16 TRAFFIC AND TRANSPORT

This chapter has been reviewed and updated where necessary considering any subsequent modifications, updates and additional information acquired for the Further information Request issued by Louth County Council (LCC) on the 6th February 2025 (Reference No: 2460766). It is noted that for ease of reference all changes from the original chapter are shown in orange. Where text has been removed it is shown as ~~strikethrough.~~

16.1 INTRODUCTION

16.1.1 Background and Objectives

This chapter assesses the potential effects of traffic associated with the Proposed Development on the public road network and on sensitive receptors in the vicinity of the Project, describes the existing public road and junction network, identifies whether there is any potential for significant effects to arise (both in isolation and in combination with other developments) and outlines the mitigation measures that will be implemented to avoid, reduce, or offset any potential significant effects that might arise. The assessment will consider the potential effects of traffic generated by the Proposed Development during the following phases:

- Construction of the Proposed Development,
- Construction of Proposed Development Grid Connection in the public road network between the Onsite Substation and Control Station and the existing 110kV substation at Drybridge
- Transportation of turbine components on the public road network between the Port of Galway and the Proposed Development.
- Enabling works for the transportation of turbine components on the public road network between the Port of Galway and the Proposed Development.
- Operation and maintenance of the Proposed Development.
- Decommissioning of the Proposed Development.

16.1.2 Statement of Authority

This chapter of the EIAR has been prepared by John Doogan, Senior Designer at Jennings O'Donovan & Partners Limited who holds a Higher national diploma (Level 7) in Civil engineering from Bolton Street College of Technology. John has over 34 years of road design and traffic experience in Ireland and the UK and has worked on the design, planning and construction of over 30 wind farms projects in Ireland, UK, Europe and Mexico.

The Swept Path Analysis for the transportation of turbine components using abnormal load vehicles between the Port of Galway and the Proposed Development was carried out by Jake Halstead Senior Renewables Consultant at Collett & Sons Ltd.

~~Liam Boyle, Senior Designer at Jennings O'Donovan & Partners Limited who holds a Higher national diploma (Level 7) in Civil engineering from Letterkenny Institute of Technology. Liam has over 15 years of road design and wind farm construction experience in Ireland and the UK and has worked on the design, planning and construction of over 30 wind farms projects in Ireland, UK, and Europe.~~

This report has been reviewed by David Kiely, Director, Jennings O'Donovan & Partners Limited who holds a BE in Civil Engineering from University College Dublin and MSc in Environmental Protection from IT Sligo. He is a Fellow of Engineers Ireland, a Chartered Member of the Institution of Civil Engineers (UK) and has over 41 years' experience. He has extensive experience in the preparation of Traffic and Transport Assessments, Traffic Management Plans, EIARs and EISs for environmental projects including Wind Farms, Solar Farms, Waste Water Projects and various Commercial Developments. David has also been involved in the construction of over 60 wind farms since 1997.

This Chapter was reviewed and updated considering any subsequent modifications, updates and additional information acquired for the Further information Request issued by Louth County Council (LCC) on the 6th February 2025 (Reference No: 2460766) by Mr. John Doogan, Senior Designer at Jennings O'Donovan & Partners Ltd.

16.1.3 Site Location, Context and Proposed Development

The Proposed Development is located to the east of the M1 motorway, approximately 8.3km to the north of Drogheda, 23.6km south of Dundalk and 50km north of Dublin. The Proposed Development will have three ~~four~~ site entrance points from the public road network, two access points from the L6274 local road and one ~~two~~ access point~~s~~ from the L2275. The Proposed Development will consist of 5 turbines with tip height in the range of 179.5m – 180m and a rotor diameter range of 149m – 163m, 38kV substation, Meteorological Masts and underground grid connection from onsite 38kV substation to Drybridge 110kV Substation. Each turbine will be founded on a reinforced concrete foundation and will have a crane hardstand constructed from granular materials to accommodate cranes and store turbine components during turbine erection. Access to the turbines will be from two site entrances on the existing L6274 local road via a network of site roads constructed from granular materials. The L6274 access points will be constructed to accommodate the swept

path and to withstand wheel loading from abnormal load vehicles delivering turbine components to the Site. Access to the onsite 38kV substation will be from a realigned junction on the L2275 and access to the met mast will be from site entrance 2 via the Proposed development access track network. ~~an existing private access road on the L2275~~. The turbines will be linked to the onsite 38kV substation by underground electrical and communications cabling. The Proposed Development will be linked to the National Grid by an underground grid connection constructed from the onsite 38kV substation to the existing Drybridge 110kV substation. The Site will be drained by an integrated site drainage network consisting of clean and dirty water drainage systems. The Location and layout of Proposed Development is shown on **Figure 16.1**. The Grid Connection is shown on **Figure 16.2**. The turbine components for Proposed Development will be shipped to the Port of Galway. The turbine components will be transported on the public road network using abnormal load vehicles between the Port of Galway and the Proposed Development. Abnormal load transport vehicles will exit the M1 at junction 10 and use the N51, R132 and L6274 to access the site. The proposed turbine delivery route between the Port of Galway and the Proposed Development is shown in **Figure 16.3**. Details of the turbine delivery route are given in **Section 16.2.9** of this chapter. Third party land agreements have been acquired for all works necessary for the construction, operation and maintenance of the Proposed development. Land owner agreements have been submitted in response to the RFI request issued by Louth County Council (LCC) on the 6th February 2025 (Reference No: 2460766).for the proposed Development.

Figure 16.1 – Kellystown Windfarm Site Layout

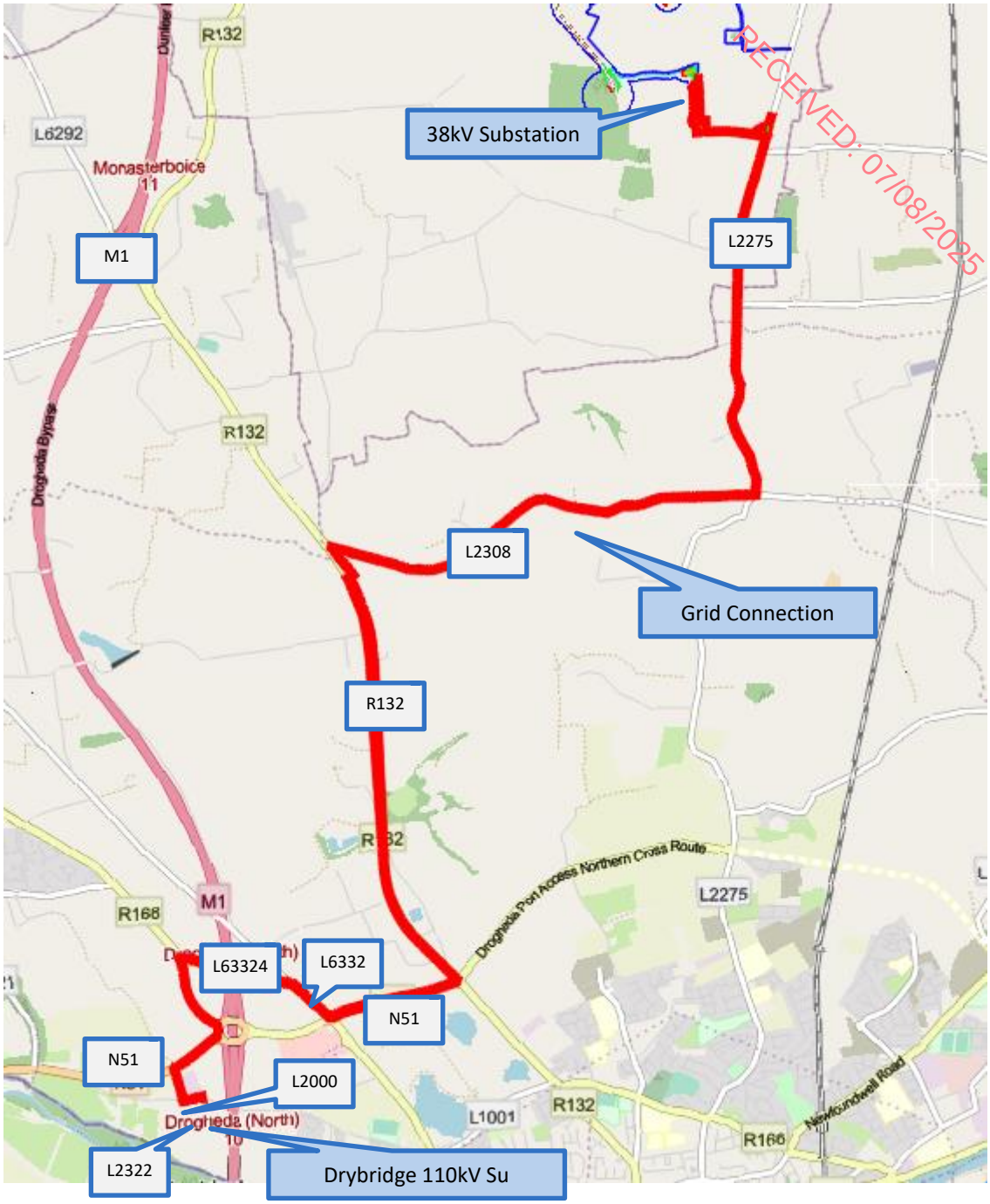


Figure 16.2 – Grid Connection Route

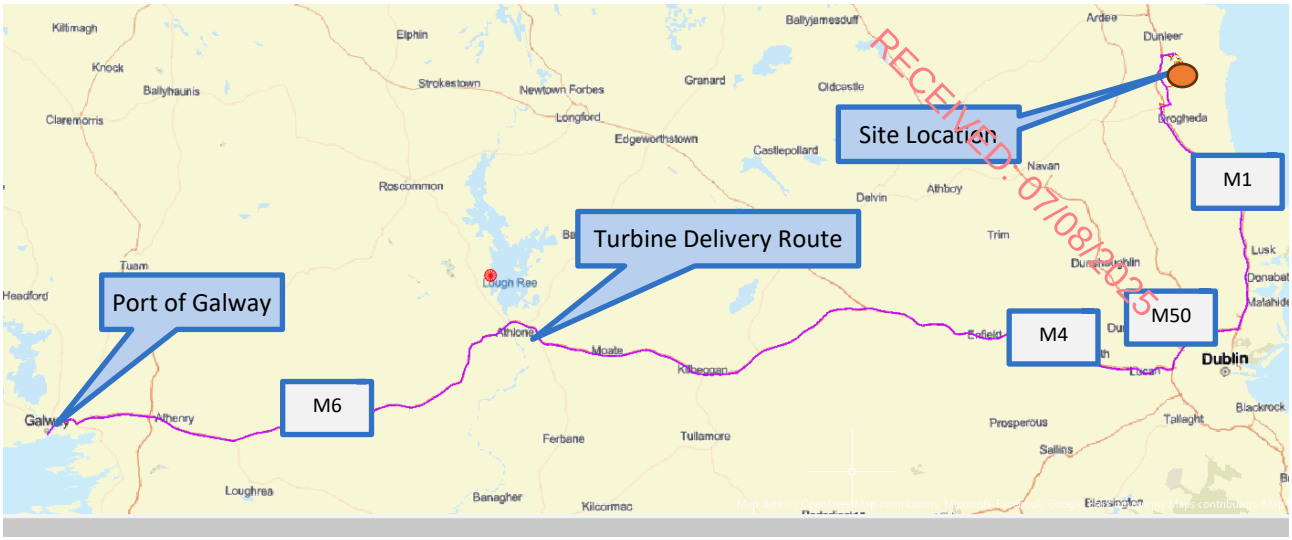


Figure 16.3 – Turbine Delivery Route

Common acronyms used throughout this EIAR can be found in **Appendix 1.2**. This chapter of the EIAR is supported by Figures provided in Volume III and is to be read in conjunction with the communications and stakeholder plan for managing construction stage traffic which has been prepared in response to the RFI and with the following Appendix documents provided in Volume IV of this EIAR:

- **Appendix 16.1 Traffic and Transport Assessment:**
- ~~**Appendix 16.2 Traffic Management Plan:**~~
- **Appendix 16.2 Construction Traffic Management Plan: (Carried out in response to RFI to provide details of traffic management at works locations on the public roads)**
- ~~**Appendix 16.3: Swept Path Analysis**~~
- **Appendix 16.3a: Swept Path Analysis N162 undertaken by Collett:**
- **Appendix 16.3b: Swept Path Analysis N163 undertaken by Collett:**
- **Appendix 16.4: Road Safety Audit (Carried out in response to RFI to examine the safety of all road users throughout the Proposed Development)**

This chapter is a Traffic and Transport Assessment of the Proposed Development. A full description of the Proposed Development is outlined in section 2.3 of **Chapter 2 Description of Proposed Development** and includes one GCR (the proposed GCR) and one TDR (the Proposed TDR) as shown in Figure 16.2 and 16.3 of this chapter, respectively. Although planning permission is not being sought for these viable routes (GCR option 2 and TDR option 2 and TDR option 3) they have been fully assessed. All EIA aspects of GCR option 2 and TDR option 2 and 3 are documented in Appendix 3.1. Refer to section 14 of

Appendix 3.1 for environmental impact assessment of GCR option 2 and TDR option 2 and 3 on Traffic and Transport.

16.1.4 Scoping Responses and Consultation

The Proposed Development management team contacted relevant stakeholders as part of the scoping process for the wind farm design. The consultation responses are shown in **Table 16.1** and **Table 16.1a.**

Table 16.1: Consultation Responses

Consultee	Type & Date	Summary of Response	Response to Consultee
Louth County Council	15/08/23	Acknowledgement of Scoping request	
Meath County Council	28/07/23	Acknowledgement of Scoping request	
Transport Infrastructure Ireland (TII)		**TII23-123898 - Request for Scoping Opinion on information to be included in the preparation of an Environmental Impact Assessment (EIA) for Kellystown Wind Farm, Drumshallon, Co. Louth.** **INFO** <Information@tii.ie> 28 August 2023 at 15:10 To: "abyrne@jodireland.com" <abyrne@jodireland.com> **A Chara,** Thank you for your email of 28 July 2023 regarding the above scoping request. The position in relation to your request is as follows. Transport Infrastructure Ireland (TII) wishes to advise that it is not in a position to engage directly with planning applicants concerning proposed developments. TII will endeavour to consider and respond to planning applications that are referred to it, given its status and duties as a statutory consultee under the planning acts. The approach to be adopted by TII in making such submissions or comments will seek to uphold official national road policy in the spatial planning and national roads guidelines for planning authorities (DoECLG, 2012). Regard should also be had to other relevant guidance available at www.TII.ie. The issuing of this correspondence is provided as best practice guidance only and does not prejudice TII's statutory right to make any observations, requests for further information, objections or appeals following the examination of any valid planning application referred. Concerning EIAR scoping issues, the recommendations indicated below provide only general guidance for the preparation of an EIAR, which may affect the national road network. The developer/scheme promoter should have regard, inter alia, to the following: • Consultations should be had with the relevant local authority/national roads design office about locations of existing and future national road schemes, • TII would be specifically concerned with the potential significant impacts the development would have on the national road network (and junctions with national roads) in the proximity of the proposed development, • The developer should assess the visual impacts of existing national roads, • The developer should have regard to any Environmental Impact Statement and all conditions and/or modifications imposed by An Bord Pleanála regarding road schemes in the area. The developer should in particular have regard for any potential cumulative impacts, • The developer, in conducting an Environmental Impact Assessment, should have regard to TII publications (formerly DMRB and the manual of contract documents for road works), • The developer, in conducting an Environmental Impact Assessment, should have regard to TII's Environmental Assessment and Construction Guidelines, including the Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes (National Roads Authority, 2006), • The EIAR should consider the Environmental Noise Regulations 2006 (SI 140 of 2006) and, in particular, how the development will affect future action plans by the relevant competent authority. The developer may need to consider the incorporation of noise barriers to reduce noise impacts (see Guidelines for the Treatment of Noise and Vibration in National Road Schemes (1st Rev., National Roads Authority, 2004)), • It would be important that, where appropriate, subject to meeting the appropriate thresholds and criteria and having regard to best practice, a Traffic and Transport Assessment (TTA) be carried out in accordance with relevant guidelines, noting traffic volumes attending the site and traffic routes to/from the site concerning impacts on the national road network and junctions of lower category roads with national roads. TII's Traffic and Transport Assessment Guidelines (2014) should be referred to in relation to proposed development with potential impacts on the national road network. The scheme promoter is also advised to have regard to Section 2.2 of the NRA/TII TTA Guidelines which addresses requirements for sub-threshold TTA, • The designers are asked to consult TII publications to determine whether a road safety audit is required, • In the interests of maintaining the safety and standard of the national road network, the EIAR should identify the methods/techniques proposed for any works traversing/in proximity to the national road network,	Traffic Addressed in this Chapter and in the Traffic and Transport Assessment (Appendix 16.2) and the Traffic Management Plan in Appendix 16.2

Consultee	Type & Date	Summary of Response	Response to Consultee
		• In relation to haul route identification, the applicant/developer should clearly identify the haul routes proposed and fully assess the network to be traversed. Separate structure approvals/permits and other licences may be required in connection with the proposed haul route, including where temporary modification to the road network may be required. Consultation with relevant PPP companies and MMaRC contractors may also be required. All structures on the haul route should be checked by the applicant/developer to confirm their capacity to accommodate any abnormal load proposed, including abnormal weight load, • In relation to cabling and potential connection routing, the scheme promoter should note locations of existing and future national road schemes and develop proposals to safeguard proposed road schemes. In the context of existing national roads, alternatives to the provision of cabling along the national road network, such as alternative routing or the laying of cabling in private lands, should be considered in the interests of safeguarding the investment in and the potential for future upgrade works to the national road network. The cable routing should avoid all impacts to existing TII infrastructure such as traffic counters, weather stations, etc. and works required to such infrastructure shall only be undertaken in consultation with and subject to the agreement of TII, any costs attributable shall be borne by the applicant/developer. The developer should also be aware that separate approvals may be required for works traversing the national road network and motorway network. Notwithstanding any of the above, the developer should be aware that this list is non-exhaustive, thus site and development-specific issues should be addressed in accordance with best practice. I trust that the above comments are of use in your EIAR preparation. **Mise le meas,** **Alban Mills** **Senior Regulatory & Administration Executive** TII www.tii.ie info@tii.ie +353 (0)1 646 3600 RECEIVED: 07/08/2025	
Louth County Council	Pre-Planning Consultation meeting Notes	**OPTION 1 -HDD detailed review** 3 - HDD crossings required. Break Down of Grid Route on roads. - N51 – 0.86km - R132 – 3.6km - Local Roads – 6.65km 5 water crossings - WC1 – Ballymakenny Road - WC2 – Ballymakenny Road - WC3 – Cockle Road - WC4 – R132 - WC5 – Slane Road National Monument features. • Boyne Vally Baptist church. NOEL TRENOR – Applications Review AARON – Road Opening Licences **SLANE ROAD** M1 Bridge crossing not in control of Louth County Council (TII) (Meeting needed). HDD not required in this location because the UGC will go through the underpass. - Big housing development along this section - Condition New Road Path - Speed RAMs Priority - Ladened water utilities - Irish Water - Telecommunications - High Pressure Gas Main on the Road - Restricted by Utilities - Lagan homes finding it difficult to put utilities in the road. **BARRACK LANE** Track reinstatement required however will be basic. No issues. **R168**	Addressed in this Chapter and in the Traffic and Transport Assessment (Appendix 16.2) and the Traffic Management Plan in Appendix 16.2

Consultee	Type & Date	Summary of Response	Response to Consultee
		- Major active travel route planned. - Ideally ducting before the active route is constructed. - 24 months before construction - Option 2 LCC to lay ducting on EDF behalf. This would incur costs. **N51/R166** - Irish Water a large water main installed on this route. - No other utilities - Northern side of the road preferred. **ROSEHALL ROUNDABOUT** - Lot of utilities **R132** - Grass verge preferred here (subject to utilities) - Licences footway to Rosehall roundabout. - IDA conversation required. - Very few utilities in this road. - Walls and Planning boundaries to be aware of. - If any damage occurs reinstatement is required. - Opportunity to come off before Cockle Road. - No reinstatement required. (Popes Cross Road). - This would avoid busy junction and be a shorter route. **COCKLE ROAD** - Ideally cable installed in the verge - Full road width for 6m width or less - Ground structure wet and boggy could jeopardise road structure. - required SD6 for reinstatement. - Unstable road section. **BALLYMAKENNY** - Upgrading road surface - Visual splays - Declan MacMahon joins call at 11.45. - Lots of residential builds - SD6 where road falls below 6m wide full instatement required. - EGG Form on road structure is compromised in some sections. - Lots of drainage/culverts - SD6 PDF Guidelines available online this outlines Drawings required. - Full road width for 6m width or less	

Consultee	Type & Date	Summary of Response	Response to Consultee
		PIPERSTOWN - Trauma on the road to be considered. - Broadband cables located in the road network. - No other utility concerns. - Wall structural analysis maybe required. - Visibility splays need to meet LCC requirements. - Mapping TII displaying sloping road - Damien O'Brien. **TDR** R169 on to R132 - Lots of street furniture to consider. - Licence to carry abnormal loads required. - Time restrictions - M1 crossing Boyne bridges north link/Toll gates, provisions to be made. - Weight request LCC -JD shared weight information. - Weight and length restrictions may apply. - Boyne bridge/Old Slane Road conversation around TDR. - A small section not of the road is not reinforced between Kilsaran Quarry entrance to site entrance 2. - Damien O'Brien to advise on motorway TDR. - RM to send on TDR Swepth Path analysis to LCC. - Option routes and docking route to send to DM. **ROAD CLOSURES** - Aaron – we can get permission before active travel plans. - Road width will be reduced. - Rosehall roundabout to Barrack Lane. - Will road diversions be able to take HGV. - Double check class of roads diverting from Cockle Road. **COCKLE ROAD** - Two way working possible. - Possible Long Road Closures. - Restricted to School Holidays for Cockle Road in addition dry road conditions. **NT** - Redline boundary to ensure ducting is included highly important. **INFRASTRUCTURE REPORT**	

Consultee	Type & Date	Summary of Response	Response to Consultee
		- A condition you must liaise with roads authority to agree TDR and UGC. **SLANE ROAD ALTERNATIVE** - LCC outlined that Slane Road is congested with utilities. - An alternative route heading north from Drybridge substation along the R168 heading under the M1. - A private/possible council owned road was proposed. **FINAL COMMENTS** - Active Travel will likely be in operation. - Ducting Costs can be provided on this section by LCC. - Full surface width resurface required at 6m less.	

Table 16.1a: Further Information Request – Consultation Responses

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
Galway City Council Request sent 8th July 2025	Response received 8th July 2025 Buíochas as do ríomhphost. Tabhair ar aire, le do thoil, nach mbítear ag coinneáil súile ar an mbosca isteach seo taobh amuigh de ghnáthuaireanta oifige. Leanfaidh Aonad Meán Cumarsáide Chomhairle Cathrach na Gaillimhe ag freagair agus ag gníomhú i gcásanna éigeandála a tharlaíonn taobh amuigh d'uaireanta oifige agus deirí seachtaine. Áirítear anseo ócáidí tromchúiseacha aimsire, olléigeandálaí agus baol sláinte, sábháilteachta, beatha agus maoine. Tabhair ar aire, más mian leat teagmháil a déanamh le Comhairle Cathrach na Gaillimhe i gcás práinne taobh amuigh de ghnáthuaireanta oifige, is féidir sin a dhéanamh trí ghlaoch ar 091 536400. -- Thank you for your email. Please note that this email inbox is not monitored outside normal working hours. Galway City Council Communications Unit will	na.	na.

	continue to respond and act in the case of emergencies occurring out-of-hours and over weekends. These include serious weather events, major emergencies and threats to health, safety, life and property. Please note that if you wish to contact Galway City Council in the case of an emergency outside normal working hours, you may do so by calling 091 536400.		RECEIVED: 07/08/2025
Galway County Council Request sent 8th July 2025	**No response received.**	na.	na.
Roscommon County Council Request sent 8th July 2025	**No response received.**	na.	na.
Offaly County Council Request sent 8th July 2025	**No response received.**	na.	na.
Meath County Council Request sent 8th July 2025	Response Received: 8th July 2025 *See below quarantine notification.* *The files you have sent exceed the 10mb threshold.* *If you reduce the file size and/or send in separate emails it should clear ok.* *Kind regards,* Response 17th July 2025 *I cannot reduce the file size under 10mb threshold can I send a we transfer as an alternative?* Response received: 17th July 2025 *Can you forward a ShareFile link to the below when you get the chance please.* Response received: 17th July 2025 *It was noted that the application, Planning Reference number 2460766 was submitted to Louth County Council. Therefore, you will have to contact Louth County Council Planning Authority.* Kind regards, Amanda	na.	na.

Westmeath County Council Request sent 8th July 2025	**No response received.**	na.	na.
Kildare County Council Request sent 9th July 2025	**No response received.**	na.	na.
Fingal County Council Request sent 9th July 2025	Response received: 9th July 2025 *I would like to acknowledge receipt of your email and the attachments therein.* *Please see below the link to the Application Form for an Abnormal Load Permit. When completed please return it to: AbnormalLoads@fingal.ie for processing.* *https://www.fingal.ie/sites/default/files/2024-11/abnormal-load-application-form-2024-2025.pdf* *Regards*	na.	na.
Transport Infrastructure Ireland Request sent 9th July 2025	**No response received.**	na.	na.
Celtic Roads Group Request sent 9th July 2025	Response received: 11th July 2025 *Further to our discussion this afternoon, we wish to acknowledge receipt of your correspondence regarding the proposed Kellystown Wind Farm in County Louth and the associated haulage route for turbine components via the M1, part of which falls under our jurisdiction.* *We note your submission of the following documents for our review:* • *Appendix I – Grid Connection Planning Pack* • *Appendix II – Swept Path Analysis Report* • *These documents detail the proposed turbine delivery route, interaction points with road infrastructure within our jurisdiction, and grid connection plans. We appreciate your proactive engagement in accordance with the requirements set out by the planning authority's Request for Further Information (RFI).*	**Implications for the Construction Traffic Management Plan**	All items raised and addressed **Chapter 16 Traffic and Transport Appendix 16. Construction Traffic Management Plan**

	Your request for our review and confirmation of engagement is duly noted. The above documents pertain solely to SPAs for the turbine blades. CRGD would also need confirmation of the haulage route, load type, number and configuration of other loads as these may be abnormal indivisible loads of significant weight, width, height or length. The M1 Toll Plaza and Mary McAleese Boyne cable-stayed Bridge is also within CRGD jurisdiction. In addition, the 38kV route by which the development makes a grid connection appears to be Option B from ESB Drybridge, along the N51 to J10 roundabout, out the R168 before taking a directional drill under the M1 Motorway involves significant excavation works under/over our Project Road which would require further technical scrutiny and the consent/approval from TII and CRGD. *Having had a preliminary review and given the type of interface (involving transit on our Project Road) an Access Agreement would need to be agreed and signed by the Consignment Owner / Developer ["COD"] of the Wind Farm and Celtic Roads Group (Dundalk) DAC ["CRGD"] before CRGD would be in position to design, execute any modifications, permit any excavation or HDD, however temporary including the provision of traffic management or other attendances.* *In time, and if/when planning permission is obtained, CRGD shall require COD to enter into an Access Agreement with CRGW which shall, amongst various items, deal with;* • *Engineering assessment, recommendations and pre-post inspections* • *Insurances and indemnities during the transits* • *Remedial repairs or any modifications, temporary or permanent, to our existing asset resulting from these (or future) transits.* • *Impact on toll revenue resulting from the transits or related event.* • *Communications, scheduling and other interfaces* • *Fees & attendances by CRGD, our operator, our engineering & legal consultants. Payment of CRGW invoices etc.* • *Quality, H&S, Environment, Works proposals, method statements, risk assessments and other related documentation* *Before engaging our technical and legal consultants, CRGD require your undertaking to meet our reasonable coordination, legal, technical costs etc in facilitating our involvement*		

	with your Project and the transits – CRGD apply 25% margin on any costs involved. Given the transits shall likely require physical modification and Works to our asset, this will likely involve resources involved in the design, review, execution and management of Works. Please note that any changes to our Project Road, including any traffic management or road closures etc requires approval of TII and we should advise at this preliminary point that the PPP process of implementing change is process/time heavy. *The earlier you can clarify all transit items and loads the better. CRGD may require further details on these and the SPAs in CAD format. An outline programme with potential dates would also be helpful.* *We enclose our letter LT-CRGM1-LP-2529 which outlines the above and we've copied our TII representatives in relation to this engagement.* *We will examine the enclosed materials and revert with any queries or further requirements as necessary. Should clarification or additional information be needed during our review, we will contact you using the details provided.* *Thank you for your cooperation.*		RECEIVED: 07/08/2025

16.2 ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

16.2.1 Assessment Methodology

This assessment of the impact and effects on the traffic generated by the Proposed Development on the existing public road network and its sensitive receptors has been carried out using the following methodology,:

- Policy and guidance review;
- Desk study, including review of available maps and published information;
- Site visit (driving the route) including review of road network to be used;
- Classified traffic count data.
- Topographical Survey of potential 'constraints';
- Swept Path Analysis of the Haul Route;
- Establishment of Baseline Scenario and existing traffic flows / junction capacity;
- Traffic and transport Assessment of junctions in the vicinity of the Site
- Evaluation of potential effects;
- Evaluation of the significance of these effects;
- Identification of measures to avoid and mitigate potential effects;

Existing, permitted and known proposed plans and projects are cumulatively assessed in the EIAR. This includes plans and projects that are pending a decision from the planning authority, An Bord Pleanala and other known projects which are in the advanced stages of being prepared to be submitted for planning and have the potential for a combination of effects, including the evaluation of residual effects following implementation of mitigation measures. further details of the assessment are provided in the following sections.

16.2.2 Planning Policy and Guidelines / Guidance

In addition to the EIAR standards outlined in **Chapter 1: Introduction**, this assessment has been prepared and carried out in accordance with guidance contained in the documents shown in **Table 16.2.**

Table 16.2: Policy and Guidance

Policy / Author	Title	Policy
Louth County Council	County Louth Development Plan 2021 - 2027	The CDP states: "Policy Objective MOV 1: To work with national transport agencies in supporting the delivery of a high quality, climate resilient and sustainable transport network in the County". "Policy Objective MOV 2 To support implementation the of the 'National Climate Action Plan' 2019, and any subsequent plans, and in particular the measures included that will assist in achieving the target of CO_2 emissions reduction by 2030 in the transport sector as set out in Section 10.2 of the 'Climate Action Plan'". "Policy Objective MOV 3: To facilitate the integration of land use with sustainable transportation infrastructure in accordance with the requirements of RPO 8.1 in the RSES by supporting the creation of a critical mass of population and employment related development that would maximise investment in public transport infrastructure and create compact, sustainable settlements". "Policy Objective MOV 4 To promote sustainable higher density development along public transport corridors". "Policy Objective MOV 5 To prepare a Local Transport Plan in consultation with the National Transport Authority, Transport Infrastructure Ireland and other relevant stakeholders for Drogheda and Dundalk as part of the preparation of the Urban Area Plans / Local Area Plans for these settlements. The preparation of these Plans will be based on the guidance note on Area Based Transport Assessments published by the NTA/TII in 2019 and these Plans will be subject to screening for SEA and AA and full assessments will be undertaken if appropriate". Policy Objective MOV 41 To promote and facilitate development at urban–related* interchanges in accordance with the zoning provisions for Drogheda and Dundalk as set out on the zoning maps for Drogheda and Dundalk in the Louth County Development Plan and any subsequent Local

Policy / Author	Title	Policy
		Area Plans adopted for these settlements.5 Any large scale development proposal in proximity to these interchanges will be required to prepare a Traffic and Transport Assessment in accordance with the requirements of the '2014 Transport and Traffic Assessment Guidelines'. Policy Objective MOV 42 To resist development at rural-related**motorway interchanges. "Policy Objective MOV 43: To protect the strategic transport function of national roads, including motorways through the implementation of the 'Spatial Planning and National Roads – Guidelines for Planning Authorities' and any subsequent guidelines ". "Policy Objectives MOV 45 To support investment and improvements to the public road infrastructure in the County including bridges and other ancillary structures, taking into account both car and non-car modes of transport and road safety requirements". "Policy Objective MOV 46 To support improvements and upgrades to the road network in the County in accordance with the projects set out in Table 7.6 and any other project identified by the Council or included in any future updated Road Works Programme, subject to the availability of funding". "Policy Objective MOV 47 To require the preparation of Transport and Traffic Assessments for new developments in accordance with the requirements set out in the TII Traffic and Transport Assessment Guidelines". "Policy Objective MOV 57 To restrict development proposals for residential or other use within 100 metres of either the M1 Motorway or N1/A1 National route in all but exceptional circumstances. The exceptional circumstances are where the development is an infill development and located along an established building line. Any development shall be required to comply with the requirements of the Spatial Planning and National Roads Guidelines (2012) and Policy Objectives ENV 6 and ENV 7 and the costs of implementing any mitigation measures concerned shall be borne by the developer".
Louth County Council	County Louth Development Plan 2021 - 2027	Chapter 13 – Development Management Guidelines 13.16.14 Traffic and Transport Assessments 13.16.17 Entrances and Sightlines
Department of Transport, Tourism and Sport and Department of Environment, Community and Local Government	The Design Manual for Urban Roads and Streets (DMURS)	This document outlines guidelines on the design of urban roads and streets in terms of street networks, street signage, pedestrians and cyclists, carriageways (widths, surfaces, junctions etc.), policies and plans, design process and audits (safety and quality).
Transport Infrastructure Ireland (TII)	Standards and Technical Documents	A full list of the TII standards and specifications are found on the TII website at the following link, www.tiipublications.ie ~~www.tiipublications.ie/current-documents/2024/Current-Documents-(May-2024).pdf~~

Policy / Author	Title	Policy
		A summary of the TII specifications and standards used during the design of the Proposed Development are listed below.
Transport Infrastructure Ireland (TII)	Introduction (INT)	GE-1NT-01029 Introduction to the TII publications system
Transport Infrastructure Ireland (TII)	Drainage (DNG)	Road drainage
Transport Infrastructure Ireland (TII)	Environment (ENV)	Management of waste / landscape treatment / invasive species / Air quality / noise
Transport Infrastructure Ireland (TII)	Geometry (GEO)	Road link design / junction design / cross sections & headroom
Transport Infrastructure Ireland (TII)	Pavement (PAV)	Pavement and foundation design / materials / skid resistance
Transport Infrastructure Ireland (TII)	Planning & Development (PDV)	Traffic & transport assessment guidelines
Transport Infrastructure Ireland (TII)	Policy (POL)	TII policy guidelines
Transport Infrastructure Ireland (TII)	Project Appraisal Guidelines (PAG)	Travel demand projections and calculations
Transport Infrastructure Ireland (TII)	Road equipment (REQ)	Design and assessment of road restraint systems
Transport Infrastructure Ireland (TII)	Safety (STY)	Guidance for road safety audits
Transport Infrastructure Ireland (TII)	Specification For Works (SPW)	Specification for materials and workmanship
Transport Infrastructure Ireland (TII)	Standard Construction Details (SCD)	Details for road construction
Department of the Environment and Local Government and Department of Transport	Traffic Management Guidelines 2012	This document outlines guidelines for traffic management and sustainability, consultation and monitoring, speed management, junctions, vulnerable road users, public transport and parking. The guidelines recommend that consultation is carried out for schemes that involve a long construction period or area. The guidelines outline the relevant legislation governing different types of road works. The guidelines outline safety measures to be taken in the design of roads and junctions. The guidelines outline the arrangements for temporary traffic management where construction and improvement of roads is taking place and who should be consulted in planning for roadworks and the factors to consider.
Department of Transport, Tourism and Sport	Guidelines for Managing Openings in Public Roads (Second Edition, April 2017)	The document prescribes standards in respect of the work of forming openings, backfilling and the reinstatement of road surfaces and the associated materials to be used on all roads other than National Roads. It also prescribes procedures and requirements in relation to the use of MapRoad Roadworks Licensing (MRL) and its use for all

Policy / Author	Title	Policy
		road openings in public roads other than those openings carried out by a road authority.
Department of Transport	Traffic Signs Manual www.trafficsigns.ie	Temporary traffic measures and signs for roadworks. Regulatory / directional / information / warning signs and roadmarkings for the public road netwotk
Transport Infrastructure Ireland (TII)	Spatial Planning and National Roads Guidelines (2012)	It is in the public interest, in so far as is reasonably practicable, that the national road network continues to serve its intended strategic purpose. The EIAR should identify the methods/techniques proposed for any works traversing/in proximity to the national road network, in order to demonstrate that the development can proceed complementary to safeguarding the capacity, safety and operational efficiency of that network.

16.2.3 Study Area

The Study Area for Traffic and Transport Assessment is focused on the public road network, its associated junctions and sensitive receptors which will be used by traffic generated by the Proposed Development during the following activities;

- Transportation of building materials and electrical components.
- Transportation of granular materials for wind farm access road and turbine hardstand construction.
- Transportation of concrete and steel reinforcement for the construction of turbine foundations.
- Transportation of turbine components using abnormal load vehicles along the Turbine Delivery Route from the Port of Galway to the Proposed Development site entrances on the L6274.
- Enabling works at junctions and pinch points on the public road network to facilitate the swept path of abnormal load vehicles delivering turbine components along the Turbine Delivery Route between the Port of Galway and the Proposed Development site entrances on the L6274
- Works associated with the Grid Connection to the national electricity grid, which will be via an underground cable connection to the existing ESB 110kV Substation at Drybridge.
- Traffic associated with the operation and maintenance of the Proposed Development during the 35 year operational life, subject to planning permission being granted.
- Traffic associated with the decommissioning of the Proposed Development.

16.2.4 Desk Study

A desk study of the existing road network in the vicinity of the Proposed Development was carried out to determine potential locations for the Site entrances and to determine potential haul routes for the delivery of turbine components using abnormal load vehicles. The desk study involved using AutoCAD and AutoTRACK software combined with Lidar survey, OSI / Bing / Google Maps and Streetview to assess the suitability of public road network for junction visibility and vehicle turning movements. The Swept Path Analysis in **Appendix 16.3** has been carried out using a blade delivery vehicle carrying a 79.35m blade for a turbine with 163m rotor diameter which represents the largest components to be transported. The blade delivery vehicle will have the greatest impact on the public road network due to the length of the loaded vehicle.

A desk study was also carried out to determine potential grid connection routes between the Onsite Substation and Control Station and the existing ESB 110kV substation at Drybridge.

16.2.5 Field Work

The preliminary wind farm design, haul route assessment and turbine delivery route assessment was supplemented using detailed topographical survey information carried out at the proposed site entrances and at pinch points on the turbine delivery route. The topographical survey was carried out by GHE Surveying, topographical surveyor at various stages of the design process.

A site visit to assess potential turbine delivery routes from the M1 motorway in County Louth to the wind farm site entrance was carried out in September 2021and October 2023. Details of the assessment are included in **Chapter 3: Alternatives Considered**.

Traffic counts were undertaken by Jennings O' Donovan during a site visit on 26th October 2023 to record traffic volumes and turning movements of vehicles at the R132/L6274/L2254 junction and at the L6274/L2275 junction. The traffic counts were carried out to determine baseline traffic volumes in the area and formed the basis of the traffic and transport Assessment in **Appendix 16.1**. The location of the traffic counts were chosen as the R132/L6274/L2254 junction and at the L6274/L2275 junction will be used by the majority of wind farm traffic to access the Site. The classified traffic counts were supplemented by information from TII automatic traffic counters on the public road network. The automatic count data is available on the TII website.

~~Primary Route Assessments and detailed swept path analysis for the turbine component haul route were undertaken by Jennings O' Donovan Ltd for a turbine with a 163m rotor to represent the largest turbine components to be transported . This is included in **Appendix 16.3**.~~

Additional assessments have been undertaken in response to the Further Information Request issued by Louth County Council) on the 6th February 2025 (Reference No: 2460766). Two Route Assessments and detailed swept path analysis for the turbine component haul route were undertaken by Collet (June 2025) on the following models Nordex N163 and Vestas V162 further details of the turbine components and transport vehicles can be found in **Section 16.2.14** of this chapter and the Collett reports in **Appendix 16.3a** and **Appendix 16.3b.**

Louth County Council were consulted as part of the Proposed Development design scoping process. Louth County Council comments are listed in **Table 16.2**.

16.2.6 Receiving Environment

The location of the Site entrances to the Proposed Development are shown on **Figure 16.1**. Site entrances No.1 and No.2 are located on the L6274 local road (Reference Plate 1). The L6274 is a 6.0m wide single carriageway with grass verges. The L6274 runs between the R132 regional road and the L2275 local road and has a 60km/h ~~80km/h~~ speed limit classification. The L6274 is in good condition and will be the primary access road to the Site during the construction of the Proposed Development. Existing traffic volumes on the L6274 were obtained from the classified traffic counts carried out by JOD on Wednesday 26th October 2023 at the R132 / L6274 / L2254 junction. Using the methodology from TII publication PE-PAG-02039 to calculate annual average daily traffic (AADT) from short period traffic counts, the resulting AADT on the L6274 is calculated from the recorded traffic counts as follows. The L6274 local road has an AADT of 1,912 vehicles at its junction with the R132 which equates to a two-way traffic flow of approximately 142 vehicles during peak hour traffic periods with 3% HGV traffic.

Plate 1 – L6274 Local Road

Site entrance junction No. 3 is ~~and No. 4 are~~ located on the L2275 local road (Reference Plate 2). The L2275 is a 5.0m wide single carriageway with grass verges and has a 60km/h ~~80km/h~~ speed limit classification. The L2275 runs between the R170 near the village of Grangebellew and the L6302. The L2275 is in good condition and will be used by wind farm construction and operations traffic to access the onsite 38kV substation. ~~and met mast~~. Existing traffic volumes on the L2275 were obtained from the classified traffic counts carried out by JOD on Wednesday 26th October 2023 at the L2275 / L6274 junction. Using the methodology from TII publication PE-PAG-02039 to calculate annual average daily traffic (AADT) from short period traffic counts, the resulting AADT on the L2275 is calculated from the recorded traffic counts as follows. The L2275 local road has an AADT of 2,855 vehicles at its junction with the L6274 which equates to a two-way traffic flow of approximately 212 vehicles during peak hour traffic periods with 1.3% HGV traffic.

Plate 2 – L2275 Local Road

The R132 runs to the west of the Proposed Development and links the site to the M1 motorway at junctions 11 and 12 (Reference Plate 3). The R132 is a 6.0m wide single carriageway with two lanes, hard strips and grass verges. Existing traffic volumes on the R132 were obtained from the classified traffic counts carried out by JOD on Wednesday 26th October 2023 at the R132 / L6274 junction. Using the methodology from TII publication PE-PAG-02039 to calculate annual average daily traffic (AADT) from short period traffic counts, the resulting AADT on the R132 is calculated from the recorded traffic counts as follows. The R132 local road has an AADT of 4,027 vehicles at its junction with the L6274 which equates to a two-way traffic flow of approximately 300 vehicles during peak hour traffic periods with 3% HGV traffic.

Plate 3 – R132 Regional Road

The existing R132 / L6274/ L2254 (Reference Plate 4) is a staggered junction with priority for R132 traffic. The junction is signed and marked with regulatory and directional signage and roadmarkings. The junction is not lit by public lighting. Observations during the traffic counts and traffic analysis carried out at the R132 / L6274/ L2254 junction using the recorded traffic volumes show that there are no capacity problems at the junction under current traffic conditions. The junction is currently operating at reasonably free flow conditions with a level of service = B. The results of the analysis are included in the TTA, **Appendix 15-1.**

Plate 4 – R132 / L6274 /L2254 Priority junction

The existing L2275 / L6274 (Reference Plate 5) is a simple junction with priority for L2275 traffic. The junction is signed and marked with regulatory and directional signage and roadmarkings. The junction is not lit by public lighting. Observations during the traffic counts and traffic analysis carried out at the L2275 / L6274 junction using the recorded traffic volumes show that there are no capacity problems at the junction under current traffic conditions. The junction is currently operating at free flow conditions with a level of service = A. The results of the analysis are included in the TTA, **Appendix 15-1.**

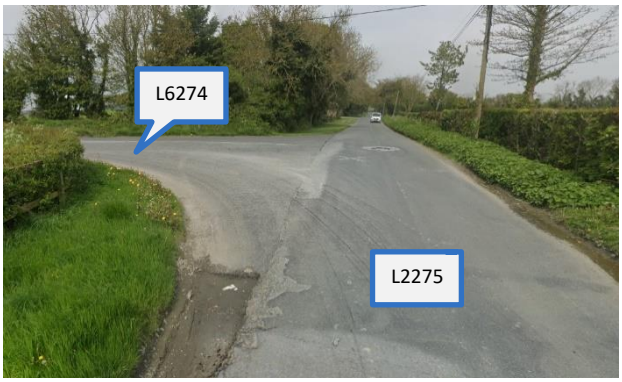


Plate 5 – L2275 / L6274 Priority Junction

The existing L2275 / L6277 (Reference Plate 6) is a is a mini roundabout junction. The junction is signed and marked with regulatory and directional signage and roadmarkings. The junction is not lit by public lighting. Observations during the site visit carried out in October 2023 show that there are no capacity problems at the junction under current traffic conditions.

Plate 6 – L2275 / L6277 Mini Roundabout Junction

The location of the Grid Route is shown on **Figure 16.2**. the Grid Route will be carried out on the following roads, L6274, L2275, L2308, R132, N51, L6332, L63324, R168, L2322, L2000.

The Turbine Haul Route for the proposed Development is shown on **Figure 16.3**. the turbine components will be transported on the following road network, Dock Street, Lough Atalia Road, R339, R336, N6, M4, M50, M1, N51, R132 and L6274.

16.2.7 Proposed Development Entrance Works

The location of the Proposed Development entrances are shown on **Figure 16.1.** A detailed description of the Proposed Development entrances and Site entrance works on the public road network is given in **Section 3** of the Traffic Management Plan in **Appendix 16.2** of this report. The works will include;

- Construction of site entrance No.1 on the L6274
- Construction of site entrance No.2 on the L6274
- Realignment of existing entrance No.3 on the L2275
- ~~Trimming of vegetation for visibility at existing entrance No.4 on the L2275~~

16.2.8 Grid connection Works

The location of the Proposed Development is shown on **Figure 16.2.** A detailed description of the grid connection works on the public road network is given in Section 4 and Appendix A of the Traffic Management Plan included in **Appendix 16.2** of this report. the works will include;

- L6274 - 38kV Cable trench from Turbine T1 to Site Entrance No. 2

- L2275 - Cable Trench in Public Road, Watermain Crossing, HDD Bridge / Stream Crossing, Joint Bay, Services Crossing, HDD Culvert Crossing
- L2308 - Cable Trench in Public Road, Joint Bay, HDD Bridge / Stream Crossing
- R132 - Cable Trench in Public Road, Culvert Crossing (Offline), Services Crossing, Joint Bay (Offline), Watermain Crossing, Culvert Crossing
- N51 - Cable Trench in Public Road, Services Crossing, Joint Bay, Service Crossing
- L6332 - Cable Trench in Public Road, Watermain Crossing, Services Crossing, Gas Main Crossing, HDD Bridge / Stream Crossing
- L63324 - Cable Trench in Public Road, Gas Main Crossing, Joint Bay, HDD Motorway Crossing, Gas Main Crossing, Watermain Crossing, Service Crossing
- R168 - Cable Trench in Public Road, Watermain Crossing, Joint Bay
- N51 - Cable Trench in Public Road, Service Crossing, Watermain Crossing
- L2322 - Cable Trench in Public Road, Watermain Crossing
- L2000 - Cable Trench in Public Road, Joint Bay, Service Crossing

16.2.9 Turbine Delivery Route and Enabling Works

The turbine components for the Proposed Development will be shipped to the Port of Galway. The turbine components will be transported on the public road network using abnormal load vehicles between the Port of Galway and the Site. The Proposed Development Turbine Haul Route is shown on **Figure 16.3.** Delivery vehicles will use the following road network to access the Site;

- Exit from Port of Galway onto Dock Street – Galway City Council
- Lough Atalia Road – Galway City Council
- R339 – Galway City Council
- R336 – Galway City Council
- N6 national primary road – Galway City Council / Galway County Council / Transport Infrastructure Ireland
- M6 motorway – Galway County Council / Transport Infrastructure Ireland / PPP Operator
- M6 motorway – Roscommon County Council / Transport Infrastructure Ireland
- M6 motorway – Westmeath County Council / Transport Infrastructure Ireland
- M4 motorway – Westmeath County Council / Transport Infrastructure Ireland
- M4 motorway – Meath County Council / Transport Infrastructure Ireland
- M4 motorway – Kildare County Council / Transport Infrastructure Ireland / PPP Operator

- M4 motorway – South Dublin County Council / Transport Infrastructure Ireland
- M50 Motorway – Fingal /South Dublin Co. Co. / Transport Infrastructure Ireland / PPP Operator
- M1 Motorway - Fingal County Council / Transport Infrastructure Ireland
- M1 Motorway - Meath County Council / Transport Infrastructure Ireland / PPP Operator
- M1 Motorway - Louth County Council / Transport Infrastructure Ireland
- N51 National Secondary Road - Louth County Council / Transport Infrastructure Ireland
- R132 – Louth county Council
- L6274 – Louth County Council

SPA reports with detailed topographical survey information were carried out by Collett on the TDR following a RFI request from Louth County Council. The enabling works locations on the TDR have been updated to address the findings of the Collett SPA reports. Items from the previous report which are no longer required have been removed from the list and any new items included in the Collett report have been added. A detailed description of the turbine delivery route is given in the Collett reports included in **Appendix 16.3a and 16.3b.** Enabling works on the public road network is given in **Chapter 2: Description of the development Table 2.6a** and Section 4 and Appendix B of the Traffic Management Plan included in **Appendix 16.2** of this report. the works will include;

- ~~Galway Docks – Parking Restrictions in Galway Port Car Park, Alterations to Existing Fencing, Loadbearing Surface to be provided~~
- Lough Atalia Road / R339 College Rd Junction – Contraflow Maneuver. Collett Observation - Visual inspection indicates that the loaded vehicle will navigate this junction utilising a contraflow manoeuvre.
  ~~Existing Signs and traffic lights to be temporarily removed during abnormal load deliveries.~~
- R338 / R339 Junction - Contraflow Maneuver, Flexi bollards to be removed. Collett Observation - Visual inspection indicates that a contraflow manoeuvre will be required at this junction. Flexi bollards on the splitter islands after the junction to be removed. ~~Existing Signs and traffic lights to be temporarily removed during abnormal load deliveries. Hedge to be trimmed.~~
- R339 / Connolly Avenue Junction – Road widening in verge, lamp posts, traffic lights and pole to be removed. Trees to be pruned. Collett Observation N163 - Swept Path Analysis indicates that road widening is required on the offside after the junction.

Electric pole on the offside of the R339 to be removed. Collett Observation V162 - Swept Path Analysis indicates that road widening is required on the offside after the junction. Lamp posts and traffic light on the nearside of the junction to be removed. Traffic light on the offside to be removed. Electric pole and lamp post on the offside of the R339 to be removed. ~~Existing hedge to be trimmed.~~

- Connolly Avenue / R336 Junction – Road widening in verge, lamp posts and pole to be removed. Trees to be pruned. Collett Observation N163- Swept Path Analysis indicates that road widening is required on the offside of the junction. Lamp posts on the offside of the junction to be removed. Collett Observation V162 - Swept Path Analysis indicates that road widening is required on the offside of the junction. Lamp posts on the offside of the junction to be removed. Trees on the nearside of Connolly Avenue to be pruned. ~~Verge to be Strengthened, Lighting column and signs to be temporarily removed during abnormal load deliveries.~~
- R336 / N6 Junction - Contraflow Maneuver, road signs, lamp post railings and traffic lights to be temporarily removed. Trees to be trimmed. Collett Observation - Swept Path Analysis indicates that the road signs and lamp post on the nearside of the R336 are to be removed due to the rear projection of the blade component. Hedgerow on the nearside of the R336 to be pruned. Railings and traffic lights on the offside of contra flowed slip road to be removed. Loaded component to contraflow slip road in order to navigate this junction. ~~Verge to be Strengthened, Lighting column to be temporarily removed during abnormal load deliveries.~~
- ~~N6 / R865 Junction – Traffic island to be Strengthened, traffic signals to be temporarily removed during abnormal load deliveries.~~
- ~~N6 R339 Junction - Traffic island to be Strengthened, traffic signals to be temporarily removed during abnormal load deliveries.~~
- N6 / N67 Coolagh Roundabout ~~Segregated Left Turn Lane~~ – Road signs and lamp posts to be removed. Collett Observation - Swept Path Analysis indicates lamp posts and road signs on the nearside of roundabout entry to be removed due to the oversail of the trailer body. Road signs on the offside splitter island to be removed due to the rear projection of the blade component. ~~The swept path analysis carried out at the roundabout slip lane indicates that abnormal loads will overrun the carriageway edge and oversail the road verge on the nearside and offside of the slip lane. Widening to withstand wheel loading from abnormal load vehicles to be provided. Lighting column and sign on nearside to be temporarily relocated. Signs to be relocated on the offside of the slip lane to allow load oversail.~~

- ~~M4 / M50 interchange, Lucan - Existing rebound bollards on the N4 Slip road hard shoulder to be temporarily removed during abnormal load deliveries.~~

- M1 Motorway Junction 10 M1 / N51 Roundabout – Road widening and modifications to street furniture. Collett Observation - Swept path analysis indicates that road widening and modifications to street furniture is required. ~~The swept path analysis carried out at the junction indicates that verge widening will be required on the slip lane verge at the approach to the roundabout and at the exit from the roundabout. Existing signage in the verges to be removed to allow loads to oversail when circulating the junction. Existing splitter islands to be modified to withstand wheel loading from abnormal load vehicles.~~

- N51 / R168 Hill of Rath Roundabout - Road widening and modifications to street furniture. Collett Observation - Swept path analysis indicates that road widening and modifications to street furniture is required. ~~The swept path analysis carried out at the roundabout indicates that a temporary access road will be required through the roundabout central island to allow abnormal load vehicles to navigate the roundabout. The access road will be constructed to withstand wheel loading from abnormal load vehicles. Existing signage on the roundabout central to be relocated. Trimming of existing vegetation at the approach to the roundabout.~~

- N51 / R132 Rosehall Roundabout - Road widening and modifications to street furniture. Collett Observation - Swept path analysis indicates that road widening is required on both the offside of N51 & the R132. Modifications to street furniture is also required. ~~A swept path assessment has been undertaken and indicates that loads will overrun and oversail the verge on the right hand side approaching the roundabout and the left hand side existing the roundabout. Sign on the middle island approaching and existing the roundabout will be temporary removed to allow loads to oversail roundabout central island.~~

- R132 Northbound - Contraflow. Collett Observation - Visual inspection indicates that the loaded blade is required to contraflow this location in order to avoid modifications. Police will be required to close this section of road to allow the loaded vehicle to pass safely. ~~Abnormal load vehicles will contraflow the R132 slip lane to travel north on the R132 regional road. The contraflow manoeuvre has been agreed in principle with Louth County Council during the pre-planning process.~~

- R132 / L6274 Junction – Road widening in third party land, temporary access road. Collett Observation - Swept path analysis indicates that third party land is required

on the offside of the junction due the hair pin bend at the junction. ~~The swept path analysis carried out at the junction indicates that a temporary access road will be required at the R132 / L6274 junction for abnormal load vehicles to navigate the bend.~~

16.2.10 Construction Haul Route for General HGV and LGV Traffic

All HGV traffic associated with the construction of the wind farm infrastructure, including site access roads and hardstands will use site entrance junction No. 1 and No. 2 on the L6274. Access to the Proposed Development will be from the R132 regional road via the R132 / L6274 junction. Access to the Onsite Substation and Control Station during the construction of the substation will be via site entrance No.3 on the L2275.The permanent met mast will be accessed from Junction No. 2 ~~4~~ on the L6274 ~~L2275~~. Haul routes for wind farm construction traffic are shown in **Figure 16.4**. Workers employed on the Site will follow the construction haul route shown in **Figure 16.4** to access the works.

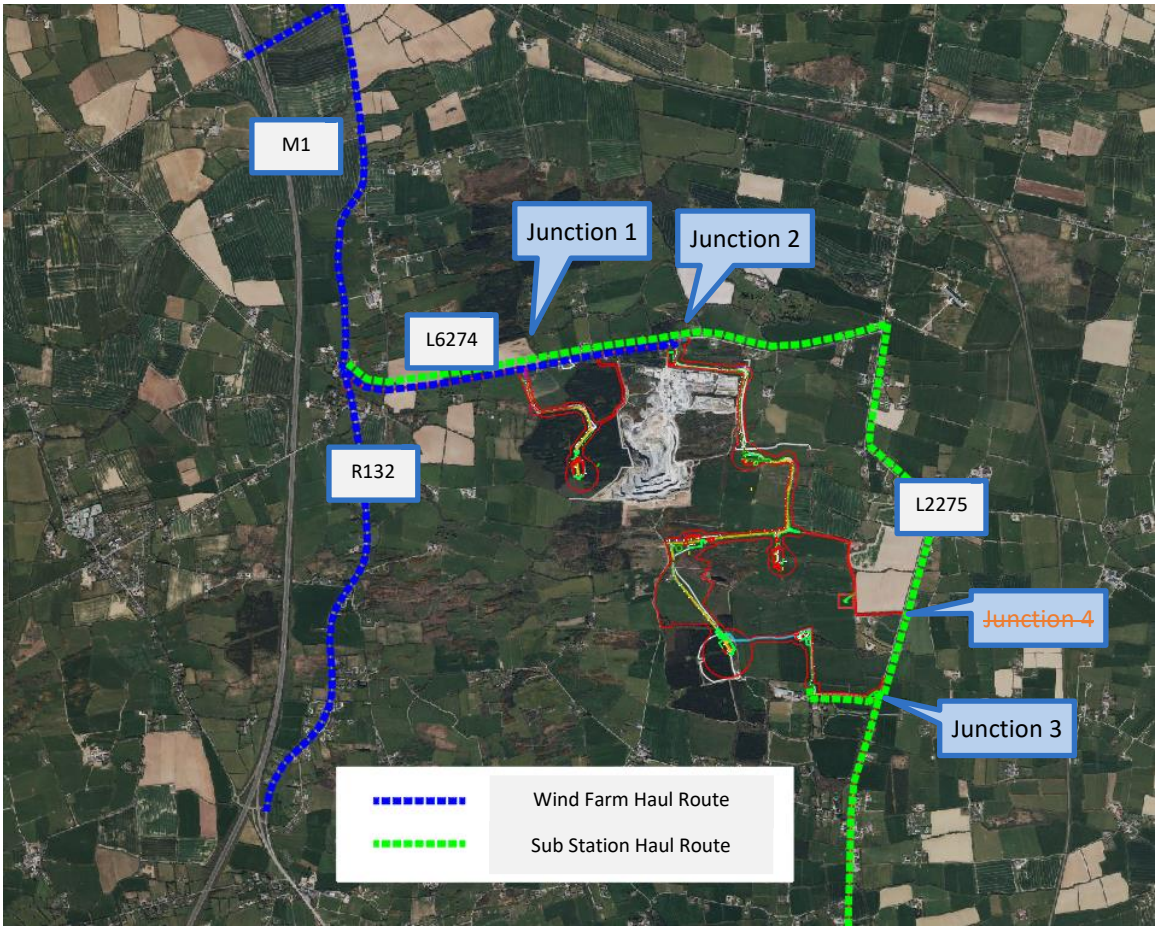


Figure 16.4 – Construction Haul Route

16.2.11 Haul Routes for Grid Connection HGV Traffic

All HGV traffic associated with the construction of Grid Connection between the Onsite Substation and Control Station and the 110kV substation at Drybridge will follow the grid connection route and associated diversions to access the works. Construction vehicles will be prohibited from using local roads which are not part of the grid connection works or local diversions. The grid connection route is shown in **Figure 16.2**. Workers employed on the grid connection works will follow the grid connection route shown in **Figure 16.2** to access the works.

16.2.12 Haul Routes for Material Suppliers

The construction of the Proposed Development will require specific grades of granular material to be delivered to the Site for the structural layers of wind farm access roads, fill under turbine foundations and turbine hardstands / crane platforms. The construction of turbine foundations will require imported ready mix concrete and reinforcing steel. The construction of the Onsite Substation and Control Station will require delivery of general building materials such as concrete blocks. Precast concrete products will be required for onsite grid connections. The construction of the grid connection will require selected granular materials to backfill trenches and asphalt surfacing materials. The materials will be sourced from local quarries in the area such as the following which are show on **Figure 16.5**:

- Kilsaran Quarry, Gallstown, Co. Louth
- Roadstone Mullaghcrone, Co. Meath
- Roadstone Slane, Co. Meath
- Breedon Quarries, Heronstown, Co. Meath

Figure 16.5 – Ready Mix Concrete and Granular Material Supplier

All material deliveries will use the site access points on the L6274 and the L2275 to access the works as shown on **Figure 16.4.** Delivery vehicles will access the grid connection works via the routes shown on **Figure 16.2.** From the Kilsaran quarry, trucks will use L2254 to access the site. From Breedon quarry, trucks will use the L1601, M1, R169 and the R132 to access the works. From Roadstone, Mullachrone trucks will use the L1601, M1 and the R132 to access the works. From Roadstone, Slane trucks will use the R163, N51 and the R132 to access the site.

16.2.13 Haul Routes for the Removal of Material from Site

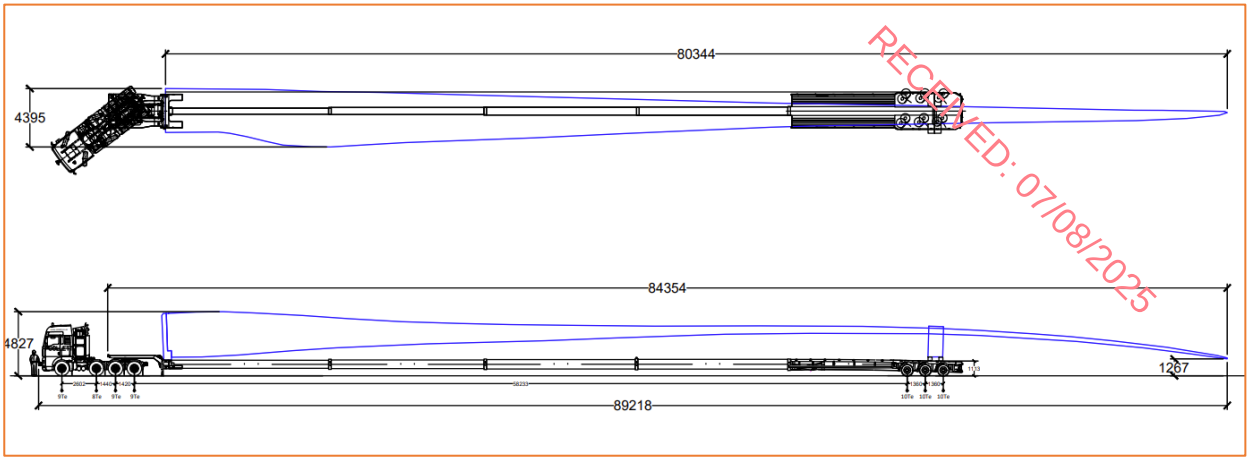
Topsoil and unsuitable subsoil material resulting from Site clearance will be processed / graded on site and incorporated into non-structural elements of the design and used for site landscaping, suitable subsoil material resulting from site excavations will be incorporated into structural elements of the works Trees. felled during site clearance will be transported from Site using the Construction Haul Route shown in **Figure 16.4.** The construction of the grid connection on the public road network will result in waste granular and asphalt material which will be transported from site for recycling / disposal at a licenced waste facility. Licenced waste facilities in the vicinity of the works include;

- Kilsaran Quarry, Gallstown, Co. Louth (Asphalt materials)
- Nature's Way Composting Ltd (ID W0182), located 11.85km northwest in the city of Drogheda

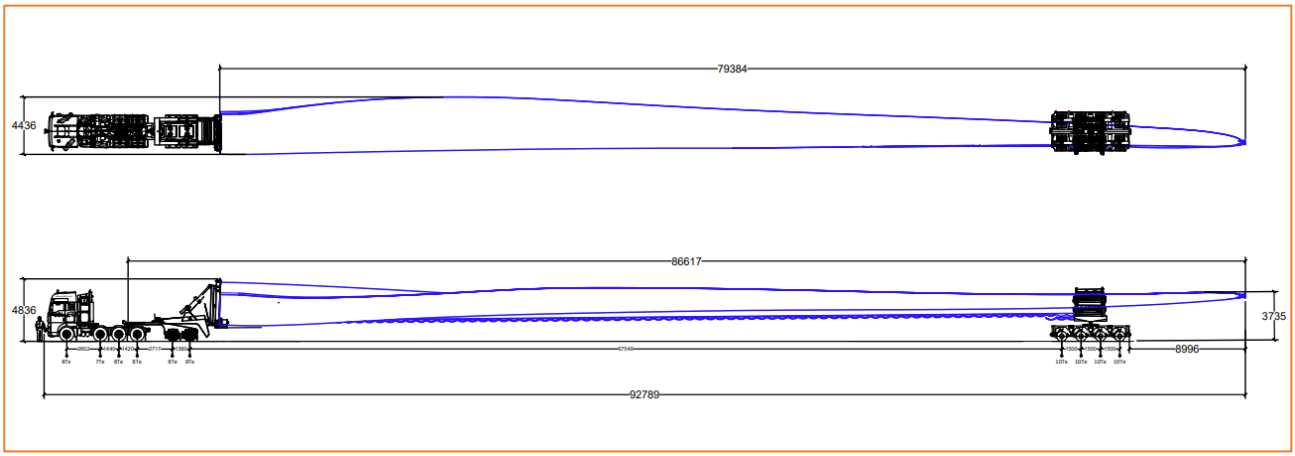
- Whiteriver Landfill Site (ID W0060-03) operated by Louth County Council, located 5.1km west of the Wind Farm Site
- Drogheda Landfill (ID W0033) operated by Drogheda Borough Council, located 6.2km south.
- Height for Hire Ltd (ID W0154), located 6.3km south

16.2.14 Delivery Vehicle Specification

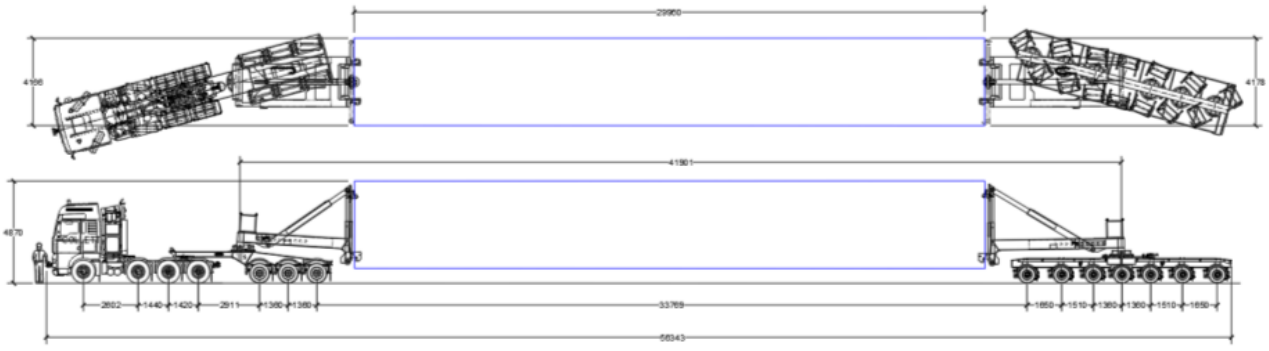
Delivery of road construction materials, concrete for Turbine Foundations, building materials, drainage, ducting and cables will be carried out using standard heavy goods vehicles (HGV). Delivery of turbine components will be carried out using specialist abnormal load vehicles. Turbine blades will be delivered by the following methods depending on the turbine type. The N163 turbine blade will be delivered on an extendable semi-trailer. The N163 blade is 80.344m long and 4.395m wide. The blade will extend 20m beyond the rear of the trailer and the loaded vehicle will have an overall length of 89.21m, gross vehicle weight of 75.0T and maximum axle weight of 12.0T. The V162 will be delivered using a clamp and dolly system. The V162 blade is 79.384m long and 4.436m wide. The blade will extend 9m beyond the rear of the dolly and the loaded vehicle will have an overall length of 93.07m, gross vehicle weight of 87.0T and maximum axle weight of 10.0T. Following delivery to the Site, the trailer will be retracted for the return trip. Each turbine tower will be delivered to site in three sections on extendable semi-trailers or the clamp and bogie trailer system, the tower sections range in length from 30.0m to 23.0m with a maximum width of 4.3m. All material deliveries will have a maximum axle load of 12 tonnes per axle, and a maximum total truck weight 63 tonnes. The main crane for turbine erection will have a maximum axle loading of 12 tonnes per axle and a maximum total weight of 100 tonnes. Vehicles delivering counter-weights for the crane will have a maximum axle loading of up to 12 tonnes per axle. Abnormal load vehicles used for the transportation of turbine components are shown below. The transport vehicles used for transportation of components may differ from those shown below depending on the haulage contractor's preferences.



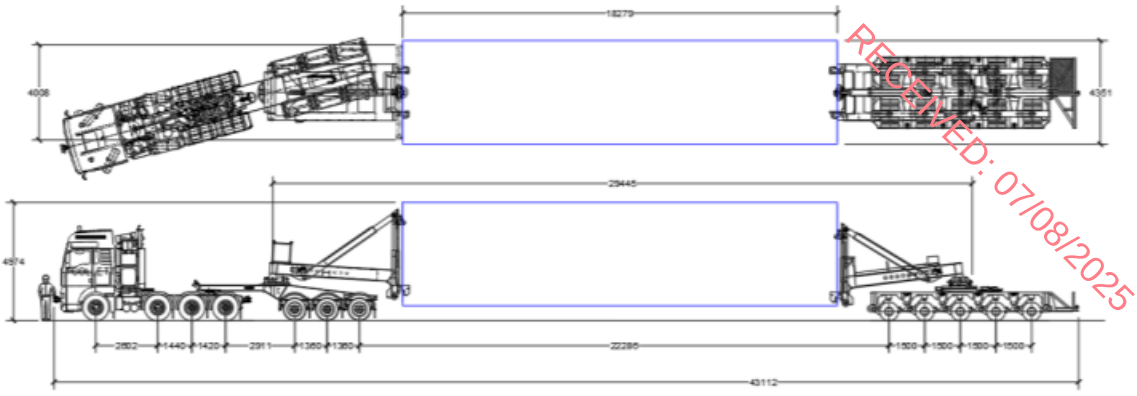
N163 Turbine Blade Transport Vehicle (extendable semi-trailer)



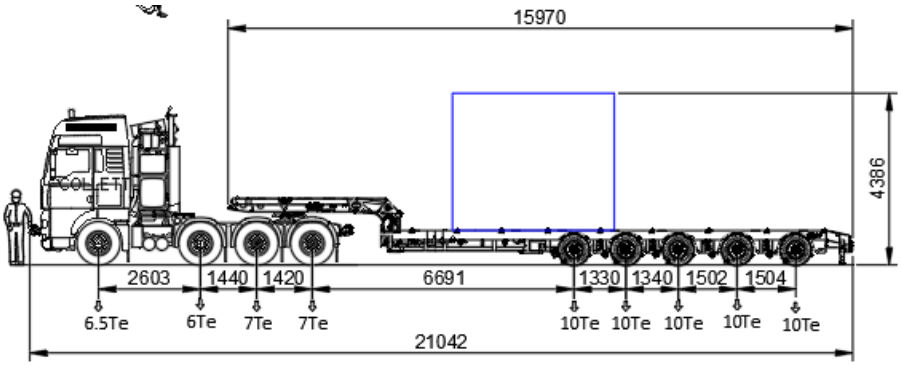
V162 Turbine Blade Transport Vehicle (Clamp and dolly)



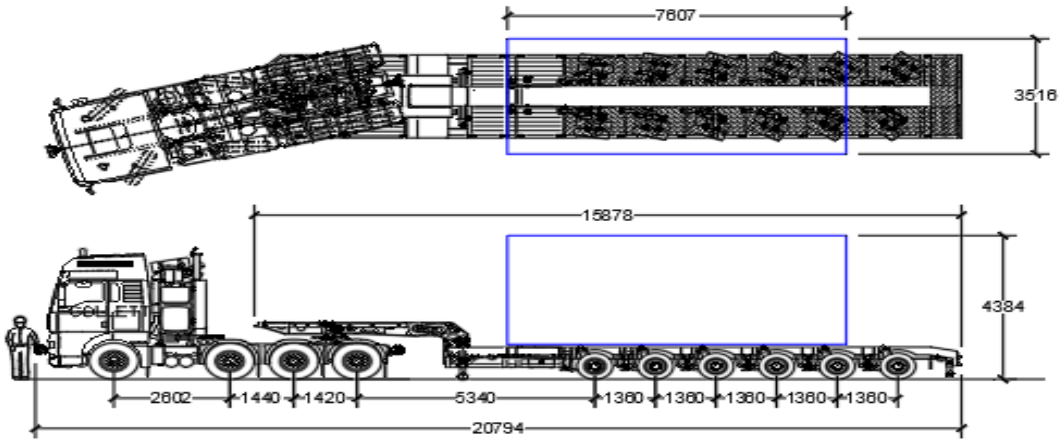
Typical Turbine Tower Transport Vehicle



Typical Nacelle Transport Vehicle



Typical Hub Transport Vehicle



Typical Generator Transport Vehicle

16.2.15 Evaluation of Potential Effects

The baseline environment is described in **Section 16.2.6** of this report and in the Traffic and Transport assessment in **Appendix 15-1**. Baseline traffic volumes have been recorded during a site visit on Wednesday 26th October 2023 to record traffic volumes and turning movements of vehicles at the R132/L6274/L2254 junction and at the L6274/L2275 junction.

The traffic counts were carried out between 7.45am and 11.00am in the morning to capture peak traffic flows during the morning period.

A traffic analysis was carried out at the R132 / L6274 / L2254 junction and at the L6274 / L2275 junction using the 2023 Existing traffic flows to determine if capacity problems exist at the primary junctions in the vicinity of the Proposed Development.

Future year traffic assessments with TII factors for forecast traffic growth on the public road network were then carried out at the R132 / L6274 / L2254 and L6274 / L2275 junctions using the following scenarios to determine if capacity problems would arise at the junctions with and without the development in place.

- Do Nothing scenarios, Likely Evolution of the Baseline
- 2025 Projected traffic flows without the Proposed Development (Planning Approval)
- 2035 Projected traffic flows without the Proposed Development (Planning Period / Windfarm Construction)
- 2070 Projected traffic flows without the Proposed Development (Operations Period)
- Do something scenario's
- 2035 Projected traffic flows with the Proposed Development (Wind Farm Construction Traffic)
- 2070 Projected traffic flows with the Proposed Development (Wind Farm Operations Traffic)
- 2070 Projected traffic flows with the Proposed Development (Wind Farm Decommissioning Traffic)

Traffic Infrastructure Ireland (TII) forecasts for future traffic growth on the public road network are published in PE-PAG-02017 "Travel Demand Projections". The growth factors are applied to the 2023 baseline traffic flows to approximate the traffic flows on the public road network in the future assuming the Proposed Development is granted planning permission in 2025, 10 year planning grant and construction in 2035 and a 35 year operational period and decommissioning in 2070. The growth factors for the relevant assessment years using the central-growth scenario for County Louth are shown in **Table 16.3**.

Year	LGV Growth Factor	HGV Growth Factor
2023	1.00	1.00
2025	1.05	1.11

2035	1.16	1.45
2070	1.46	2.85

Table 16.3 – Traffic Growth Factors for Public Roads

A traffic assessment was carried out with the Proposed Development under construction in 2035 with additional traffic from unrelated planned and consented developments to determine if capacity problems would arise at the junctions due to combined traffic volumes in the vicinity of the Proposed Development.

Temporary traffic lights will be required for short periods on the R132, L6274 and L2275 for traffic management during the construction of the Proposed Development. A traffic analysis has been carried out to assess the impact of the temporary traffic lights on the R132, L6274 and L2275.

The data from the Traffic and Transport assessment in **Appendix 15-1** was then used to identify and categorise potential effects likely to affect the road network resulting from the construction, operation and decommissioning of the Proposed Development.

16.2.16 Accident Statistics

Mapped statistics for accident data in the area were not available from the RSA website in September 2024.

16.2.17 Description of Effects

The description of effects arising from traffic associated with the Proposed Development are given in Table 3.4 of the EPA Guidelines 2022 and are categorised as follows in **Table 16.4**;

Quality of Effects It is important to inform the non-specialist reader whether an effect is positive, negative or neutral.	**Positive Effects** A change which improves the quality of the environment (for example, by increasing species diversity, or improving the reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).
	Neutral Effects No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
	Negative/Adverse Effects A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem, or damaging health or property or by causing nuisance).

Describing the Significance of Effects 'Significance' is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful (also see *Determining Significance*).	**Imperceptible** An effect capable of measurement but without significant consequences.
	Not Significant An effect which causes noticeable changes in the character of the environment but without significant consequences.
	Slight Effects An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
	Moderate Effects An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
	Significant Effects An effect which, by its character, magnitude, duration or intensity, alters a sensitive aspect of the environment.
	Very Significant An effect which, by its character, magnitude, duration or intensity, significantly alters most of a sensitive aspect of the environment.
	Profound Effects An effect which obliterates sensitive characteristics.

Describing the Extent and Context of Effects Context can affect the perception of significance. It is important to establish if the effect is unique or, perhaps, commonly or increasingly experienced.	**Extent** Describe the size of the area, the number of sites and the proportion of a population affected by an effect.
	Context Describe whether the extent, duration or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)

Describing the Probability of Effects Descriptions of effects should establish how likely it is that the predicted effects will occur so that the CA can take a view of the balance of risk over advantage when making a decision.	**Likely Effects** The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
	Unlikely Effects The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.

Describing the Duration and Frequency of Effects 'Duration' is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful.	**Momentary Effects** Effects lasting from seconds to minutes.
	Brief Effects Effects lasting less than a day.
	Temporary Effects Effects lasting less than a year.
	Short-term Effects Effects lasting one to seven years.
	Medium-term Effects Effects lasting seven to fifteen years.
	Long-term Effects Effects lasting fifteen to sixty years.
	Permanent Effects Effects lasting over sixty years.
	Reversible Effects Effects that can be undone, for example through remediation or restoration.
	Frequency of Effects Describe how often the effect will occur (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually).

Describing the Types of Effects	
	Indirect Effects (a.k.a. Secondary or Off-site Effects) Effects on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.
	Cumulative Effects The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects.
	'Do-nothing Effects' The environment as it would be in the future should the subject project not be carried out.
	'Worst-case' Effects The effects arising from a project in the case where mitigation measures substantially fail.
	Indeterminable Effects When the full consequences of a change in the environment cannot be described.
	Irreversible Effects When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost.
	Residual Effects The degree of environmental change that will occur after the proposed mitigation measures have taken effect.
	Synergistic Effects Where the resultant effect is of greater significance than the sum of its constituents (e.g. combination of SOx and NOx to produce smog).

Table 16.4 – Description of Effects

16.2.18 Assessing Receptor Sensitivity

The sensitivity of the transport infrastructure has been identified utilising the criteria outlined in the Traffic Management Guidelines published by the Department of Transport and TII publication DN-GEO-03031, Rural Road Link Design. These criteria are outlined in **Table 16.5** below.

Table 16.5: Receptor Sensitivity

Importance/Sensitivity of Receptor	Resource	Receptor
High	Local Tertiary and Local Secondary rural roads Local urban Collector and Access roads Where the road is a minor rural road, not constructed to accommodate frequent use by heavy goods vehicle (HGVs).	Where a location is a large rural settlement containing a high number of community and public services and facilities. Urban roads for local journeys and provide links to major routes. Many such roads will have residential and commercial

Importance/Sensitivity of Receptor	Resource	Receptor
	Includes roads with traffic control signals, waiting and loading restrictions, traffic calming measures.	access/frontage and there will be significant movements of pedestrians and cyclists
Medium	Local Primary rural, Regional roads and National Secondary Roads District Primary urban roads Roads capable of regular use by HGV traffic. Includes roads where there is some traffic calming or traffic management measures.	Where a location is an intermediate sized rural settlement, containing some community or public facilities and services. These roads provide links between local districts within urban areas. They can have significant movements of buses and cyclists along them (segregated or on-road) and pedestrians crossing them where there are schools, shops, offices and businesses.
Low	National Primary Roads Where the road is constructed to accommodate general and HGV traffic moving between primary destinations. Includes roads with little or no traffic calming or traffic management measures.	Where a location is a small rural settlement, few community or public facilities or services.
Very Low	Motorways and Dual carriageways Where roads have no adjacent settlements.	Where a location includes individual dwellings or scattered settlements with no facilities or residents/workers travelling by foot or by vehicle.

16.2.19 Assessing Magnitude of Change

The magnitude of potential impacts has been defined in accordance with the criteria provided in TII Publication PE-PDV-02045, Traffic and Transport Assessment Guidelines and traffic management guidelines published by the Department of Transport. PE-PDV-02045 requires a traffic and transport assessment to be carried out for developments which will generate the following vehicle movements:

- 100 trips in / out combined in the peak hours for the proposed development.
- Development traffic exceeds 10% of turning movements at junctions with and on National Roads.
- Development traffic exceeds 5% of turning movements at junctions with National Roads if location has potential to become congested or sensitive.

The traffic management guidelines require a traffic assessment for the following criteria

- Traffic to and from the development exceeds 10% of the traffic flow on the adjoining road
- Traffic to and from the development exceeds 5% of the traffic flow on the adjoining road where congestion exists, or the location is sensitive

The assessment of priority road junction and road network capacity is carried out using industry standard TRL traffic modelling software PICADY to model isolated priority junctions as recommended in PE-PDV-02045 section 2.5.2.

Road network and junction capacity is measured in terms of level of service (LOS) thresholds which are based on the queuing delay on each arm of the junction. The transportation LOS system uses the letters A through F, with the following definitions:

- A = Free flow
- B = Reasonably free flow
- C = Stable flow
- D = Approaching unstable flow
- E = Unstable flow
- F = Forced or breakdown flow

The magnitude of change based on increased traffic volumes on the public road network is measured in terms of LOS on the network arm as follows.

- High – considerable deterioration – Network arm has exceeded LOS = D (Approaching Unstable Flow) due to increased traffic volumes.
- Medium – readily apparent change in conditions - Network arm has entered LOS = D (Approaching unstable flow) due to increased traffic volumes.
- Low – perceptible change in conditions - Network arm has entered LOS = C (Stable Flow) due to increased traffic volumes.
- Negligible — no discernible change in conditions - Network arm has a LOS = A (Free Flow) / B (Reasonably free flow)

16.2.20 Assessing Significance of Effects

To determine the overall significance of the effects, the results from the receptor sensitivity and impacts magnitude assessment are correlated and classified using Figure 3.4 of the EPA Guidelines, May 2022 as shown in **Figure 16.6** below.

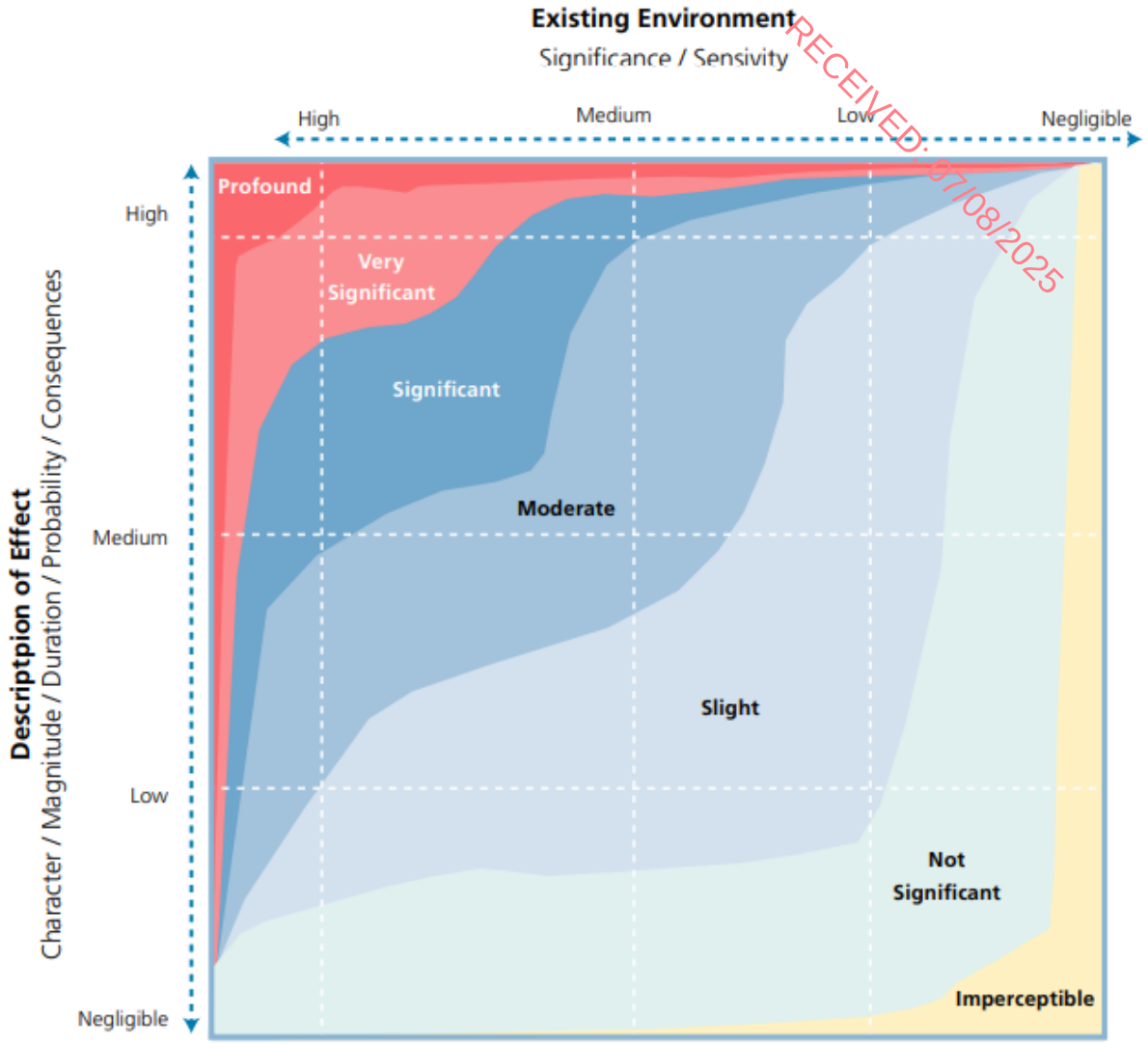


Figure 15-6 – EPA Guidelines 2022, Significance of Effects

16.2.21 Sensitive Receptors – Construction Period

The following sensitive receptors will be impacted by the additional traffic generated by the construction of the Proposed Development and by works carried on and adjacent to the public road network as part of the Proposed Development. Detailed descriptions of the works locations and traffic management measures are included in the Traffic Management Plan in **Appendix 16.2.**

Receptor	Sensitivity	Reason for inclusion
L6274	Medium	Increased traffic Volumes due to construction and turbine delivery traffic. Construction of wind farm site entrances

		Construction of grid connection to T1
L2275	Medium	Increased traffic Volumes due to construction traffic Construction of wind farm site entrances Grid connection works
R132	Medium	Increased traffic Volumes due to construction and turbine delivery traffic. Construction of temporary access road for turbine delivery between the R132 and the L6274. Grid connection works
L2308	Medium	Grid connection works
N51	Low	Increased traffic Volumes due to construction and turbine delivery traffic. Grid connection works Enabling works for transportation of turbine components at the N51 Hill of Rath Roundabout and at Rosehall Roundabout
L6332	High	Grid connection works
L63324	High	Grid connection works
R168	Medium	Grid connection works
L2322	Medium	Grid connection works
L2000	Medium	Grid connection works
Galway Port	Medium	Enabling works for transportation of turbine components
Monivea Rd	Medium	Enabling works for transportation of turbine components
R338 / R339 Junction	Medium	Enabling works for transportation of turbine components
N6 / R685 Junction	Medium	Enabling works for transportation of turbine components
N6 / R339 Junction	Medium	Enabling works for transportation of turbine components
N6 Coolagh Roundabout	Low	Enabling works for transportation of turbine components

M4 / M50 interchange	Low	Enabling works for transportation of turbine components
M1 Motorway Junction 10	Low	Enabling works for transportation of turbine components

Figure 15-7 – Sensitive Receptors - Construction

16.2.22 Sensitive Receptors – Operations Period

The following sensitive receptors will be impacted by the additional traffic generated by the operation of the Proposed Development.

Receptor	Sensitivity	Reason for inclusion
L6274	Medium	Increased traffic Volumes due to operations traffic.
L2275	Medium	Increased traffic Volumes due to operations traffic.
R132	Medium	Increased traffic Volumes due to operations traffic.

Figure 15-8 – Sensitive Receptors - Operation

16.2.23 Sensitive Receptors – Decommissioning Period

The following sensitive receptors will be impacted by the additional traffic generated by the decommissioning of Proposed Development and by works carried on and adjacent to the public road network as part of the Proposed Development.

Receptor	Sensitivity	Reason for inclusion
L6274	Medium	Increased traffic Volumes due to decommissioning and turbine removal traffic. Removal of wind farm site entrances Removal of grid connection cable to T1
L2275	Medium	Increased traffic Volumes due to decommissioning traffic. Removal of grid connection cable.
R132	Medium	Increased traffic Volumes due to decommissioning and turbine removal traffic. Removal of grid connection cable.

L2308	Medium	Grid connection works
N51	Low	Increased traffic Volumes due to decommissioning and turbine removal traffic. Removal of grid connection cable.
L6332	High	Removal of grid connection cable.
L63324	High	Removal of grid connection cable.
R168	Medium	Removal of grid connection cable.
L2322	Medium	Removal of grid connection cable.
L2000	Medium	Removal of grid connection cable.

Figure 15-9 – Sensitive Receptors - Decommissioning

16.3 ASSESSMENT OF POTENTIAL EFFECTS

16.3.1 Wind Farm Traffic Generation

The estimated timescale for the completion of the construction phase is 18 months, inclusive of all works to Site Access Tracks, access routes, substation building and erection and commissioning of turbines and grid connection works.

The estimated HGV and abnormal load deliveries of materials and turbine components required to construct the Proposed Development and the Grid connection are given in **Table 16.10**. It is estimated that during the wind farm construction, an approximate total of 5,541 loads of material and building supplies will be delivered and removed from the Site. The majority of HGV movements to and from Site will occur during the first ten months of the construction period and will be associated with site road construction, turbine hardstand construction and turbine foundation construction.

Excavation of trenches for grid connection works on the public road network will be carried out in 100m long sections with traffic management. Each trench section will be reinstated prior to moving. The grid connection works will be carried out during months 10 to 13 and will generate 15 trips per day (30 HGV movements) on the public road network.

The number of staff on site will vary according to the phase of the construction, peaking at approximately 61 at the height of the construction period. It is expected that the majority of workers will arrive on site in mini-buses and crew vehicles which are used to transport teams of workers from different construction disciplines. Labour vehicle sharing will be actively encouraged to reduce vehicular movements.

It is estimated that 35-40 staff light goods vehicles (LGV) will visit the site on a daily basis during the peak construction period. Parking for staff will be provided within the Temporary Construction Compound and no parking will be allowed for construction workers on the public road network in the vicinity of the Site. A small number of additional unscheduled visits may be required throughout the construction period for site inspections and unforeseen circumstances.

Materials	Quantity	No. Of Deliveries	Timeframe (Month)	Maximum Loads / Day at R132 / L6274 Junction	Vehicle Type
Site Establishment & Fencing		10	1	5	OGV1 / OGV2
Temporary Construction Compound	1,665m^3	167	1-3	10	OGV1 / OGV2
Forestry felling and drainage	9.4ha @ 190m^3/ha	80	2-5	10	OGV2
Internal Access Road Upgrade & Construction	17,775m^3	1,777	2-6	10	OGV1 /OGV2
Substation (17 Loads) & Compound Construction (435m^3)		60	4-7	5	OGV1
Substation Electrical Works		20	10-16	2	OGV1
Substation Commissioning		5	18	2	OGV1
Construction of Turbine Hardstands	11,250m^3	1,125	2-10	15	OGV1 / OGV2
Construction of Turbine Foundations (949m^3 Per Base)	4,745m^3	594	2-10	119	OGV1 / OGV2
Internal Cabling Installation	530m^3	53	8-10	5	OGV1
Turbine Delivery and Erection	5 Turbines	70	10-13	10	OGV2
Grid Connection Excavated material 7,275m^3 Imported Backfill 7,275m^3 Reinstatement 1,100m^3	12,120m 15,650m^3	1,565	10-13	15	OGV1
Energisation		5	15-16	2	OGV1
Turbine Commissioning		5	16-18	2	OGV1
Site Restoration		15	17-18	5	OGV1
Total		**5,541**			

Table 16.10 HGV and Abnormal Load Deliveries

A schedule of maximum predicted daily traffic movements to site over the 18-month construction period is shown in **Table 16.11**.

Activity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Site Establishment & Fencing	5																	
Temporary Construction Compound	10	10	10															

Forestry felling and drainage		10	10	10	10													
Internal Access Road Upgrade & Construction		10	10	10	10	10												
Substation & Compound Construction				5	5	5	5											
Substation Electrical Works										2	2	2	2	2	2	2		
Substation Commissioning																		2
Construction of Turbine Hardstands		15	15	15	15	15	15	15	15	15								
Construction of Turbine Foundations						119	119	119	119	119								
Internal Cabling Installation								5	5	5								
Turbine Delivery and Erection										10	10	10	10					
Grid Connection										15	13	15	15					
Energisation															2	2		
Turbine Commissioning															2	2	2	2
Site Restoration																	5	5
Total	**15**	**45**	**45**	**40**	**40**	**149**	**139**	**139**	**139**	**166**	**25**	**27**	**27**	**2**	**6**	**6**	**2**	**4**

Table 16.11 HGV and Abnormal Load Deliveries to Site During Construction

The first month of the construction period will involve deliveries of materials for site access works, site compound, site offices and site security. This period will include deliveries of fencing materials for site boundaries and compounds, temporary fencing to protect trees, hedges and ecological buffer zones, road construction materials for site compounds and site entrances, and delivery of temporary site office units. It is anticipated that a maximum of 15 HGV vehicles (30 HGV movements) will visit the Site on a daily basis during the first month of the contract.

Months 2 to 10 will involve deliveries of materials for turbine hardstands, turbine foundations, site access tracks, electrical substation building and cable / ducting works. This period will include deliveries of road construction materials for access tracks and turbine hardstands, ready mix concrete and steel reinforcement for turbine foundations. It is anticipated that a maximum of 168 HGV vehicles (336 HGV movements) will visit the Site on a daily basis during the period of weeks 8 to 24. The peak traffic of 168 HGV vehicles will occur on 5 days during this 9 month period when turbine foundations are poured. Concrete pours for individual turbine foundations will generate 119 HGV arrivals (238 HGV movements).

Months 10 to 18 will involve HGV movements for works associated with turbine delivery, turbine erection, turbine commissioning, electrical works, grid connection works, road reinstatement, road surfacing, site landscaping and the removal of temporary works materials such as offices and fencing from site. It is anticipated that a maximum of 27 HGV vehicles (54 HGV movements) will visit the Site on a daily basis during this period.

Based on the indicative timetable outlined above the peak times for HGV deliveries to Site will be during months 6 to 10 (25 daily HGV deliveries + 75 additional deliveries during concrete pours which will take place on five separate days during this period). Development traffic will be distributed throughout the day with morning, afternoon and evening peaks. The distribution of Development traffic is shown in **Table 16.12** during the construction of Turbine Foundations.

Time	Arrivals		Departures	
	HGV	LGV	HGV	LGV
06.00 – 07.00		20		
07.00 – 08.00	20	15	20	
08.00 – 09.00	15	5	15	2
09.00 – 10.00	15		15	
10.00 – 11.00	15		15	
11.00 – 12.00	20		20	
12.00 – 13.00	15		15	
13.00 – 14.00	10	5	10	5
14.00 – 16.00	20		20	
16.00 – 16.00	15		15	
16.00 – 17.00	10		10	
17.00 – 18.00	8	2	8	5
18.00 – 19.00	5		5	15
19.00 – 20.00				20

Table 16.12 Development Traffic Profile

16.3.2 Magnitude and Significance of Effects

The magnitude and significance of effects and their impact on public road users at works locations on the public road network is analysed in **Table 15-13**. The impact of the effects is based on the Traffic and Transport Assessment in **Appendix 16.1** which gives details of traffic analysis at junctions in the vicinity of the Site and the Traffic Management Plan in **Appendix 15-2** which gives details of works duration, traffic management, road closures and diversions.

Construction Period				
Receptor	Sensitivity	Magnitude	Significance of Effect	Duration of Effect
L6274	Medium	Low	Slight	Temporary / Short Term
L2275	Medium	Low	Slight	Temporary / Short Term
R132	Medium	Low	Slight	Short Term
L2308	Medium	Medium	Moderate	Short Term
N51	Low	Medium	Slight	Temporary / Short Term
L6332	High	Medium	Significant	Short Term
L63324	High	Medium	Significant	Short Term
R168	Medium	Low	Slight	Short Term
L2322	Medium	Medium	Moderate	Short Term
L2000	Medium	Medium	Moderate	Short Term
Galway Port	Medium	Low	Slight	Short Term
Monivea Rd	Medium	Low	Slight	Short Term
R338 / R339 Junction	Medium	Low	Slight	Short Term
N6 / R685 Junction	Medium	Low	Slight	Short Term
N6 / R339 Junction	Medium	Low	Slight	Short Term
N6 Coolagh Roundabout	Low	Low	Slight	Short Term
M4 / M50 interchange	Low	Low	Slight	Short Term
M1 Motorway Junction 14	Low	Low	Slight	Short Term
Operations Period				
Receptor	Sensitivity	Magnitude	Significance of Effect	Duration of Effect
L6274	Medium	Negligible	Not Significant	Long Term

L2275	Medium	Negligible	Not Significant	Long Term
R132	Medium	Negligible	Not Significant	Long Term
Decommissioning Period				
Receptor	Sensitivity	Magnitude	Significance of Effect	Duration of Effect
L6274	Medium	Low	Slight	Temporary / Short Term
L2275	Medium	Low	Slight	Temporary / Short Term
R132	Medium	Low	Slight	Short Term
L2308	Medium	Low	Slight	Short Term
N51	Low	Low	Slight	Short Term
L6332	High	Low	Slight	Short Term
L63324	High	Low	Slight	Short Term
R168	Medium	Low	Slight	Short Term
L2322	Medium	Low	Slight	Short Term
L2000	Medium	Low	Slight	Short Term

Table 16.13: Magnitude and Significance of Impacts

16.3.3 Air Quality

Construction HGV's, LGV's and private vehicles are subject to government HCV, LCV, ADR and NCT emissions tests. A full air quality assessment is included in **Chapter 18** of the EIA.

16.3.4 Noise and Vibration

There is likely to be some noise and vibration due to the predicted short term increase in HGV movements along the Haul Routes to the Proposed development. The increased traffic volumes may cause disturbance to residents living along the local road network on the Proposed Development Construction Haul Route, Turbine Delivery haul Route and Grid Connection Route. Due to the relatively low number of trips generated per day in relation to existing traffic volumes on the national and regional road network, the restrictions on working hours and the short-term nature of the construction and decommissioning phases, the effects are not predicted to be significant. Construction HGV's, LGV's and private vehicles are subject to government HCV, LCV and NCT noise and suspension tests. A full noise and vibration assessment is included in **Chapter 13** of the EIA.

16.3.5 Pedestrians and Vulnerable Road Users

Pedestrian and other vulnerable road users may be affected by the works at the Proposed Development entrances, Construction Haul Routes, Turbine Delivery Route enabling works, grid connection works and increased vehicle movements during construction and delivery

of turbine components. The construction of the Proposed Development entrances and modifications to the public road network at various locations along the Turbine Delivery Route will be carried out under a road opening licence and traffic management plan which will accommodate pedestrians at the works locations. The effect of the works on pedestrian safety is therefore assessed to be medium sensitivity for a short term duration. Pedestrian facilities may be altered for short periods during the transportation of turbine components. During these periods alternative arrangements will be put in place for pedestrians.

16.3.6 Driver Delay

The traffic analysis carried out in the Traffic and Transport Assessment in **Appendix 15-1** at the R132 / L6274 / L2254 junction shows that drivers will experience short delays due to increased traffic volumes during the wind farm construction and decommissioning periods. In 2035 vehicles joining the R132 from the L7275 will experience a delay of 14 seconds without development construction traffic and a delay of 17 seconds with the additional traffic generated by wind farm construction. In 2070 vehicles joining the R132 from the L7275 will experience a delay of 21 seconds without development decommissioning traffic and a delay of 28 seconds with the additional traffic generated by wind farm decommissioning. The effects of the additional traffic volumes are assessed as slight and temporary with a duration of 18 months.

Enabling works on the public road network will be carried out using traffic management and temporary traffic signals at locations where it is not possible to maintain two way traffic. Analysis carried out in the Traffic and Transport Assessment in **Appendix 16.1** shows that vehicles will experience delays of approximately 75 seconds when the lights are in place on the R132 and the L6274. The effects of the additional traffic volumes are assessed as slight and short term. The location and duration of works requiring temporary traffic lights is detailed in the traffic management Plan in **Appendix 15-2**.

The delivery of turbine components will take place outside peak traffic periods to avoid disruption on the public road network. The haul route for the transportation of turbine components consisting of dual carriageway and motorway will have unrestricted passing opportunities and no delays to public road users are expected. There is potential for momentary delay to public road users in the urban areas of Galway City, at M1 junction 14, N51 roundabouts at the Hill of Rath and Rosehall, R132 slip road during contraflow manoeuvre, R132 / L6274 junction and at the Proposed Development entrances on the L6274. Following assessment, it is concluded that delays to traffic due to turbine delivery will be imperceptible and momentary in duration.

The construction of grid connection works on public roads will require road closures on local roads where the road width is too narrow to support traffic flows. The road closures will result in delays to public road users and increased journey times. Following assessment, it is concluded that these effects will be slight and short term..

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16.4 MITIGATION MEASURES

16.4.1 Construction Phase

Although no long term significant effects have been predicted, the proposed mitigation measures have been incorporated into the design to maintain the highest standard of road safety, minimise delay and disruption to all public road users, and to comply with statutory regulations

- Prior to delivery of abnormal loads i.e. turbine components, the Applicant or their representatives, will consult with An Garda Síochána, TII, PPP operators and all relevant Local Authorities to obtain all necessary abnormal load permits and discuss the requirement for a Garda escort. The Applicant will also outline the intended timescale for deliveries and efforts can be made to avoid peak times such as school drop off times, church services, peak traffic times where it is considered this may lead to unnecessary disruption, and abnormal loads may travel at night and outside the normal construction times as may be required by An Garda Síochána. Local residents at sensitive locations along the affected route will be notified of the timescale for abnormal load deliveries.
- Prior to delivery of abnormal loads, the Applicant or their representatives, will consult with TII, PPP operators and all Local Authorities through which the abnormal loads will pass and agree the specification for any enabling works to be carried out on the Turbine Delivery Route.
- Prior to the delivery of turbine components, a survey of the Turbine Delivery Route will be undertaken to identify if any overhead lines or height restrictions at toll booths will need to be lifted along the route to allow abnormal loads such as tower sections and nacelles to be delivered.
- Prior to the delivery of turbine components, a trial run shall be carried out between the Port of Galway and the Proposed Development entrance using an abnormal load vehicle with a retractable load gauge to determine that abnormal load vehicles can transverse the route without undue delay and disruption to public road users.
- During the construction and decommissioning phases, road works signs in accordance with the requirements of Chapter 8 of the Traffic Signs Manual published by the Department of Transport will be erected at all the Proposed Development entrances

and at all locations on the Grid Connection route and Turbine Delivery Route which are being modified to facilitate turbine delivery. Details of signage if given in the Traffic management plan in Appendix 15-2.

- Wheel cleaning equipment will be used at all site entrances with the public road to prevent any mud and/or stones being transferred from Site to the public road network. All drivers will be required to see that their vehicle is free from dirt and stones prior to departure from the Site.
- To reduce dust emissions, vehicle containers/loads will be covered during both entrance and egress to the Site where required.
- All dust generating activities will be minimised where practical during windy conditions, and drivers will adopt driving practices to minimise the creation of dust. Where conditions exist for dust to become friable, techniques such as damping down of the potentially affected areas may be employed.
- Access to the construction site will be controlled by on Site personnel and all visitors will be asked to sign in and out of the Site by security/Site personnel on entering and exiting the site.
- All Site visitors will undergo a Site induction covering Health and Safety issues at the Contractor's temporary compound and will be required to wear appropriate Personal Protective Equipment (PPE) while onsite.
- A condition survey of the road network in the vicinity of the site entrances will be carried out and agreed with Louth County Council prior to any works being carried out on site.
- All works on the public road network will be carried out using an approved road opening licence and traffic management plan. Details of traffic management at works locations on the public road network is given in the CTMP in Appendix 16.2.
- All wind farm vehicles shall have roof mounted flashing beacons when working on the public road network or will use their hazard lights within the Site.
- A speed limit of 25 km/h shall apply to all vehicles within the Site.
- A communications and stakeholder plan for managing construction stage traffic has been prepared for the proposed development.

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16.5 CUMULATIVE EFFECTS

16.5.1 Unrelated Proposed and Consented Developments

The Louth County Council planning portal provides details of planned and consented developments in County Louth. A single turbine development in Dundalk, 19.5km north of the Proposed Development was granted planning permission in July 2024 (WuXi Biologics: planning ref 2360356). This development will generate an increased number of new trips

on the public road network during the construction phase. However, if the construction phase of both project coincide, the impact is only expected to be slight and short-term. The WuXi development will be on a small site, is limited to a single turbine which will connect into an existing substation. Furthermore, as it is located almost 20km north of the Proposed Development where there are several quarries, stone and concrete suppliers in the surrounding areas. As such, the construction haul routes between the two projects are unlikely to interconnect. Additionally as shown in Figure 16.5, the anticipated quarries to be used for the Proposed Development are all located south or west of the Proposed Development, furthering the distance from the WuXi Biologics site. For the Turbine Delivery routes, the only road common to both projects is the M1 motyorway. No significant effects are anticipated due to Turbine Delivery.

A later search of the portal in September 2024 shows that there are no other planned developments in the vicinity of the Proposed Development which will generate a significant number of new trips on the public road network. The Proposed Development is located close to high quality public roads such as the M1 motorway, N51 national secondary road and the R132. The results of the traffic analysis in **Appendix 16.1** show that the R132/L6274/L2254 and the L6274/L2275 junctions will continue to operate with reserve capacity during construction, operation and decommissioning of the proposed Development. An additional analysis was carried out to test the capacity of the junctions with the forecast growth on the public road network increased by an additional 10% to test the capacity of the junctions with additional development traffic which may arise in the future. The results of the analysis show that the junctions will continue to operate with reserve capacity with additional development traffic during construction in 2035 and decommissioning in 2070. The results of the traffic analysis are included in **Appendix 16.1.**

16.6 RESIDUAL EFFECTS OF THE DEVELOPMENT

16.6.1 Construction Phase Residual Effects

The results of the traffic analysis in **Appendix 16-1** have shown that the existing public road network can accommodate the increased traffic volumes generated by the Proposed Development. Works on the public road network will be carried out using an approved traffic management plan and site entrances will be signposted in accordance with chapter 8 of the Traffic Signs Manual published by the Department of Transport. Visibility at site entrances will be maintained in accordance with the Louth County Council Development Plan. There is likely to be a slight residual effect on the condition of road surfaces at the site entrances due to vehicles turning and on the grid connection route prior to final road reinstatement.

Following final road reinstatement, there will be no residual effects associated with the construction of the Proposed Development. Site entrances to the Proposed Development have been updated to address the items raised in the RFI request from Louth County Council. The operational site entrances have been subject to an independent road safety audit carried out by an independent auditor. The recommendations of the road safety audit have been implemented into the design.

16.6.2 Operational Phase Residual Effects

There will be no residual effects on the public road network during the operational phase of the proposed Development. The results of the traffic analysis in **Appendix 16-1** have shown that the existing public road network can accommodate the operational traffic generated by the Proposed Development when combined with predicted public traffic growth beyond 2070. The interface between the Proposed Development and the public road network has been designed to eliminate residual risk with visibility splays, signs and roadmarkings, vehicle dwell areas and access gates setback from the carriageway edge to allow vehicles to pull off the road when entering the Site. The operational site entrances to the Proposed Development have been updated to address the items raised in the RFI request from Louth County Council. The operational site entrances have been subject to an independent road safety audit carried out by an independent auditor. The recommendations of the road safety audit have been implemented into the design. Grid connection works will be carried out using temporary traffic management to minimise disruption to public road users. Details of traffic management at works locations on the public road network is given in the CTMP in **Appendix 16.2**.

16.6.3 Final Decommissioning Phase Residual effects

The results of the traffic analysis in **Appendix 15-1** have shown that the existing public road network can accommodate the increased traffic volumes generated by the Proposed Development during decommissioning. There is likely to be a slight residual effect on the condition of road surfaces at the site entrances due to vehicles turning. The decommissioning will be subject to a separate traffic management plan as the destination for recycled turbine parts may differ from the port of origin.

16.7 SUMMARY OF SIGNIFICANT EFFECTS

This section has assessed the significance of potential effects of the Project on traffic and transport.

Following assessment of the Quality of effects on the public road network, it has been concluded that the Quality of effects will be neutral with increased traffic flows during the construction and decommissioning of the Proposed Development with no permanent changes to the geometry of the public road network and its associated junctions. Grid connection works on the local road network requiring road closures have been assessed as negative due to the short term disruption to public road users resulting from road closures and driver delay resulting from temporary traffic lights and traffic diversions. Grid connection works will be carried out using temporary traffic management to minimise disruption to public road users. Details of traffic management at works locations on the public road network is given in the CTMP in **Appendix 16.2**.

Following assessment, it has been concluded that the significance of the effects on the public road network where traffic management / two way traffic flows can be maintained during works has been assessed as slight. The significance of the effects has been assessed as moderate / significant on local roads where road closures will be required to carry out the grid connection works.

Following assessment, it has been concluded that the duration of effects relating to increased HGV traffic flows in the vicinity of the Site have been assessed as Temporary and may last between 12 and 18 months during the construction and decommissioning of the Proposed Development, The maximum effects from increased HGV traffic flows will occur on a total of 5 days during the 18 month construction period during the construction of turbine foundations (one day per turbine foundation).

Following assessment, it has been concluded that the duration of effects relating to grid connection works, enabling works on the Turbine Haul Route and delivery of turbine components have been assessed as short-Term lasting less than one year.

16.8 STATEMENT OF SIGNIFICANCE

This assessment has identified that the potential effects of the Project on traffic and transport are considered to be **Slight to Moderate**, given the mitigation measures embedded in the design and proposed for the implementation of the Project.