11 TRAFFIC AND TRANSPORT

11.1 INTRODUCTION

11.1.1 Background and Objectives

This chapter assesses the potential effects of traffic associated with the Project on the public road network and on sensitive receptors in the vicinity of the Proposed Development, 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 Project during the following phases:

- Construction of the Project.
- Transportation of turbine components on the public road network between the Port of Cork and the Proposed Development.
- Enabling works for the transportation of turbine components on the public road network between the Port of Cork and the Proposed Development.
- Operation and maintenance of the Proposed Development.
- Decommissioning of the Proposed Development.

11.1.2 Statement of Authority

This chapter of the EIAR has been prepared by Evan Concar., M.Sc., B.Sc. who is an Environmental Scientist and Planner with Jennings O'Donovan. He holds a first-class MSc in Climate Change, Agriculture, and Food Security from the University of Galway and a Bachelor (Hons.) Degree of Arts with Geography and Spanish, also from the University of Galway. He is experienced in report writing, EIA Report chapter writing, Planning Compliance, Planning and Environmental Reports, Feasibility Studies, Stakeholder Engagement, and assisting with Project Management.

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 42 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, Wastewater Projects and various Commercial Developments. David has also been involved in the construction of over 60 wind farms since 1997.

The Autotracking was completed by John Banks, Autocad Technician, Jennings O'Donovan & Partners. The GHE surveys were completed for the initial grant or planning and were conducted by Digital Land Surveyors Ltd.

11.2 ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

11.2.1 Assessment Methodology

This assessment has involved the following elements, further details of which are provided in the following sections:

- 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;
- Topographical Survey of potential 'constraints';
- Swept Path Analysis of the Haul Route;
- Establishment of Baseline Scenario;
- Evaluation of potential effects;
- Evaluation of the significance of these effects;
- Identification of measures to avoid and mitigate potential effects;

11.2.2 Planning Policy and Guidelines/Guidance

In addition to the EIAR standards outlined in **Chapter 1: Introduction**, the following guidance, guidelines and standards (**Table 11.1**) have been used in the preparation of this chapter:

Table 11.1: Policy and Guidance

Policy / Author	Title	Policy
Cork County Council	Cork County Development Plan 2022 - 2028	Chapter 12 Transport & Mobility TM 12-8: Traffic/Mobility Management and Road Safety TM 12-13: National, Regional and Local Road Network TM 12-15: Port of Cork and Other Ports ET 13-1 Energy ET 13-2 Renewable Energy ET 13-4: Wind Energy ET 13-5: Wind Energy Projects Appendix A – Ministerial Guidelines

Policy / Author	Title	Policy
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/current-documents/2024-/Current-Documents-(May-2024).pdf 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

Policy / Author	Title	Policy
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
Transport Infrastructure Ireland (TII)	Traffic and Transport Assessment Guidelines (PE-PDV-02045, TII, May 2014)	Assess the potential effects of major developments on the national road network during their operation.
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

Policy / Author	Title	Policy
		Roadworks Licensing (MRL) and its use for all 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 network.
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 Proposed Development can proceed complementary to safeguarding the capacity, safety and operational efficiency of that network.

11.2.3 Study Area

The study area for Traffic and Transport assessment is defined as the wind farm Site, the Haul Route for Turbine Components, the Civil Construction Haul Route for the importation of rock, concrete and other construction materials to the Site primarily from local quarries , and the Grid Connection Route.

It is proposed that the turbine and electrical components will be delivered via Ringaskiddy Port, Co. Cork. The following route is proposed:

- Exit Ringaskiddy Port onto N28 and N25.
- Past Cork City as far as the roundabout in Bishopstown on the outskirts of Cork City that joins the N25 and N71.
- At the roundabout, turn left onto the N71.
- Travel through Inishshannon as far as Bandon.
- In Bandon, the traffic will turn right onto the R586 over the bridge and turn left, continuing along the R586 and through the village of Enniskean.
- The traffic will then travel along R586 Regional road, through the town of Dunmanway on the Quarry Road, and on to the Regional road network.
- The traffic will continue on the R586 through the village of Drimoleague, before turning right at the R586/L8752 junction.

- The traffic will follow this road for approximately 12 km and turn right onto the L-8767 to the Site just before it reaches Castledonovan Bridge.
- The traffic will then follow this local road for approximately 1.6 km before it reaches the Site entrance.

11.2.4 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 entrance 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 OSI / Bing / Google Maps and Streetview to assess the suitability of public road network for junction visibility and vehicle turning movements. The blade delivery vehicle will have the greatest impact on the public road network due to the length of the loaded vehicle.

11.2.5 Evaluation of Potential Effects

The Baseline environment is described in **Section 11.3**. The available data will then be utilised to identify and categorise potential effects likely to affect the national and local road network used for the Turbine Component Haul Route and the Grid Connection as a result of the Proposed Development.

The statutory criteria (EPA, 2002; EPA, 2003) for the assessment of effects require that likely effects are described with respect to their extent, magnitude, type (i.e. negative, positive or neutral) probability, duration, frequency, reversibility, and transboundary nature (if applicable). The descriptors used in this Environmental Impact Assessment Report (EIAR) are those set out in EPA (2002) 'Glossary of Impacts'.

Effects may be categorised as follows:

- Direct: where the existing traffic and transport environment in proximity to the Proposed Development is altered, in whole or in part.
- Indirect: where the traffic and transport environment beyond the Project is altered by activities related to the construction or operation of the Project.
- No Effect: where the Proposed Development has neither negative nor positive effect upon the traffic and transport environment.

11.2.6 Sensitivity

The sensitivity of the local transport infrastructure has been identified utilising the criteria outlined within the Traffic and Transport Assessment Guidelines (PE-PDV-02045, May 2014) (TII Guidance).). These criteria are outlined within **Table 11.2** below.

Table 11.2: Receptor Sensitivity

Importance	Description
High	Receptors of greatest sensitivity to changes in traffic flow including: People whose livelihood depends upon unrestricted movement within their environment including commercial drivers and companies who employ them, local residents, schools and colleges.
Medium	Traffic flow sensitive receptors including: People who habitually pass through the area, but whose livelihoods are not dependent on free access. Would also generally include: congested junctions, community services, parks, businesses with roadside frontage and recreation facilities.
Low	Receptors with some sensitivity to changes in traffic flow: People who occasionally use the road network. Would also include: public open spaces, nature conservation areas, listed buildings, tourist attractions, residential roads with adequate footway provision and churches.
Negligible	Receptors with very low sensitivity to traffic flows: People not sensitive to transport effects. Would also refer to receptors that are sufficiently distant from the affected roads and junctions.

Table 11.3 below provides the general approach to determining the importance and sensitivity of a resource or receptor based on The Institute for Environmental Management and Assessment (IEMA) Guidelines[1]. The assessment of environmental impacts arising from road traffic is not an exact science and a degree of professional judgement is required. The definitions set out in **Table 11.3** below are generally applied. This will partially define the magnitude and significance criteria set out in the sections below, while applying thresholds quoted in the IEMA Guidance. Sensitive receptors are generally areas with key facilities associated with high footfall.

Table 11.3: Determining the Importance / Sensitivity of Receptor

Importance/Sensitivity of Receptor	Resource	Receptor
High	Traffic flows on highway network near schools, colleges, hospitals playgrounds, accident blackspots, retirement homes and roads without footways that are used by pedestrians.	Residents/workers travelling to and from work on foot and by vehicle, school children, leisure walkers.
Medium	Traffic flows at congested junctions and on highway network near shopping areas with roadside frontage, roads with narrow footways, unsegregated cycleways, community centres, parks, recreation facilities.	Residents/workers travelling to and from work on foot and by vehicle, school children, leisure walkers, people visiting shops etc.

[1]The Institute of Environmental Management and Assessment (1993), Guidelines for the Environmental Assessment of Road Traffic

Importance/Sensitivity of Receptor	Resource	Receptor
Low	Traffic flows adjacent to places of worship, public open space, nature conservation areas, listed buildings, tourist attractions and residential areas with adequate footway provision.	Residents/workers travelling to these places.
Very Low	Receptors with low sensitivity to traffic flows and those sufficiently distant from affected roads and junctions.	Residents/workers travelling by foot or by vehicle.

11.2.7 Magnitude

The magnitude of potential impacts has been defined in accordance with the criteria provided in the 2022 EPA publication 'Guidelines on the information to be contained in Environmental Impact Statements' as outlined within **Table 11.4**.

The Institute for Environmental Management and Assessment (IEMA) Guidelines contains two broad principles to determine the scale and extent of an assessment, which are:

- Principle 1 – include road links where traffic flows are predicted to increase by more than 30% (or where the number of heavy goods vehicles is predicted to increase by more than 30%).
- Principle 2 – include any other specifically sensitive areas where traffic flows are predicted to increase by 10% or more.

If the predicted increase is lower than these thresholds, then the effects can be considered to be low or not significant. If the increases are above the thresholds, then the increase can potentially be significant and assessment is required.

The Traffic and Transport Assessment Guidelines (PE-PDV-02045, TII, May 2014) were developed to assess the potential effects of major developments on the national road network during their operation. These guidelines are applicable to the national roads relevant to the Proposed Development and have been used to assess the construction, operation and Decommissioning phases.

The IEMA Guidelines acknowledge that there are no commonly agreed thresholds for judging the magnitude of change for the effects assessed, with the exception of severance, for which IEMA suggests thresholds of 30%, 60% and 90% for slight, moderate and substantial impacts respectively.

For the most robust approach, the built-up area thresholds in line with the IEMA guidance have been used to guide assessments of magnitude of change. However, a level of professional judgement has been applied to arrive at a set of common thresholds for ascertaining the magnitude of impact. In respect of the environmental effects of traffic, magnitude, based on increase in total vehicular traffic and/or HGV traffic has been determined on the following basis:

- High – considerable deterioration / improvement in local circumstances (total traffic flows of +/-90%).
- Medium – readily apparent change in conditions (total traffic flows of +/- 60 – 90%).
- Low – perceptible change in conditions of circumstances (total traffic flows of +/- 30 – 60%).
- Very Low — no discernible change in conditions (total traffic flows of less than +/- 30%).

Table 11.4: Magnitude of Change

Magnitude of Effect	Description
Significant	The Proposed Development could result in a change of length or duration to the current traffic routes or schedules which could result in hardship.
Moderate	The Proposed Development could result in delays or the need to reschedule which may cause inconvenience.
Slight	The Proposed Development could occasionally cause minor modifications to routes, or slight delays in current schedules, or on activities in the short-term.
Imperceptible	The Proposed Development does not cause an effect on movement of road traffic above normal levels.

11.2.8 Significance of Effects

A combination of the magnitude of the impact under consideration and the sensitivity or value of the receiving environment / receptor, as set out in **Table 11.3** can be used in considering the overall significance of an effect. The general approach adopted for classifying effects is outlined in **Table 11.5**. A Major Moderate effect is seen as '**significant'**. A Minor or Negligible effect is seen as '**not significant**'.

Table 11.5: Significance of Effects

Sensitivity/Value of Receptor	Magnitude of Impact			
	High	Medium	Low	Very Low
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible

Sensitivity/Value of Receptor	Magnitude of Impact			
	High	Medium	Low	Very Low
Very Low	Minor	Negligible	Negligible	Negligible

11.3 BASELINE DESCRIPTION

11.3.1 Site Location, Context and the Proposed Development

The Site, as shown in **Figure 2.2**, is located within an agricultural and forested landscape, between Goulanes, Castledonovan, and Gurranes North, in Co. Cork. The nearest settlement is the village of Drimoleague which is situated 5.1 km to the southeast of the Site. The Site is located 10.5 km north-east of Bantry, Co. Cork and 10.9 km west of Dunmanway. The Site is 14.2 km south-east the county boundary between Cork and Kerry and is 59 km west of Cork City.

The Site is located within the townland of Derreenacrinnig West. The Grid Connection development traverses the townlands of Derreenacrinnig West, Barnagowlane West, Glanareagh, Gortnacowly, Ards Beg, Ardrah, Laharanshermeen, Maulraha, Maulikeeve, Derryarkane, Cappanaboul, Skahanagh, Gortroe, Shandrum Beg, Shandrum More, Dromloughlin, Ballylicky, Crossoge, in Co. Cork ("the Proposed Development Site").

Temporary works will be required to accommodate the delivery of the turbine components. These temporary works are included as part of this application and are located in the townlands of Castledonovan, Derreenacrinnig East, and Derreenacrinnig West.

The Proposed Development will consist of the following:

- Construction of 3 No. wind turbines with an overall ground to blade tip height of 119.3 m with a rotor diameter of 82 m and a hub height of 78.3 m.
- Construction of 1 no. permanent 20 kV Electrical Substation, all associated electrical plant and equipment, all associated underground cabling, and all ancillary structures and works.
- Construction of one Temporary Construction Compound with associated temporary site offices, parking areas and security fencing.
- Upgrade and reuse of existing hardstands.
- Upgrade and reuse of existing internal site access roads.
- Provision of Biodiversity Enhancement Area.
- All associated underground electrical and communications cabling connecting the wind turbines to the wind farm substation.

- Construction of approximately 10.75 km of 20 kV overhead line (OHL) Grid Connection, the OHL to be constructed consists of c. 157 wood poles (ranging from 9 m to 15 m above ground) supporting electrical conductor lines and ancillary structures and equipment.
- Installation of approximately 3.3 km of underground cable ducting Grid Connection and associated electrical cabling, and all other ancillary works including joint bays, culverts, marker posts and all associated developments.
- Haul Route works along the L-8767, L-4711, and L-8765.

The assessment also includes the proposed Onsite Substation and Control Building and the Grid Connection route to Ballylickey 110 kV Substation. The location and layout of the Proposed Development is shown on **Figure 11.1**. The Grid Connection route to Ballylickey 110 kV substation is shown on **Figure 11.2**. The turbine components for Proposed Development will be shipped to the Port of Cork. The turbine components will be transported on the public road network using abnormal load vehicles between the Port of Cork and the Proposed Development. The proposed TDR between the Port of Cork and the Proposed Development is shown on **Figure 11.3**.

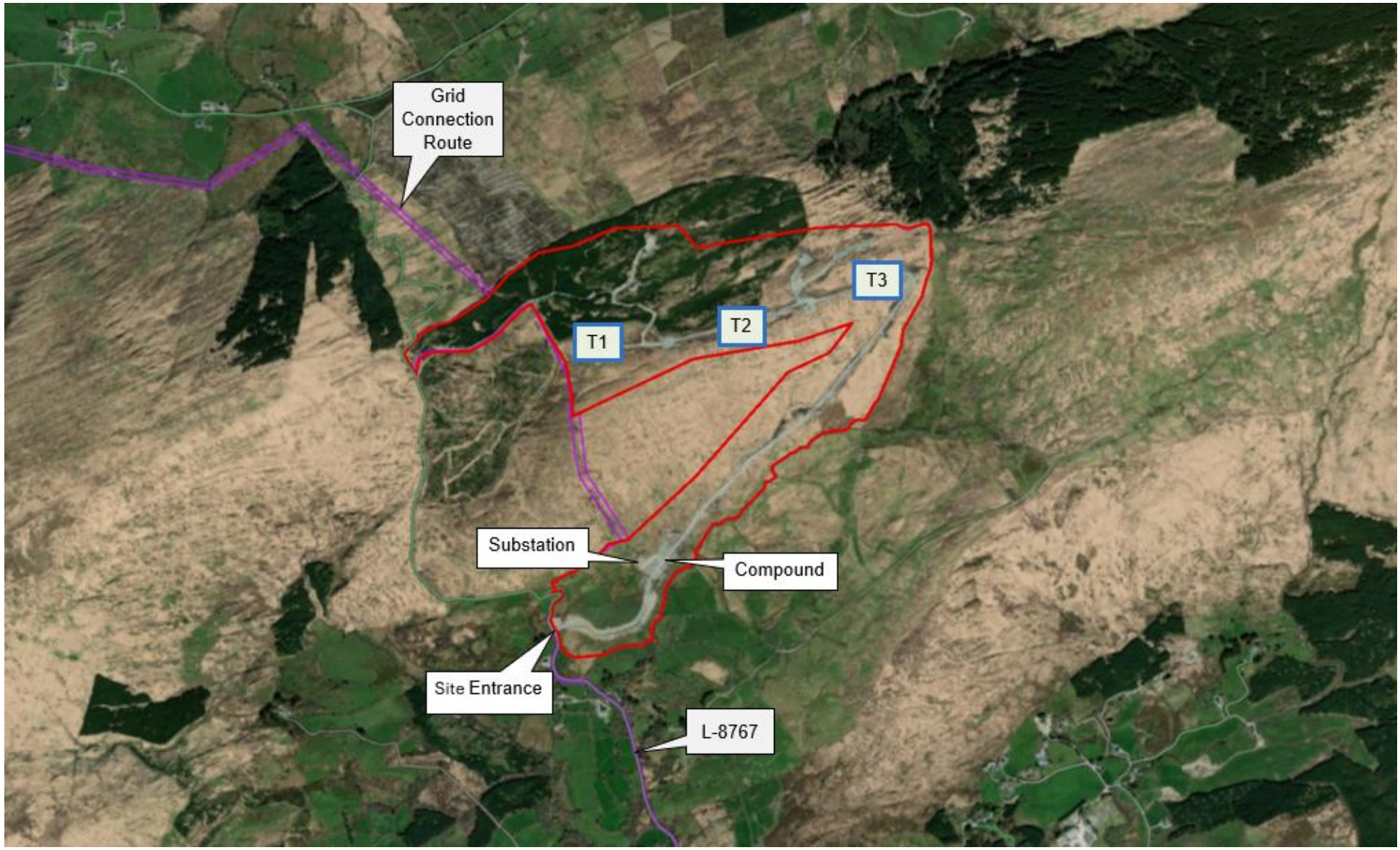

Figure 11.1: Site Layout

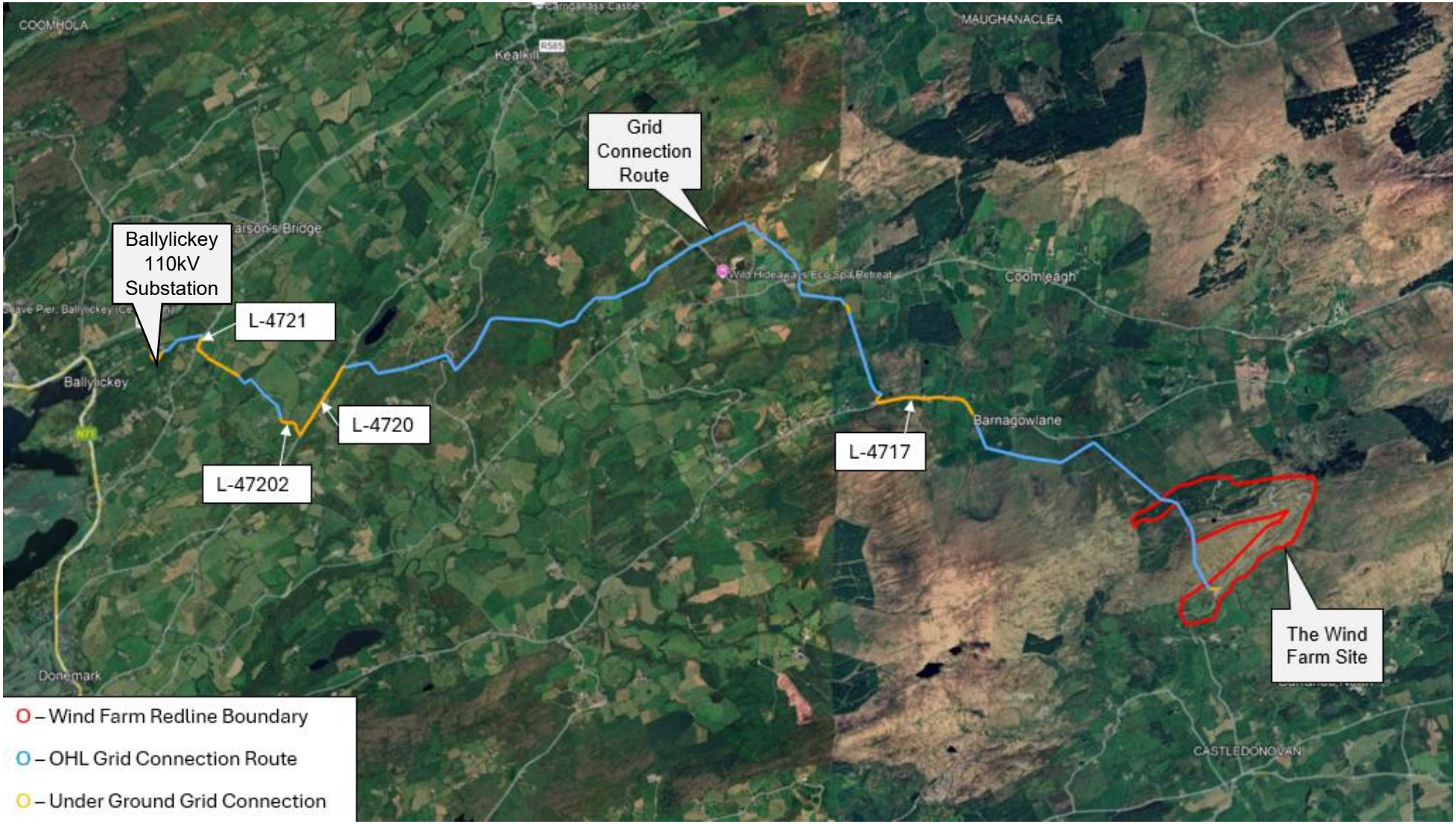

Figure 11.2: Grid Connection Route

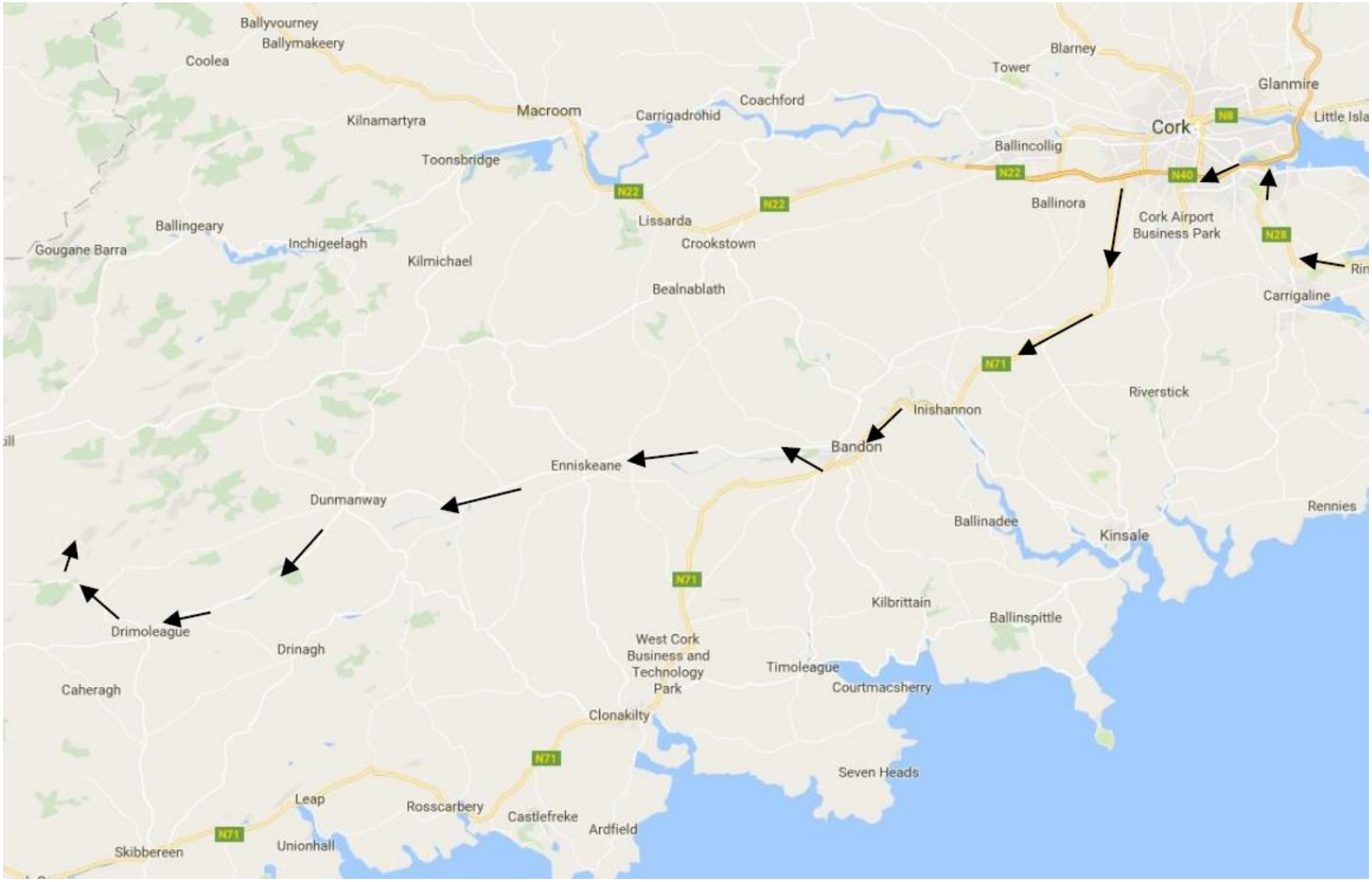

Figure 11.3: Turbine Delivery Route from Port of Cork to Development Site

11.3.2 Sensitive Receptors

11.3.2.1 Sensitive Receptors – Construction Period

The following sensitive receptors (**Table 11.6**) 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 11.1**.

Table 11.6: Sensitive Receptors - Construction

Receptor	Sensitivity	Reason for inclusion
L-8767	High	Increased traffic Volumes due to construction and turbine delivery traffic. Upgrade of wind farm site entrance Road widening for TDR
L-4711	High	Increased traffic Volumes due to construction and turbine delivery traffic. Road widening for TDR
L-8765	High	Increased traffic Volumes due to construction and turbine delivery traffic. Road widening for TDR
L-4616	Medium	Increased traffic Volumes due to construction and TDR traffic.
L-4609	Medium	Increased traffic Volumes due to construction and TDR traffic.
R586	Medium	Increased traffic Volumes due to construction traffic.
N71	Low	Increased traffic Volumes due to construction and TDR traffic.
N40	Low	Increased traffic Volumes due to construction and TDR traffic.
N28	Low	Increased traffic Volumes due to construction and TDR traffic.
L-4721	High	Grid Connection works to Ballylickey Substation
L-4720	High	Grid Connection works to Ballylickey Substation
L-47202	High	Grid Connection works to Ballylickey Substation
L-4717	High	Grid Connection works to Ballylickey Substation

11.3.2.2 Sensitive Receptors – Operations Period

The following sensitive receptors (**Table 11.7**) will be impacted by the additional traffic generated by the operation of the Proposed Development.

Table 11.7: Sensitive Receptors - Operation

Receptor	Sensitivity	Reason for inclusion
L-8767	Low	Increased traffic Volumes due to operations traffic.
L-4711	Low	Increased traffic Volumes due to operations traffic.
L-8765	Low	Increased traffic Volumes due to operations traffic.
L-4614	Low	Increased traffic Volumes due to operations traffic.
L4609	Low	Increased traffic Volumes due to operations traffic.
R586	Low	Increased traffic Volumes due to operations traffic.

11.3.2.3 Sensitive Receptors – Decommissioning Period

The following sensitive receptors (**Table 11.8**) will be impacted by the additional traffic generated by the Decommissioning of the Proposed Development and by works carried on and adjacent to the public road network as part of the Proposed Development.

Table 11.8: Sensitive Receptors - Decommissioning

Receptor	Sensitivity	Reason for inclusion
L-8767	Medium	Increased traffic Volumes due to construction traffic.
L-4711	Medium	Increased traffic Volumes due to construction traffic.
L-8765	Medium	Increased traffic Volumes due to construction traffic.
L-4616	Medium	Increased traffic Volumes due to construction traffic.
L-4609	Medium	Increased traffic Volumes due to construction traffic.
R586	Low	Increased traffic Volumes due to construction traffic.
N71	Low	Increased traffic Volumes due to construction and TDR traffic.

Receptor	Sensitivity	Reason for inclusion
N40	Low	Increased traffic Volumes due to construction and TDR traffic.
N28	Low	Increased traffic Volumes due to construction and TDR traffic.

11.3.3 Road Access to the Site

11.3.3.1 Turbine Haul Route

The turbine components for the Proposed Development will be shipped to the Port of Cork. The turbine components will be transported on the public road network using abnormal load vehicles between the Port of Cork and the Site. The proposed Turbine Delivery Route is shown on **Figure 11.3**. Delivery vehicles will use the following road network to access the Site:

- N28 – Cork County Council / Transport Infrastructure Ireland
- N40 – Cork County Council / Transport Infrastructure Ireland
- N71 – Cork County Council / Transport Infrastructure Ireland
- R586 - Cork County Council
- L4609 - Cork County Council
- L4616 - Cork County Council
- L8765 - Cork County Council
- L4711 - Cork County Council
- L8767 - Cork County Council

A detailed description of the Proposed Development is given in **Chapter 2 – Project Description**. A summary of the Turbine Delivery Route and enabling works on the public road network is given in **Appendix 11.1 - TMP**. The works will include:

- L8767 - Road widening to withstand wheel loading, trimming of existing vegetation, blade oversail.
- L4711 - Road widening to withstand wheel loading, trimming of existing vegetation, blade oversail.
- L8765 - Road widening to withstand wheel loading, trimming of existing vegetation, blade oversail.

11.3.3.2 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 Building 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 those show on **Figure 11.4**.

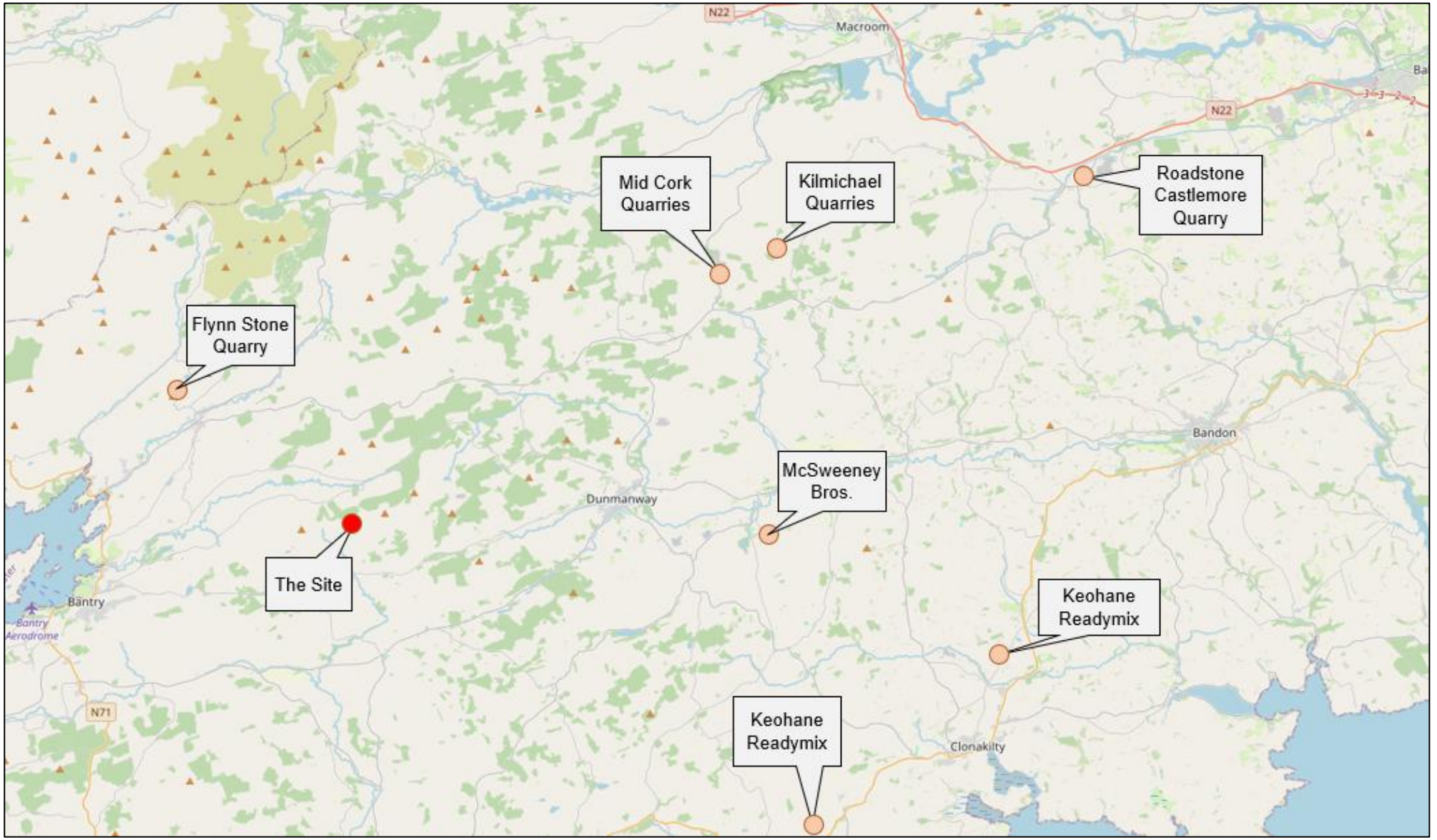

Figure 11.4: Ready Mix Concrete and Granular Material Supplier

11.3.4 Delivery Vehicle Specification

Delivery of turbine components will be carried out using specialist abnormal load vehicles. Two different types of loads will arise via very long loads for turbine blades and wide/high loads for tower bottom sections. The longest vehicle used during deliveries will be for the rotor blades and will be an approximately 7.555 m long articulated vehicle with a trailer length of 35.95 m and a 5.35 m overhang for the blade. An indicative delivery vehicle schematic is shown in **Figure 11.5** below. Following delivery to the Site, the trailer will be retracted for the return trip. Each turbine tower will be delivered to site in sections using tower clamps and extendable semi-trailers, the tower sections range in length from 33.0 m to 17.5 m, as shown in **Figure 11.6** below. 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. No additional works are required to facilitate their transportation and no further impacts are predicted. Exact trailer configuration will be decided prior to cinstruction. A blade lifter may be required in instances where junctions and manuvorablity is tight.

Figure 11.5: Turbine Delivery Vehicle for Turbine Rotor Blades

A survey of the Haul Route has been undertaken in **Appendix 11.1 – TMP** to identify the extent of works required. The blade delivery vehicle has a total height of 4.800 m.

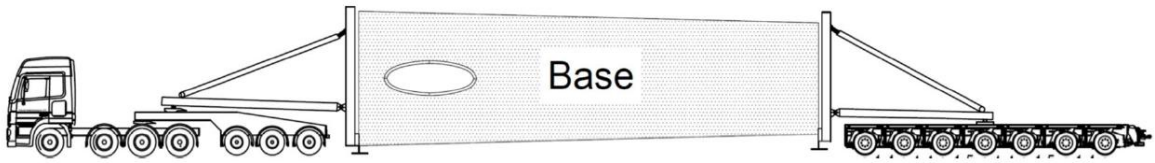

Figure 11.6: Turbine Tower Section Delivery Vehicle

Delivery of other materials to Site for the construction of the wind farm will be undertaken using standard HGVs, the largest of which is expected to be a 16.5 m standard 6 axle articulated vehicle.

11.3.5 Existing Traffic Volumes

11.3.5.1 TII DATA

There is one TII traffic counter located (TII count traffic continuously)[2] on the N71 between Halfway and Inishannon, north-east of Bandon (Station Id: TMU N71 010.0 W). This is c. 16 km from the N71 junction onto the R568. The Average Annual Daily Traffic (AADT) volume on the road was recorded as being 14,418 vehicles in 2024 (as outlined in **Table 11.9**). From this figure, the number of HGVs was 764 with light vehicles making up the remaining 13,654 of the total of 14,418. The 2025 figure reflects traffic counted between 1st January 2025 and 7th May 2025 and, when extrapolated forward, is likely to be similar to the 2024 value.

Table 11.9: TII Traffic Data

Station Id. TMU N71 010.0 W Description: N71 Between Halfway and Inishannon, Co. Cork			
	AADT	% HGV	Coverage
2025	14,007	5.6%	34.7%
2024	14,418	5.3%	100.0%
2023	13,614	5.2%	100.0%
2022	13,752	5.5%	100.0%
2021	11,982	6.5%	100.0%

*Up to 7th May 2025

11.3.6 Predicted Future Traffic Volumes

TII publication "Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand projections, PE-PAG-02017, May 2019 can be used to predict future growth in traffic volumes across Ireland. Traffic volumes are predicted to increase in the coming years (predictions are for the period 2016 to 2030) when construction of the Proposed Development is likely to take place. **Table 11.10** shows the multiplier for County Cork under different growth rate scenarios.

Table 11.10: Traffic Annual Growth Predictions Formulae (Multipliers) for County Cork 2016 to 2030

Low Sensitivity Growth Rate		Central Growth Rate		High Sensitivity Growth Rate	
LV	HV	LV	HV	LV	HV
1.0173	1.0361	1.0189	1.0377	1.0223	1.0411

LV = Light Vehicles, HV = Heavy Vehicles

[2] https://trafficdata.tii.ie/public multinodemap.asp

Assuming that construction will take place in 2028 under the high sensitivity scenario, the amount of light vehicles on the N71 will increase to 14,913 in 2028 from the 2024 AADT of 13,654 and heavy vehicles will increase to 897 in 2028 from 764 in 2022. This will lead to an overall increase to 16,143 in 2028, from the overall 2024 AADT of 14,418.

11.4 PROPOSED WORKS

11.4.1 Construction Phase

The construction period of the Project is anticipated to take approximately 16 - 18 months. The majority of HGV deliveries to Site will take place during Turbine Foundation (reinforcing steel and ready-mix concrete), Turbine Hardstands and Site access track upgrade works. During this period, there will be trips associated with the arrival and departure of construction staff.

Staff trips will mainly be made using cars and vans, while deliveries of steel, concrete, and rock and construction materials will be made by HGVs. The majority of deliveries will be during the first half of the construction period. It is important to note that it is anticipated that ready-mix concrete and hardcore materials will be sourced from local quarries in the area either to the north or south of the the Site.

It is expected that construction hours will be between 07:00 and 19:00 Monday to Friday and 07:00 – 13:00 on Saturdays with no working on Sundays or on Bank or Public Holidays unless agreed otherwise with Cork County Council (e.g. for concrete works for foundations which may start before 07:00). Some special deliveries such as turbine components and concrete for Turbine Foundations are likely to be required to be delivered outside of these times in consultation with Cork County Council (see **Section 11.4.2**).

11.4.2 Turbine Component Haul Route

For abnormal loads between Ringaskiddy Port and the wind farm Site, some minor works will be required to facilitate the delivery of turbine components. Some of these will be relatively minor in nature for example temporary removal (and Reinstatement on completion of delivery) of street furniture and signage. The extent of works has been determined by reference to the haul route survey (**Appendix 11.1 – TMP**).

The JOD Swept Path Analysis drawings were created using AutoTrack Software and was informed by the results of topographic surveys carried out by GHE Surveying during December 2024.

The use of special transporter vehicles with rear wheel steering in the delivery of wind turbine components will ensure safe transportation and manoeuvrability on the roads.

Table 11.11 presents a summary of the works required on the turbine component haul route.

Table 11.11: Temporary Works Required on Turbine Component Haul Route

Node in TMP	Potential Constraint	Works Description No works required Temporary works required Permanent works required
1 & 2	Exit from Docks onto N28.	No works required.
3	Roundabout at Pfiser Factory.	No works required.
4	Traffic Calming Splitter Island entering Shanbally.	Wide loads will be required to travel contraflow around the splitter island.
5	N28 / Marian Terrace Roundabout.	All vehicles will be required to travel contraflow around the roundabout and splitter islands.
6	Shannonpark Roundabout.	The longer delivery vehicles such as the blades will require to travel contraflow around this roundabout. Shorter loads will be able to negotiate the roundabout in the usual manner.
7	Bandon Rd. Roundabout.	All vehicles will negotiate this roundabout without issue.
8	N71 / R607 Roundabout.	All vehicles will negotiate this roundabout without Issue.
9	Entrance to Inishshannon	All vehicles will negotiate this traffic island without issue
10	Cork Rd. / Relief Rd. Roundabout.	All vehicles will negotiate this roundabout without issue.
11	Relief Rd. / R603 Junction.	All vehicles will negotiate this junction without issue.
12	R63 / N71 Roundabout.	All vehicles will negotiate this roundabout without issue.
13	Right turn from the N71 onto the R586	Turn can be made by all components without issue.
14	Left turn on to the R586 heading west	Turn can be made without issue.
15	Enniskeane Village	There is a small amount of street furniture in the village of Enniskeane which in itself is not an issue.
16	Entrance to Dumanway	There are no issues passing through the traffic calming on entering Dunmanway.
17	Left turn on to Sackville Street and the continuation on to Quarry Road	No works required. All vehicles will negotiate junction without issue.
18	Striaght through Quarry Road/R599 Junction	No works required. All vehicles will negotiate junction without issue.

Node in TMP	Potential Constraint	Works Description	No works required / Temporary works required / Permanent works required
19	Left turn from Quarry Road on to R568	No works required. All vehicles will negotiate junction without issue.	
20	Right turn from the R586 on to L8752	No works required. All vehicles will negotiate junction without issue.	
21	Right hand bend from the L8752 on to L4710	All vehicles will negotiate this corner / junction without issue.	
22	Left turn on L4710 Prior to River Clodagh Crossing.	All vehicles will negotiate this junction without issue.	
23	Left hand turn onto L4711 at Old Creamery.	In order for the longer vehicles to negotiate this turn the existing widened area is required to be used.	
24	Castledonovan National School.	Parking restrictions will be required outside the school. However, deliveries would generally be outside of school start and finish times.	
25 & 26	Right turn before Castledonovan at the L4711/L87687 junction	Widening works into third party lands are required to the off side in order for the delivery vehicles to negotiate this junction.	
27	L8767	Road Side Vegetation to be trimmed back to allow blade oversail.	
28	L8767	Road Side Vegetation to be trimmed back and road widening required within the road corridor.	
29 & 30	L8767	Road Side Vegetation to be trimmed back and road widening required within the road corridor.	
31	L8767 Right Turn of 'S' bend	Road Side Vegetation to be trimmed back and road widening required into third party lands and within the road corridor .	
32	L8767 Left Turn of 'S' bend	Road Side Vegetation to be trimmed back and road widening required within the road corridor.	
33	L8767	Road Side Vegetation to be trimmed back and road widening required within the road corridor.	
34	L8767 before Ilen River Bridge	Road Side Vegetation to be trimmed back and road widening required within the road corridor.	
35	L8767	Road Side Vegetation to be trimmed back and road widening required into third party lands and within the road corridor.	
36	L8767	Road Side Vegetation to be trimmed back and road widening required into third party lands and within the road corridor.	
37	L8767	Road Side Vegetation to be trimmed back and road widening required into third party lands and within the road corridor.	
38 & 39	Site Entrance	Site entrance is constructed in line with Enercon specifications.	

From **Table 11.11** above, it is evident that very minor temporary works are required between Ringaskiddy Port and Castledonovan National School (**Plates 1 – 24**). These are shaded

in "Orange" in **Table 11.11**. However, works are required between the Castledonovan National School and the Wind Farm Site – these are shaded in red in **Table 11.11**.

11.4.3 Grid Connection

The location of the Proposed Development is shown on **Figure 11.2**. 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 11.1** of this report. the works will include:

- L4721 Cable Trench in Public Road
- L4720 Cable Trench in Public Road
- L47202 Cable Trench in Public Road
- L4717 Cable Trench in Public Road

11.5 ASSESSMENT OF POTENTIAL EFFECTS

11.5.1 HGV Deliveries

The estimated timescale for the completion of the construction phase is 16 to 18 months, inclusive of all works to Site Access Tracks, access routes, substation building and erection and commissioning of turbines and Grid Connection works.

Its is estimated that 528 m^3 of concrete will be required for each Turbine Foundation. This gives a total volume of concrete of 1,584 m^2 of concrete required. Based on 6 m^3 per concrete truck, some 264 loads will be required. For each of the three days when the placing of the foundations are taking place

For the substation building, 14 m^3 of concrete will be required. Based on a 6m^3 per concrete truck, some 3 loads will be required.

It is estimated that 49.8 t of reinforcing steel will be required for each Turbine Foundation, with a total of 149.4 t of reinforcing steel required. At 20 t/load, some 8 loads load of reinforcing steel will be required.

For the wooden poles along the Grid Connection route, an average of 0.20 m^3 of concrete will be required. As there is a total of 157 poles along the GCR route, this totals 31.4 m^3. Based on 6 m^3 per concrete truck, some 6 loads will be required.

There are currently crushed stone supplies on the Site, provided during civil works that were conducted for a previous planning application. It estimated that this will cover 50% of the

crushed stone required for the Proposed Development, and that the other 50% will be imported.

For the additional site access track area (622.28 m^2), 412 m^3 of crushed stone will be required, for the additional Turbine Hardstand area (771.3 m^2), 509m^3 of crushed stone will be required, for the turbine blade finger hardstands (240 m^2), 158m^3 of crushed stone will be required, and for the additional road widening at the turning head (97.44 m^2), 64m^3 of crushed stone will be required. These total 1,143 m^3 of crushed stone which will be required for a 150mm finishing layer and up to 510 mm subbase. Approximately 572 m^3 will be required to be imported. At 20 m^3/load, some 30 deliveries will be required.

For the Internal Cabling Installation, 885 m^3 of crushed stone will be required, with approximately 442.5 m^3 to be imported. At 20 m^3 per load, some 23 loads will be imported.

Very little waste is envisaged from the construction phase and likely to result from offcuts of timber, electrical cables and packaging. These materials will be segregated on site and removed to a licensed recycling facility once a load accumulates. On average, 1 load/month is envisaged, totaling to approximately 16 loads over the construction period.

For the UCG installation, 1,238.12 m^2 will be installed within the public road corridor. To reinstate the public roads after the UCG installation (1,457.7 m^3), 437.31 m^3 of crushed stone will be required, with approximately 218 m^3 to be imported. At 20 m^3 per load, some 11 loads will be required. An estimated 218.66 m^3 of tarmacadam will also be required, at 22m^3 per load, some 10 loads will be required.

For load bearing road widening along the TDR from Castledonavan Bridge to the Site entrance (4112.71 m^2), 1,234 m^3 of crushed stone is required, with approximately 617 m^3 to be imported. At 20 m^3 per load, some 31 loads will be required. An estimated 617 m^3 of tarmacadam will also be required, at 22 m^3 per load, some 29 loads will be required.

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 11.12** It is estimated that during the wind farm construction, an approximate total of 542 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.

Table 11.12: HGV and Abnormal Load Deliveries

Materials	Quantity	No. Of Deliveries	Timeframe (Months)	Maximum Loads / Day	Vehicle Type
Site Drainage	-	10	1-2	1	OGV2
Construction of Additonal Internal Access Tracks (Imported Crushed Stone)	206 m^3	11	0-2	10	OGV2
Construction of Additional Turbine Hardstand Areas (Imported Crushed Stone)	255 m^3	13	2-8	10	OGV2
Turning Head Additional Road Widening (Imported Crushed Stone)	32 m^3	2	2-6	10	OGV2
Hardstand Blade Fingers (Imported Crushed Stone)	79 m^3	4	2-6	10	OGV2
TDR Road Widening Overrun Area (Crushed stone & Tarmacadam)	617 m^3 617 m^3	60	4-10	10	OGV2
Construction of Turbine Foundations Concrete	1,584 m^3	264	6-10	88	OGV2
Construction of Turbine Foundation Steel Rebar	150 t	8	6-10	3	OGV2
Substation Construction	23	3	4-8	2	OGV2
Substation Electrical Works	-	20	14-16	2	OGV1
Substation Commissioning		5	1	2	OGV1
Internal Cabling Installation (Imported Crushed Stone)	443 m^3	23	8-10	5	OGV2
Turbine Delivery and Erection	3 Turbines	51	10-14	3	OGV2
Under Ground Grid Connection (Crushed Stone & Tarmacadam)	218 m^3 218.66 m^3	21	4-12	15	OGV2
Overhead Line Poles	31.4 m^3	6	4-12	3	OGV2
Energisation	-	5	14-16	2	OGV1
Turbine Commissioning	-	5	14-16	2	OGV1
Site Restoration	-	15	15-16	5	OGV1 / OGV2

Materials	Quantity	No. Of Deliveries	Timeframe (Months)	Maximum Loads / Day	Vehicle Type
Waste Removal	-	16	1-16	1	OGV1
Total		542			

11.5.2 Staff/Worker Light Goods Vehicle Traffic

For the wind farm construction, a peak workforce of 25 persons are anticipated on the main Site. There will be peaks and troughs in the numbers, with the peak workforce during the general Site works.

In addition to the onsite construction workforce, additional construction staff will be required for the Grid Connection cable laying works. Two gangs will be required for the Grid Connection. A maximum of 15 construction staff are anticipated. Thus, up to 40 workers could be employed at peak times between the wind farm and Grid Connection.

The 40 workers will generally travel to the Site via light vehicle (LV) (i.e. car or small van) assuming 1 person per vehicle, or 40 trips to and 40 trips from the Site per day. This is made up of:

- 25 trips each way to/from wind farm Site.
- 15 trips each way to/from grid construction works.

11.5.3 Works on the Haul Route

As outlined in **Table 11.11**, works will be required at a number of locations along the Turbine Components Haul Route from the L4711/L8767 junction to the Site. These works may cause some short-term disruption to local road users. However, these effects will be confined to a relatively short period during the construction phase, prior to the delivery of turbine components and hence are not predicted to have a significant effect. Street furniture will be adjusted (where necessary) such that it is socketed into the ground. Street furniture will be removed daily in advance of turbine delivery (which will occur at night) and be replaced immediately following the passage of the abnormal vehicles such that daytime traffic can continue as normal.

11.5.4 Works on the Grid Connection

Details of the Grid Connection works in the road carriage way can be found in **Chapter 2 - Project Description: Section 2.8.3**. **Appendix A** of the TMP highlight works required on public roads for the Grid Connection, as well as emergency precautions and diversions required to accommodate road closures.

11.5.5 Light Vehicles/Vans and Construction Personnel

The number of staff on the Site will vary according to the phase of works, peaking at up to approximately 25 during Turbine Foundation construction. It is expected that the majority of workers will arrive onsite in mini-buses and crew vehicles which are used to transport teams of workers from the various contractors. Subject to public health conditions, vehicle sharing will be actively encouraged to reduce vehicular movements.

It is expected that a maximum of 25 light/vehicles will visit the Wind Farm Site on a daily basis during the peak construction period (Turbine Foundation construction). This is estimated to be an increase of 0.16 % on predicted levels for 2027 on the N71. Parking for staff will be provided at the Temporary Construction Compound. Given the distance between the Site and the public roadway, no parking is expected or will be allowed on local roads. A number of additional unscheduled visits may be required throughout the construction period for site inspections, site meetings, and unforeseen circumstances. The predicted effect is negligible to low due to the relatively low increase in traffic over the Baseline situation.

11.5.6 Air Quality

Good local air quality is essential for the health and quality of life of residents along the Haul Route. Transport accounts for a significant proportion of pollutants in the atmosphere namely, CO_2 emissions, nitrogen dioxide (NO_2) and particulate matter (PM_{10}). NO_2 emissions can also be harmful to vegetation and ecosystems in the vicinity of the Haul Route. The increase in traffic movements on the local road network of an average of approximately 40 (average 15 HGV's + 25 cars and vans) trips per day over a short-term period is low relative to the Baseline and therefore the effect of the Proposed Development on air quality will be imperceptible.

11.5.7 Noise and Vibration

There is likely to be some noise and vibration from HGV movements along the Haul Route on the local and regional roads, for example the L8767, L4711, L4710 and R586 which can cause disturbance to residents living along these roads. Due to the relatively low number of trips generated per day, (apart from the six days when concrete pours are taking place) the restrictions on working hours and the short-term nature of the construction phase, the effects of noise and vibration are not predicted to be significant. Mitigation measures are discussed in **Section 10.13** and in **Chapter 10: Noise**.

11.5.8 Pedestrians and Vulnerable Road Users

Pedestrian and other vulnerable road users may be affected by the works at the Proposed Development entrance, Construction Haul Routes, Turbine Delivery Route enabling works, Grid Connection works and increased vehicle movements during construction and delivery of turbine components. The modifications to the public road network at various locations along the Turbine Delivery Route and Grid Connection 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.

11.5.9 Driver Delay

In 2028, the total AADT traffic capacity on the N71 is estimated to be 16,143. The approximate additional traffic movements on the road network caused by the Proposed Developent will only be 40. This is a 0.25% AADT increase on the N71. No delay is envisaged due to Proposed Develpemnt traffic movements. Apart from the presence of the additional volumes of slower moving HGVs on the road, no specific driver delay is envisaged.

There is potential for some driver delay on the turbine component haul route during the delivery of abnormal load components. Abnormal load deliveries will be timed to take place outside of peak times, possibly at night. They will also be avoided during peak traffic times at Castledonovan National School, therefore the potential effects are not considered to be significant.

11.5.10 Severance

As all haul routes are either Regional or National Roads which are well established and as no road closures are proposed, severance (i.e. the separation of residents from local amenities or social networks is unlikely to arise.

11.5.11 Mud and Debris on the Local Road Network

HGVs leaving the Site have the potential to transport mud, stones or other debris from the Site to the surrounding road network on wheels of the vehicles. This could cause nuisance to local road users or damage to vehicles from loose debris. This effect can be predicted to be direct, negative, minor and short-term in nature confined to the initial Decommissioning and construction phases only and will be subject to mitigation measures.

11.5.12 Effects on Road Network during Construction Phase

Traffic numbers during construction are outlined in **Section 11.5.1**. As the roads are estimated to have sufficient spare capacity, the overall potential effect on the roads is assessed to be minor to negligible, negative effect of short-term duration and high probability during construction of the Proposed Development.

11.5.13 Operational Phase – Traffic

During the operational phase of the Project, the wind farm will normally be unmanned. Operational and remote monitoring activities will be carried out on an ongoing basis via telephone and computer links. However, regular visits to the Site will be necessary for maintenance and routine inspections. A car or van will normally be required for these routine inspections. Under normal circumstances the operation of the windfarm would require 1-2 visits to the Site per week by trained personnel and/or accompanied visitors. Parking will be provided outside the electrical compound at the onsite substation. In the case of a major fault e.g. breakdown of a turbine component, larger machinery, including possibly mobile cranes, will require access to the Site. Should a major turbine component need to be replaced e.g. wind turbine blade, the blade can be transported to site using the same route as for the construction of the turbines. Typically, once every 5 years, paintwork may need to be touched up on turbines and the blades cleaned. A Mobile Elevating Work Platform (MEWP) will be used for such activities.

There will be a low volume of traffic generated during the operational phase of the Project. The effect of traffic associated with the operation of the Proposed Development on the existing public road network will be imperceptible due to the type of traffic and the low volume of traffic generated during operation. However, there will be slight temporary short-term effects should major turbine components need to be replaced.

The Grid Connection will, following commissioning, be taken in charge by ESB Networks and no regular ongoing maintenance is predicted. Due to the strict requirements of ESB Networks Functional Specification, the level of supervision normally provided by the Developer and by ESB Networks, and the extent of testing prior to commissioning, the probability of the occurrence of faults on 20 kV cable connections is very low. However, should a fault occur it would most likely be within a joint bay which could be exposed and the joint repaired over 3-4 days.

11.5.14 Traffic Impact During Decommissioning Phase

During Decommissioning, it is envisaged that the total volume of HGV traffic will be relatively small compared to the construction period (5 – 10 HGV per day) on the basis that the Site Access Tracks will remain in place to serve ongoing agriculture activity and the Turbine Hardstands will be allowed to revegetate into the surrounding habitat with only the turbines being removed from Site for recycling/reconditioning. This phase could be expected to last approximately 12-24 weeks. With the Site access tracks and Turbine Hardstands left in place and revegetated, the effect is predicted to be an imperceptible effect on traffic. As the turbine blades can be cut into manageable lengths on Decommissioning, there is are requirements to adjust street furniture on the turbine supply haul route for Decommissioning.

11.6 MITIGATION MEASURES

11.6.1 Construction Phase

The potential effects of the construction of the Project have been identified as being negligible to minor, but temporary in nature. The following mitigation measures are proposed:

- A Traffic Management Plan (TMP) has been developed and **Appendix 11.1**. Prior to construction and once the Contractor's have confirmed their suppliers, the TMP will be updated in consultation with Cork County Council, and An Garda Síochána as necessary to take account of any conditions attached to a grant of permission. All drivers will be made aware of the location and presence of sensitive receptors at an induction session prior to construction activities taking place and will be made aware of the speed limits of the various roads on the route which are contained in the TMP and on the traffic arrangements for entering and exiting the Site. This is to ensure compliance with speed limits, and traffic management arrangements.
- All significant traffic likely to be generated by Derreenacrinnig Wind Farm will be during the construction of the Project and will be temporary in nature. It is envisaged that the construction period for the wind farm will span a 16-18 month period with the underground cable being installed concurrently. The construction-phase Traffic Management Plan will mitigate these impacts. A number of mitigation measures are embedded within the design:
    - The design is such as to minimise the extent of the new build requirement by using existing internal tracks, thereby minimising materials requirements.
    - Designing the cable for installation in pre-laid ducts, rather than directly installing the cable in the ground. The latter would require the entire trench from joint bay to joint bay to be fully open for cable laying.

- There will be special transporter vehicles with rear wheel steering used in delivery of wind turbine components to ensure safe transportation and manoeuvrability on the roads. Extendable transporter vehicles will be retracted on return journeys.
- Prior to the delivery of abnormal loads i.e. turbine components, the Applicant or their representatives, will consult with An Garda Síochána and Cork County Council Roads Departments to discuss the requirement for a Garda escort.
- The Developer will confirm the intended timescale for abnormal deliveries and every effort will be made to avoid peak times such as school drop off times, church services, sporting events, peak traffic times where it is considered this may lead to unnecessary disruption.
- Abnormal loads are likely to travel at night and outside the normal construction times as may be required by An Garda Síochána. Due to the relatively modest distance between Ringaskiddy Port and the Site of c.80 km, the journey is achievable within a 2-3 hour timeframe. Accordingly, locations for resting will not be required. Local residents along the affected route will be notified of the timescale for abnormal load deliveries.
- The Developer will lodge a bond with Cork County Council prior to commencement of construction in the amount to be agreed with the respective Council for the possible repair/upkeep of the local roads. At the end of the construction period, any further defects will be remedied to the satisfaction of Cork County Council and Transport Infrastructure Ireland.
- Wheel cleaning equipment will be used at the exit from the Site 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 construction Site.
- The Site entry point will also be appropriately signed. Access to the wind farm 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.
- Any 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 will be employed.
- To reduce dust emissions, vehicle containers/loads of crushed stone will be covered during both entrance and egress to the Site.

- A survey of the turbine component haul route will be undertaken prior to commencement to identify if any new overhead lines or broadband lines will need to be raised along the route to allow abnormal loads such as tower sections and nacelles to be delivered.
- During the construction phase, clear construction warning signs will be placed on the local roads as necessary, which will advise road users of the presence of a construction Site and of the likelihood of vehicles entering and exiting the Site or road construction areas. This will help improve road safety.
- Works on public roads on the turbine delivery haul road and Grid Connection will be strictly in accordance with "Guidance for the Control and Management of Traffic at Road Works – 2nd Edition 2010" as well as "Traffic Signs Manual 2010-**Chapter 8-Temporary Traffic Measures and Signs at Roadworks**".
- All vehicles using or while in operation at the wind farm site shall either have roof mounted flashing beacons or will use their hazard lights.
- A speed limit of 25 km/h shall apply to all vehicles within the wind farm site.

11.6.2 Operational Phase

Effects during operation have been assessed as being imperceptible. However, it is still important that any effect is minimised as for as is possible. Therefore, the following measures are recommended:

- All vehicles using the wind farm site shall either have roof mounted flashing beacons or will use their hazard lights.
- A speed limit of 25 km/h shall apply to all vehicles within the wind farm site.
- Locational signage shall be maintained throughout the operational period.
- Road surfaces shall be inspected on a quarterly basis and will be repaired within one month of the inspection.

11.6.3 Decommissioning Phase

As the turbine blades can be cut into manageable lengths on Decommissioning, there are no requirements to adjust street furniture on the turbine supply haul route for Decommissioning.

The wind turbines proposed as part of the Proposed Development are expected to have a lifespan of up to 40 years. Following the end of their useful life, the wind turbines may be replaced with a new set of machines, subject to planning permission being obtained, or the Site may be decommissioned fully, with the exception of the Electrical Substation.

Upon Decommissioning (4 - 6 months) of the proposed wind farm, the wind turbines will be disassembled in reverse order to how they were erected. All above ground turbine components will be separated, cut and removed off-site for recycling. Turbine Foundations will remain in place underground and allowed to revegetate or reseeded as appropriate. Leaving the Turbine Foundations in-situ is considered a more environmentally prudent option, as to remove that volume of reinforced concrete from the ground could result in potentially significant environment nuisances such as noise, dust and/or vibration. The Site roadways will be in use for additional purposes to the operation of the wind farm (e.g. recreational use) by the time the Decommissioning of the Project arises and therefore the Site roads will remain in situ for future use. .

The 20 kV substation and Grid Connection, when completed, will be handed over to ESB Networks as the Distribution System Operator and thus it will not be removed.

The traffic management of the Decommissioning phase will be informed by the road conditions at the time of Decommissioning. It is not possible to predict the changes to the public road infrastructure and policies in the next 30-40 years. It is envisaged that a Traffic Management Plan will be developed for the Decommissioning phase.

Nevertheless, the following traffic management measures are likely to be required:

- Signage will be erected at the Site entrance
- Construction traffic associated with Decommissioning will be scheduled so as to avoid school drop off and collection times.
- All vehicles using or while in operation at the wind farm site shall either have roof mounted flashing beacons or will use their hazard lights.
- A speed limit of 25 km/h shall apply to all vehicles within the wind farm site.

11.7 CUMULATIVE EFFECTS

11.7.1 Unrelated Proposed and Consented Developments

The Cork County Council planning portal provides details of planned developments in County Cork. The nearest windfarm developments being constructed at the same time as the Proposed Development are Gortloughra and Gortyrahilly.

Both Gortloughra and Gortyrahilly will use 2 no. of the same roads used for the Proposed Development, the N28 and the N40. As these are national roads and the construction period will not be congruent with the Proposed Development, the cumulative effects will not be significant.

A search of the portal in April 2025 shows that there are no planned developments in the vicinity of the Project which will generate a significant number of new trips on the public road network.

11.8 RESIDUAL EFFECTS OF THE PROPOSED DEVELOPMENT

11.8.1 HGV Deliveries and Construction Phase Residual Effects

On the turbine component haul route, there is likely to be a slight, negative, short-term residual effect on the national road network with an increase in traffic volumes on the roads and works at a number of locations as outlined in **Table 11.11**.

The potential effects of the construction of the Project have been identified as being negligible to minor, but temporary in nature. The mitigation measures are highlighted in **Section 11.6.1**.

The Project is likely to have a minor/negligible effect on the local and regional road network given increased traffic volumes are unavoidable. However, with the mitigation outlined, these will be minimised.

11.8.2 Operational Phase Residual Effects

There will be no residual effects during the operational phase as only occasional light vehicles and mobile elevation work platforms (MEWP's) are envisaged to visit the wind farm Site during operation for routine checking and maintenance should a significant component of the wind farm require replacing.

11.8.3 Final Decommissioning Phase Residual effects

On the Turbine Component Haul Route, there is likely to be a slight, negative, short-term residual effect on the road network with an increase in traffic volumes on the roads and works at a number of locations as outlined in **Table 11.11** assuming the turbine components are transported back to Ringaskiddy Port. However, the extent of such works will be less than for the construction stage as blades can be cut prior to transportation.

Effects during the Decommissioning phase have been assessed to be low compared to the construction phase if hardstand areas are left in place and revegetated . In this case, the effect can be assessed as being imperceptible.

11.9 SUMMARY OF SIGNIFICANT EFFECTS

This section has assessed the significance of potential effects of the Project on traffic and transport. The construction stage of the Project has generally been assessed as having the potential to result in effects of a negative to minor, direct, short-term, high probability effect or lower (depending on the road element) during the construction phase only. After mitigation, the residual effects have been assessed as minor to negligible, negative and short-term in nature.

The operational stage impacts are considered as being imperceptible.

The Decommissioning stage impacts are considered as being slight, negative, direct, negative to minor probability and short-term in nature.

Potential cumulative effects as detailed in **Section 11.7** were assessed as being slight to moderate, negative, short-term and low probability in nature.

Given that only effects of significant effect or greater are considered "significant" in terms of national legislation, the potential effects of the Project on traffic and transport are considered to be **not significant**.

11.10 STATEMENT OF SIGNIFICANCE

This assessment has identified that the potential effects of the Project on traffic and transport are considered to be **not significant**, given the mitigation measures embedded in the design and proposed for the implementation of the Project.