link and its individual characteristics. Therefore, a professional judgement has been applied, as described below.

14.206 The sensitivity Link of 1 is Low. It is understood that the increase in the percentage of HDV trips is greater than 100% which is considered to be a high magnitude of impact. i.e. this is a Low sensitivity link with an impact that is assessed to be of a High magnitude and is of Slight or Moderate Significance. The character of the N59 is one of Irelands national roads and is a dual lane single carriageway and, where it proceeds through Bangor Erris, provides footpaths for residents of the town, that will benefit from the embedded mitigation associated with the CTMP. It is therefore assessed to be of Slight Significance (**Not Significant**).

14.207 The sensitivity of Link 2 is Low. It is understood that the increase in the percentage of HDV trips is greater than 100% which is considered to be a high magnitude of impact. i.e. this is a Low sensitivity link with an impact that is assessed to be of a High magnitude and is of Slight or Moderate Significance. The character of the L1206 is a rural dual lane single carriageway that does not provide footpaths for the small number of residential dwellings that are located across it's extent. The increase in HDVs over 100% is largely due to the links' rural nature and low baseline flows. Including the embedded mitigation provided by the CTMP means the significance of effect assessed is of Slight Significance (**Not Significant**).

14.208 The sensitivity of Link 3 is Low. It is understood that the increase in the percentage of HDV trips is greater than 100% which is considered to be a high magnitude of impact. i.e. this is a Low sensitivity link with an impact that is assessed to be of a High magnitude and is of Slight or Moderate Significance. The character of the L5252 is a rural lane that does not provide footpaths for the small number of residential dwellings that are located across it's extent. The increase in HDVs over 100% is largely due to the links rural nature and low baseline flows. Including the embedded mitigation provided by the CTMP means the significance of effect assessed is of Slight Significance (**Not Significant**).

Secondary Mitigation or Enhancement

14.209 No mitigation or enhancement proposed.

Residual Effect

14.210 As this is a medium-term temporary increase in traffic there is considered to be no residual impact.

Significance

14.211 This effect is considered to be **Not Significant**.

Fear and Intimidation

- 14.212 The sensitivity of Link 1 is Low. According to **Table 14-4**, **Table 14-5**, and **Table 14-6** there will be no step change in the Degree of Hazard Score. i.e. this is a Low sensitivity link with an impact that is assessed to be Negligible and, notwithstanding the embedded mitigation provided by the CTMP, is of Negligible Significance (**Not Significant**).
- 14.213 The sensitivity of Link 2 is Low. According to **Table 14-4**, **Table 14-5**, and **Table 14-6** there will be no step change in the Degree of Hazard Score. i.e. this is a Low sensitivity link with an impact that is assessed to be Negligible and, notwithstanding the embedded mitigation provided by the CTMP, is of Negligible Significance (**Not Significant**).
- 14.214 The of sensitivity Link 3 is Low. According to **Table 14-5**, **Table 14-5**, and **Table 14-6** there will be no step change in the Degree of Hazard Score. i.e. this is a Low sensitivity link with an impact that is assessed to be Negligible and, notwithstanding the embedded mitigation provided by the CTMP, is of Negligible Significance (**Not Significant**).

Secondary Mitigation or Enhancement

- 14.215 No mitigation or enhancement proposed.

Residual Effect

- 14.216 As this is a medium-term temporary increase in traffic there is considered to be no residual impact.

Significance

- 14.217 This effect is considered to be **Not Significant**.

Effect Caused by Hazardous/Large Loads

- 14.218 It is expected that 208 AIL movements will be required to deliver the necessary material to The Main Wind Farm Development Site. As demonstrated by the AIL assessment prepared by Pell Frischman (**Technical Appendix 14-1**), the inclusion of 3 no. temporary construction Over-run Areas, and design of the 3no. site access points (as discussed in **Paragraphs 14.95-14.103**) along the L5252, the TDR route will accommodate all AIL vehicles to the Main Wind Farm Development Site. The magnitude of impact is therefore assessed to be Low.
- 14.219 All links on the network are of Low sensitivity. i.e. Low sensitivity links with an impact that is assessed to be of a Low magnitude will be of Negligible or Slight significance. Including embedded mitigation provided by the CTMP it is assessed to be of Negligible Significance (**Not Significant**).

Secondary Mitigation or Enhancement

- 14.220 No mitigation or enhancement proposed.

Residual Effect

- 14.221 As this is a medium-term temporary increase in traffic there is considered to be no residual impact.

Significance

14.222 This effect is considered to be **Not Significant**.

Operational Stage effects

14.223 As outlined above the operational stage has been scoped out. No material change in HDV or light vehicle traffic flows are expected during the operational phase. The only activities anticipated to be undertaken during the operational phase are maintenance activities which will consist of 2-3 van trips monthly. It is anticipated turbine components will need to be replaced during the operational life of the Proposed Project. It is however anticipated that any replacement of this infrastructure will be undertaken on an ad hoc basis. Even when replacement works are required, none of these activities are expected to generate material levels of traffic.

Decommissioning Stage effects

14.224 During the decommissioning phase of the Proposed Project, there will be fewer vehicle movements than during the construction phase as there will be fewer activities required for the Proposed Project, lower quantities of materials required and less plant.

14.225 Cranes will disassemble the above ground turbine components which will be removed off-site for recycling. As the turbines will be deconstructed the parts will be smaller and so transported off-site on normal HDVs and not as abnormal loads.

14.226 The foundations will be covered over and allowed to re-vegetate naturally, limiting the amount of material required to be transported off-site. Leaving turbine foundations in situ is considered a more environmentally sensible option as to remove the reinforced concrete associated with each turbine will result in environmental effects such as noise and vibration and dust. It is proposed that the internal Proposed Project access tracks will be left in situ.

14.227 The Main Wind Farm Development Site substation and grid connection route will be taken in charge by ESBN / EirGrid upon completion and will be left in place forming part of the national electricity network. Underground collector cabling will be cut back and left in situ.

14.228 There will be a requirement for construction workers, however these numbers will be less than required for construction. There will be some movement of materials between the north and south of the Main Wind Farm Development Site to optimise reuse of the excess material.

14.229 The number of vehicle movements anticipated during the decommissioning phase will be similar to, and no worse than during the construction phase. It is unlikely that the decommissioning phases of the Proposed Project will coincide and in the unlikely event that they did they will be managed in a similar way to the construction phase, through coordination of decommissioning traffic management. A Decommissioning Plan will be submitted to and approved by the relevant authorities, prior to the commencement of decommissioning works. On this basis effects will be no greater than for construction.

Secondary Mitigation or Enhancement

14.230 No mitigation or enhancement proposed.

Residual Effect

14.231 As this is a Short-term temporary increase in traffic there is considered to be no residual impact.

Significance

14.232 This effect is considered to be **Not Significant**.

Table 14-32: Summary of Predicted Effects (Pre and Post Mitigation)

Location	Severance	Road User and Pedestrian Safety	Road Vehicle Driver and Passenger Delay	Non-Motorised User Delay	Non-Motorised User Amenity	Fear and Intimidation of and by Road Users	Hazardous / Large Loads	Overall Significance (Most Significant Effect)	Additional Mitigation	Residual Effects (Most Significant Effect)
Construction										
N59 approximately 1.6 km from its junction with the R313 in the eastbound direction.	Slight (Not Significant)	Slight (Not Significant)	Negligible (Not Significant).	Negligible (Not significant).	Slight (Not Significant)	Negligible (Not significant).	Slight (Not Significant)	Slight (Not Significant)	None	Slight (Not Significant)
L1206 approximately 1.2 km southwest of Mount Jubilee and 900 south of Tristia.	Slight (Not Significant).		Slight (Not Significant).	Negligible (Not significant).	Slight (Not Significant).	Negligible (Not significant).		Slight (Not Significant)		Slight (Not Significant)
L5252 approximately 2.4 km southeast of Muingmore and north of L1206.	Slight (Not Significant)		Slight (Not Significant)	Negligible (Not significant).	Slight (Not Significant)	Negligible (Not significant).		Slight (Not Significant)		Slight (Not Significant)
Operation										
All Links	Descoped. The operational phase of the Proposed Project will not result in a significant effect.									
Decommissioning										
All Links	Negligible (Not significant).	Slight (Not significant).	Slight (Not significant).	Negligible (Not significant).	Slight (Not significant).	Negligible (Not significant).	Slight (Not significant).	Slight (Not significant).	None	Slight (Not significant).

- 14.233 Taking account of all the potential effects that are likely to arise, and the assessment having tested a conservative precautionary estimate, it is considered that the Proposed Project will not lead to a significant adverse effect due to traffic impacts.
- 14.234 The assessment concludes that the impacts during the construction phase will not be significant; the assessment of the precautionary estimate scenario, the temporary nature of the construction phase and the application of mitigation measures will further reduce any impacts in traffic and transportation terms.

Further Survey Requirements and Monitoring

- 14.235 No further surveys are required at this stage of the Proposed Project. The CTMP will be implemented, covering vehicle routing, signage, road condition monitoring, and engagement with Mayo County Council. The CEMP will be implemented during the construction of the Proposed Project, which will ensure that appropriate Proposed Project monitoring and reporting in relation to traffic and transport will be in place.

Summary of Predicted Effects

- 14.236 **Table 14-32** above provides a summary of the potential traffic and transport impacts that have been identified during each stage of the Proposed Project and the assessment of their potential significance with/without mitigation.
- 14.237 The assessment concludes that the greatest potential for impacts to arise is during the construction phase. The assessment followed a conservative precautionary estimate scenario (that includes the impact of cumulative developments) and found that the Proposed Project will not lead to significant effects. The temporary nature of the construction phase, and the application of mitigation measures will further reduce any effects as a result of traffic and transportation effects.

Statement of Significance

- 14.238 The effects of traffic and transport have been assessed using appropriate guidance. Following the implementation of mitigation measures, potential adverse residual effects due to the Proposed Project are considered **Not Significant** under the EIA Directive.

Figures

Figure 14-1: Site Location

Figure 14-2: Location of Traffic counts and Links

Figure 14-3: Site Access Locations

Figure 14-4: Turbine Construction Route

Figure 14-5: Turbine Delivery Route

Figure 14-6: Grid Connection Route

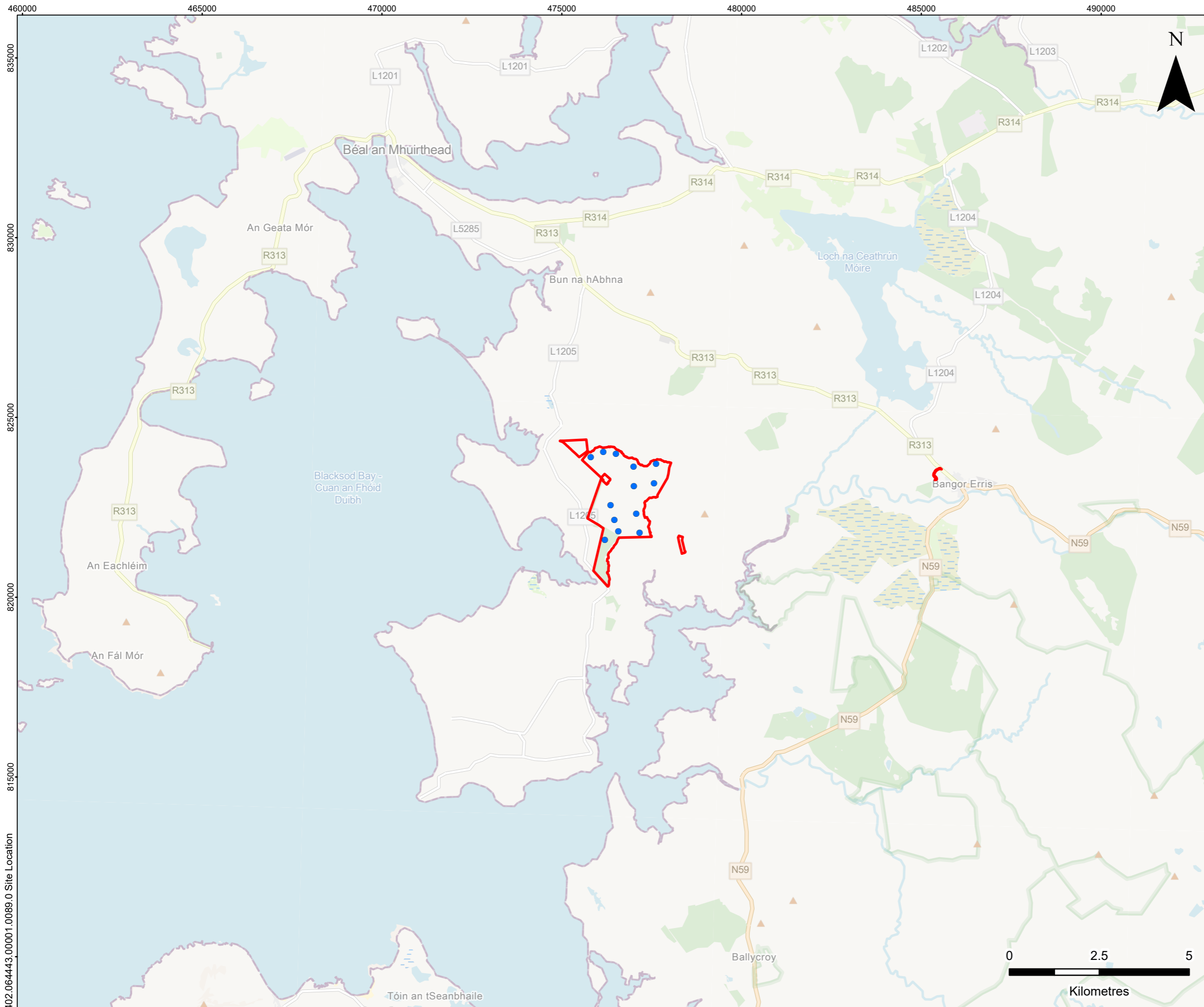
Technical Appendices

Technical Appendix 14-1: Abnormal Indivisible Load Route Survey

Technical Appendix 14-2: TII Scoping Response

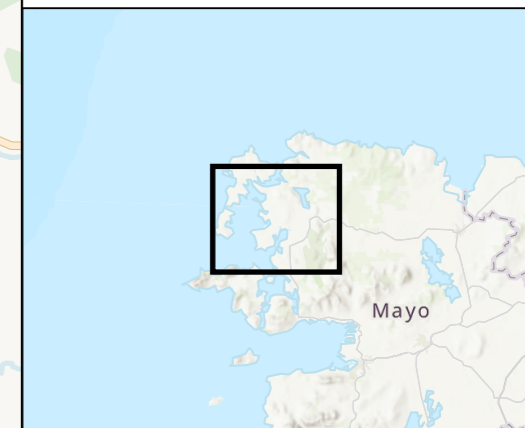
Technical Appendix 14-3: Traffic Survey Summary Memorandum

Technical Appendix 14-4: Construction Traffic Management Plan (CTMP)

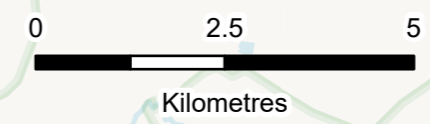


LEGEND

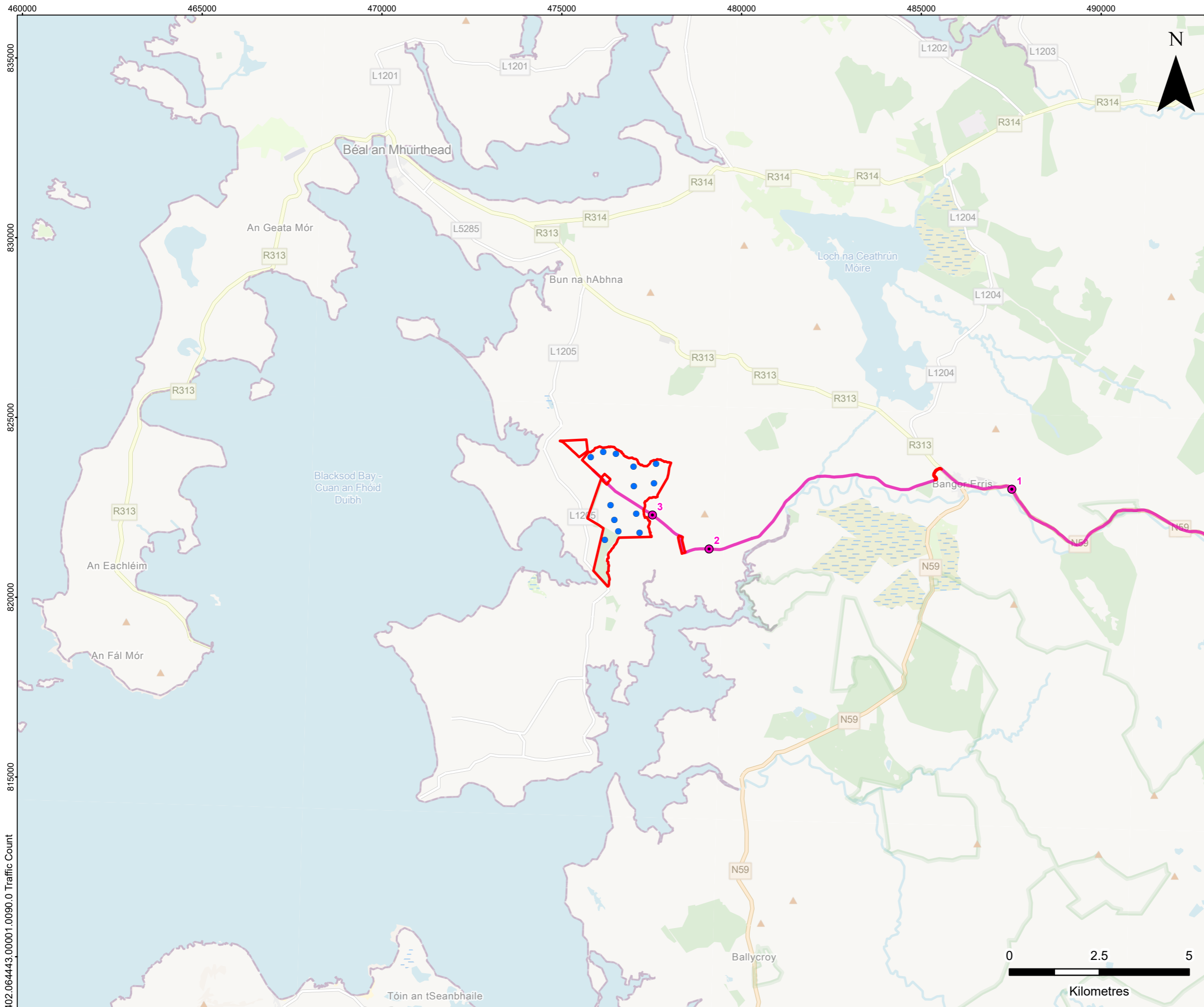
- Proposed Development Site Boundary
- Proposed Turbine Location



MUINGMORE WIND FARM
TRAFFIC AND TRANSPORTATION
SITE LOCATION
FIGURE 14-1

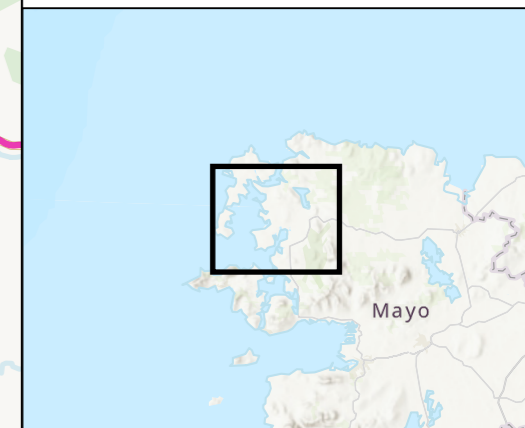


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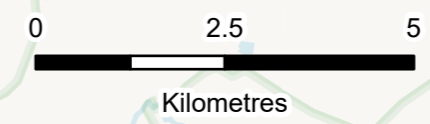
LEGEND

- Proposed Development Site Boundary
- Proposed Turbine Location
- Location of Traffic Count Location
- Proposed Turbine Delivery Route (TDR)



MUINGMORE WIND FARM
TRAFFIC AND TRANSPORTATION
LOCATION OF TRAFFIC
COUNT AND LINKS

FIGURE 14-2



Scale 1:100,000 @ A3 Date APRIL 2026

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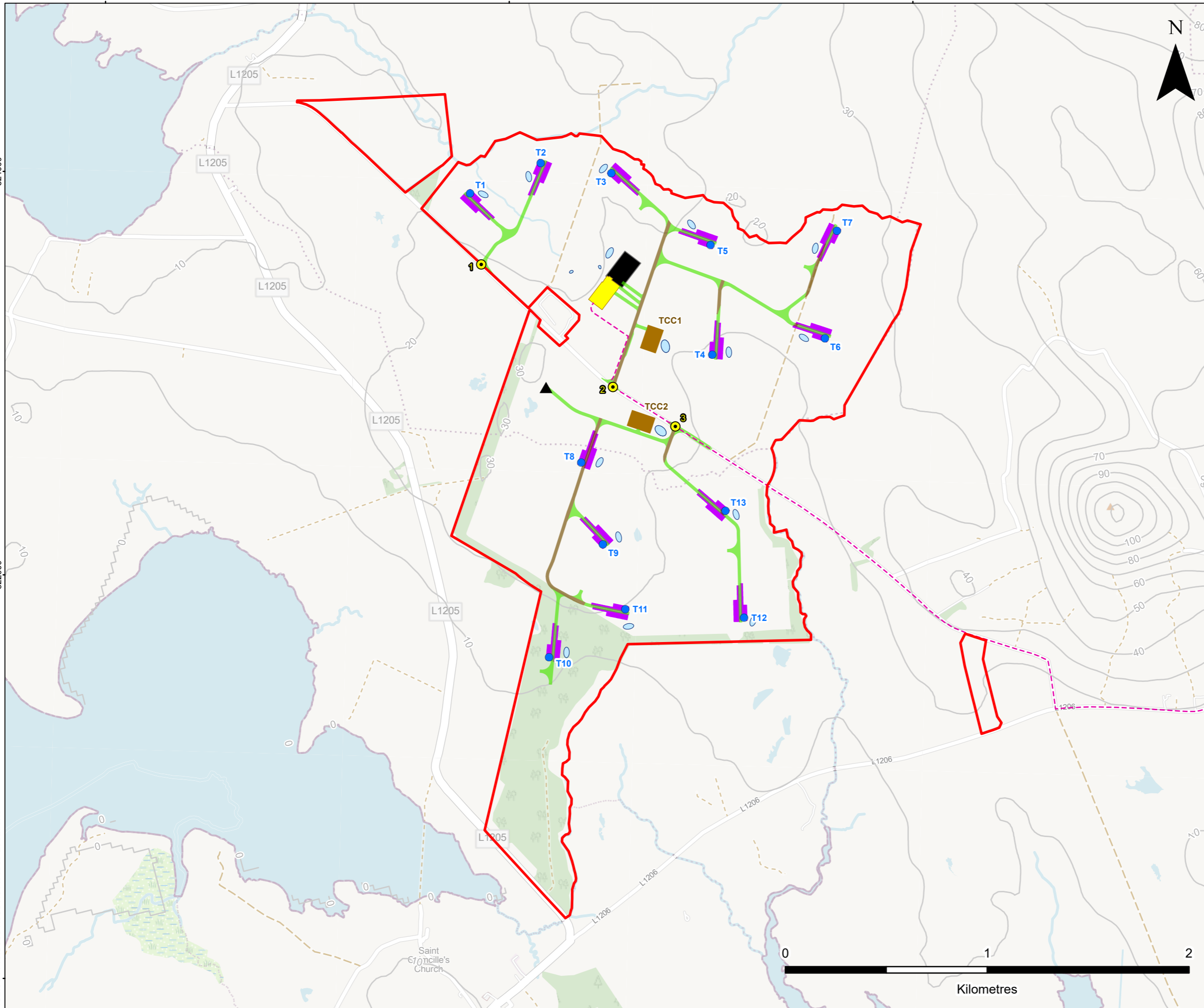
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478000

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822000

402.064443.00001.0091.0 Access Locations



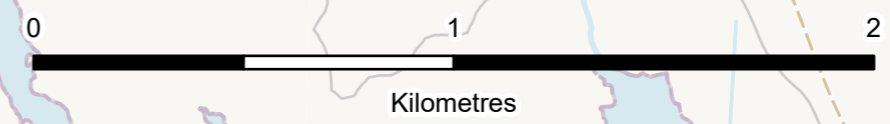
LEGEND

- Proposed Development Site Boundary
- Proposed Turbine Location
- Proposed Site Access Location
- ▲ Proposed Met Mast Location
- Proposed New Access Track
- Proposed Upgraded Access Track
- Proposed Grid Connection Route (Subject to Separate Planning Application)
- Proposed Crane Pad
- Proposed Substation
- Proposed Battery Energy Storage System (BESS) Compound
- Proposed Temporary Construction Compound (TCC)
- Proposed Attenuation Basin

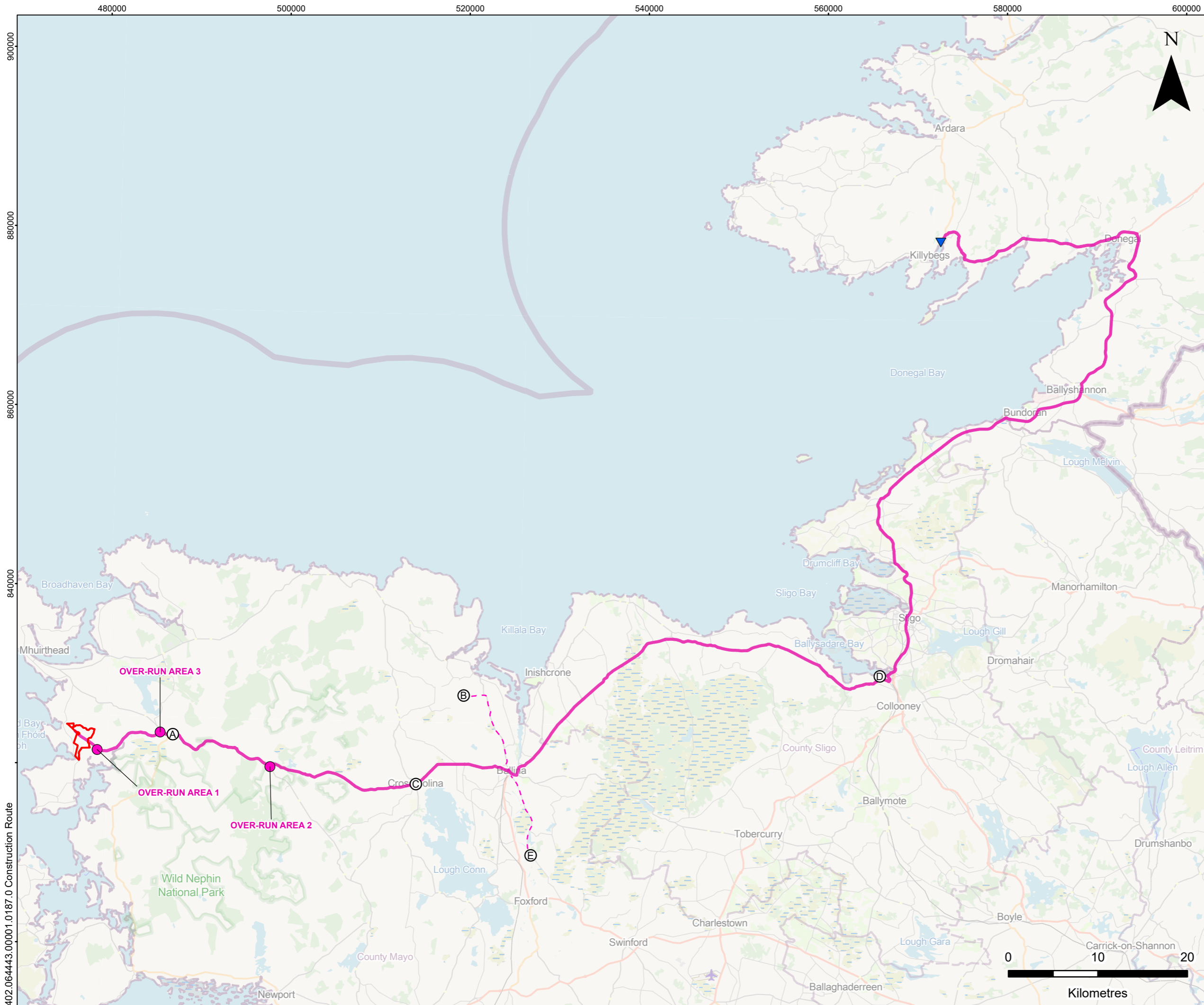


MUINGMORE WIND FARM
TRAFFIC AND TRANSPORTATION
SITE ACCESS LOCATIONS

FIGURE 14-3



Scale 1:18,000 @ A3 Date APRIL 2026

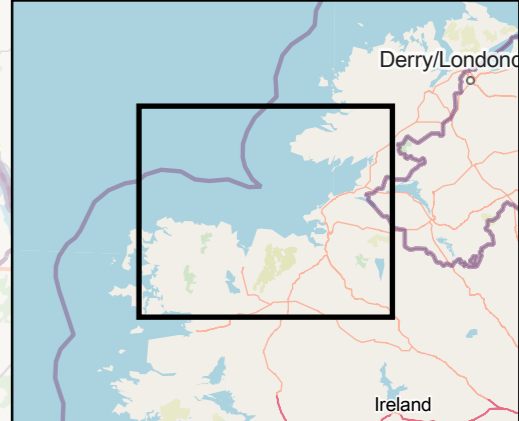


LEGEND

- Proposed Development Site Boundary
- ▼ Killybegs Harbour
- Proposed Over-run Area Location
- Proposed Turbine Delivery Route (TDR)
- Proposed Construction Haul Route (Standard HGC)

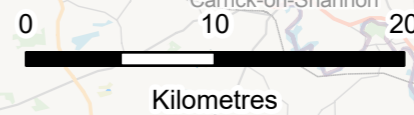
Haul Route Origin

- A Barrets Quarry
- B Killala Rock Quarry
- C Coolturk Quarries Ltd
- D Harrington Concrete and Quarries
- E Molloy Concrete Limited



MUINGMORE WIND FARM
TRAFFIC AND TRANSPORTATION
TURBINE CONSTRUCTION ROUTE

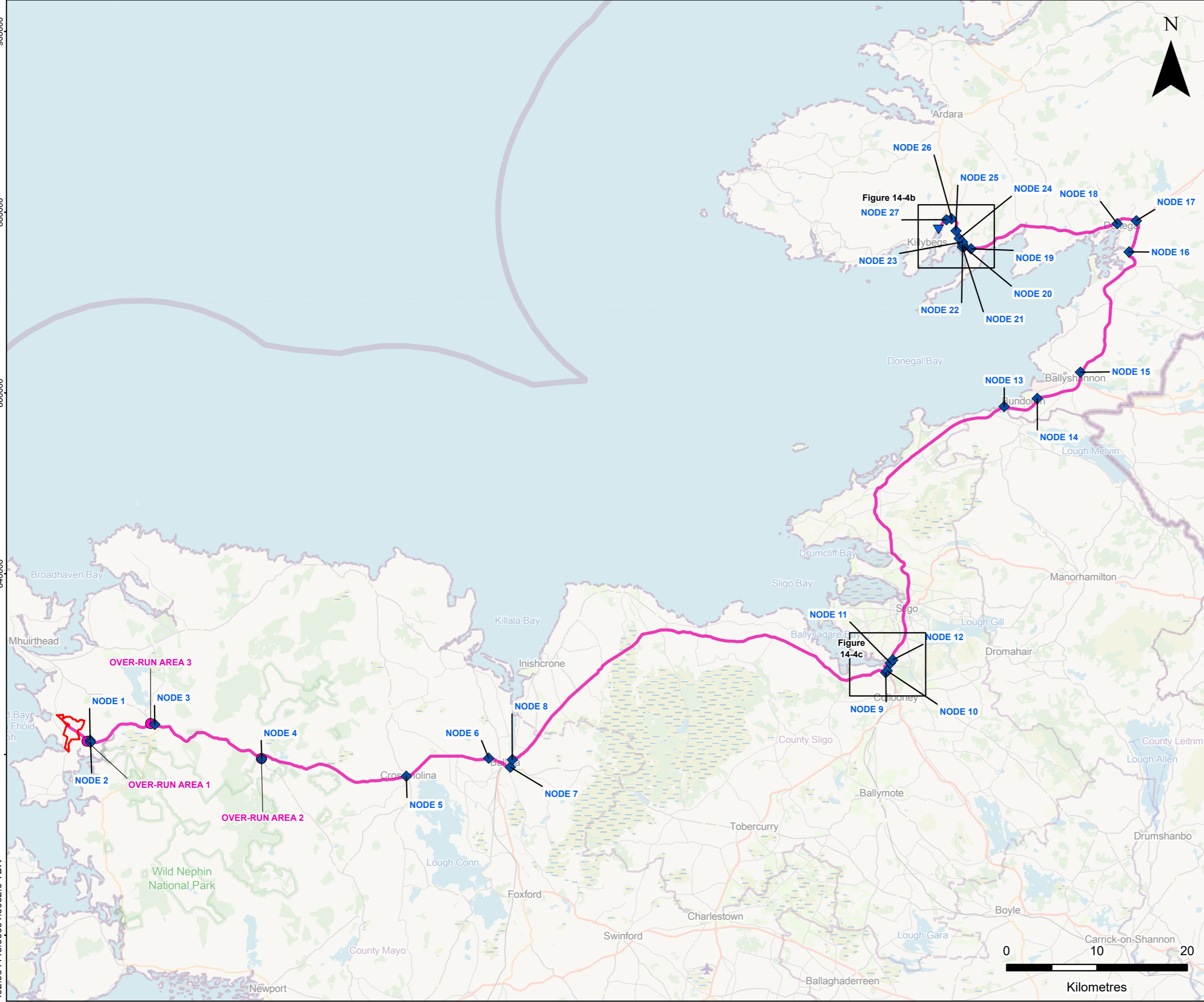
FIGURE 14-4



Scale 1:400,000 @ A3 Date APRIL 2026

480000 500000 520000 540000 560000 580000 600000

900000
880000
860000
840000
402.064443:00001.0092.0 TDR

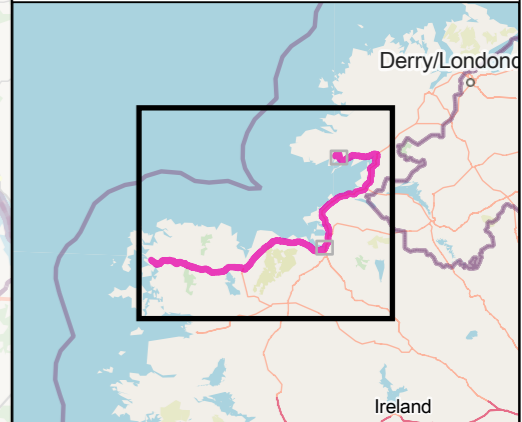


LEGEND

- Proposed Development Site Boundary
- ◆ Proposed Turbine Delivery Route Node
- ▼ Killybegs Harbour
- Proposed Over-run Area Location
- Proposed Turbine Delivery Route (TDR)

Figure 14-4b

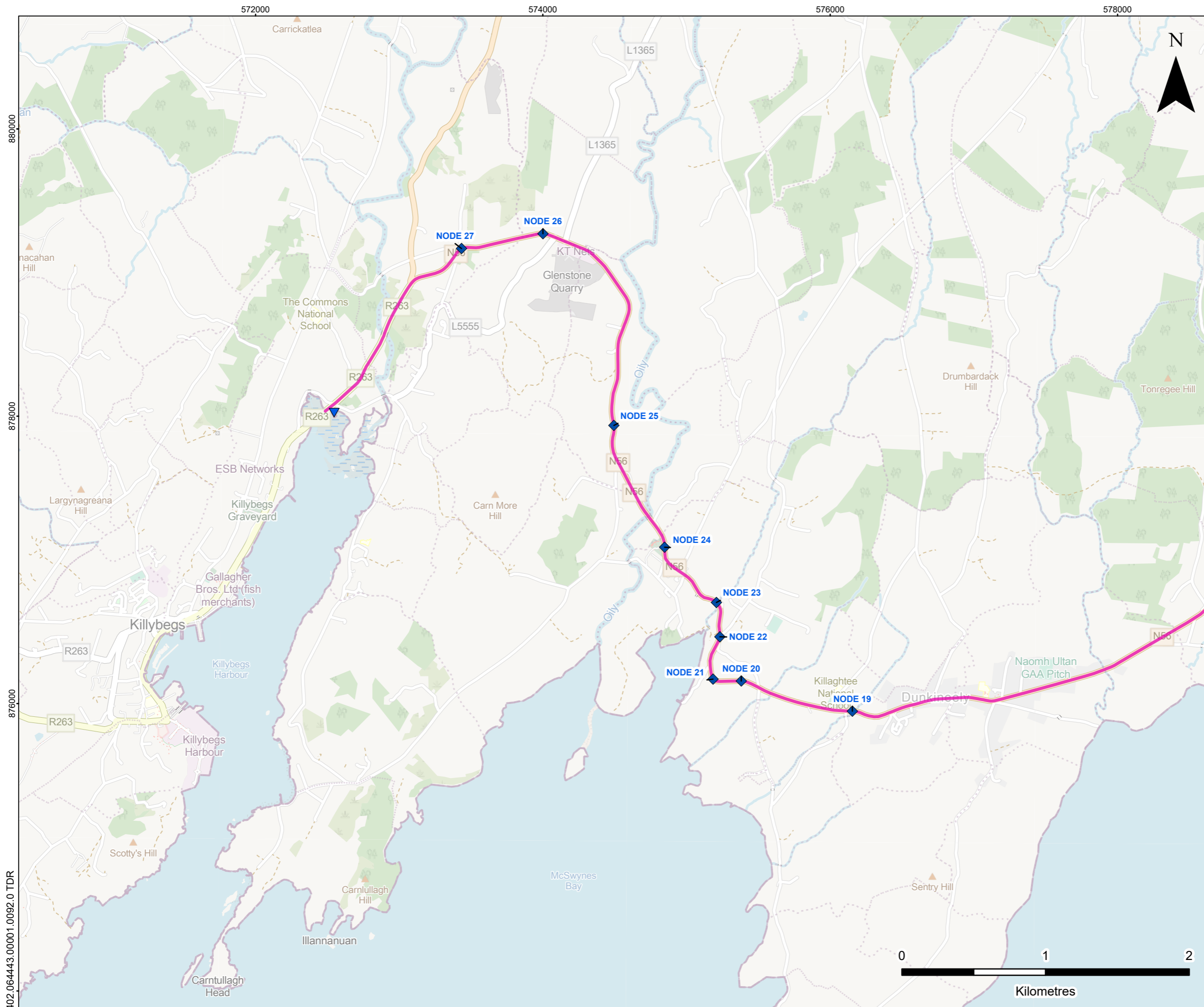
Figure 14-4c



MUINGMORE WIND FARM
TRAFFIC AND TRANSPORTATION
TURBINE DELIVERY ROUTE

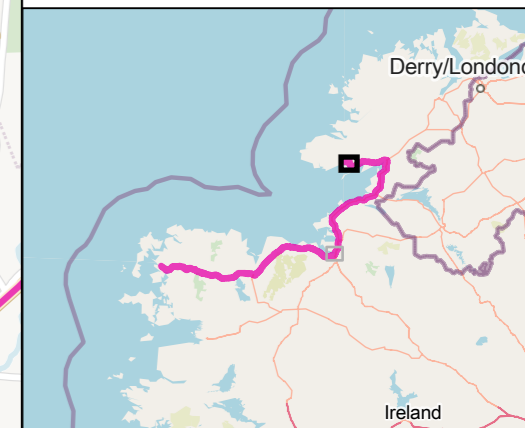
FIGURE 14-5a

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LEGEND

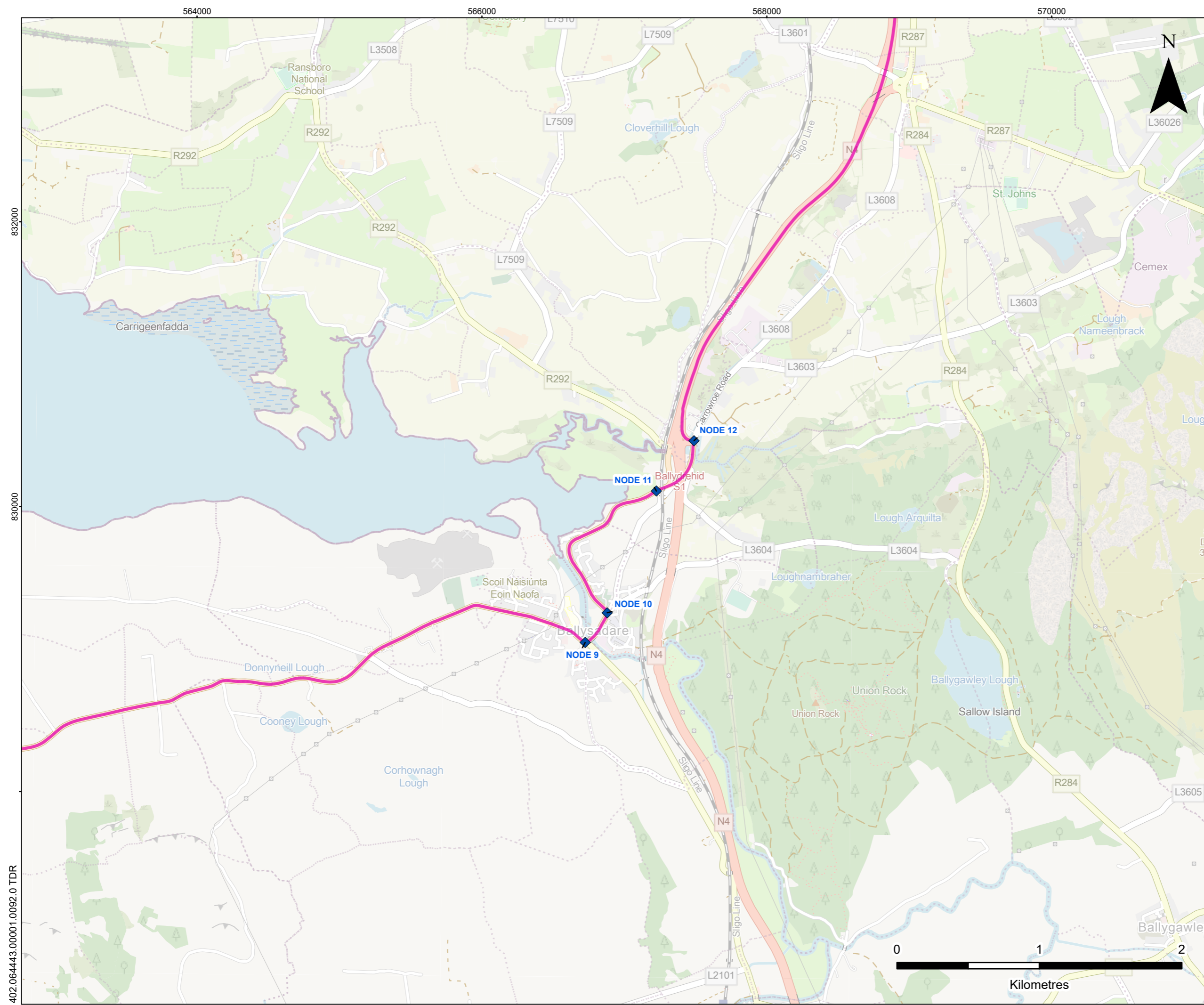
- ◆ Proposed Turbine Delivery Route Node
- ▼ Killybegs Harbour
- Proposed Turbine Delivery Route (TDR)



MUINGMORE WIND FARM
TRAFFIC AND TRANSPORTATION
TURBINE DELIVERY ROUTE

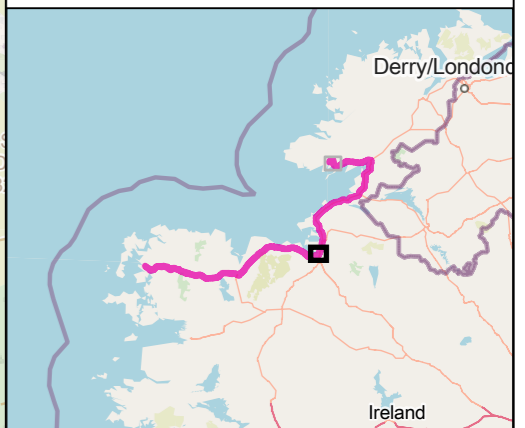
FIGURE 14-5b

Scale 1:25,000 @ A3 Date APRIL 2026



LEGEND

- ◆ Proposed Turbine Delivery Route Node
- ▼ Killybegs Harbour
- Proposed Turbine Delivery Route (TDR)



MUINGMORE WIND FARM
 TRAFFIC AND TRANSPORTATION
 TURBINE DELIVERY ROUTE

FIGURE 14-5c



Scale 1:25,000 @ A3 Date APRIL 2026

402.064443:00001:0092:0 TDR

460000

480000

500000



LEGEND

- Proposed Development Site Boundary
- ▼ Bellacorick 110 kv Substation
- Proposed Grid Connection Route (Subject to Separate Planning Application)

840000

820000

402.064443:00001.0093.0 GCR



MUINGMORE WIND FARM
 TRAFFIC AND TRANSPORTATION
 GRID CONNECTION ROUTE

FIGURE 14-6



Scale 1:200,000 @ A3 Date APRIL 2026