
CARRAIGIN POWER LTD

CARRIGEEN RENEWABLE ENERGY DEVELOPMENT

APPENDIX 16.2 TRAFFIC MANAGEMENT PLAN

February 2026



Jennings O'Donovan & Partners Limited,

Consulting Engineers,
Finisklin Business Park,
Sligo.

Tel.: 071 9161416

Fax: 071 9161080

email: info@jodireland.com



JENNINGS O'DONOVAN & PARTNERS LIMITED
 Project, Civil and Structural Consulting Engineers,
 FINISKLIN BUSINESS PARK,
 SLIGO,
 IRELAND.



Telephone (071) 9161416
 Fax (071) 9161080



Email info@jodireland.com
 Web Site www.jodireland.com

DOCUMENT APPROVAL

PROJECT	Carrigeen Renewable Energy Development	
CLIENT / JOB NO	Carraigin Power Limited	6575
DOCUMENT TITLE	Traffic Management Plan (TMP)	

Prepared by

Reviewed/Approved by

Document Draft	Name John Doogan	Name David Kiely
Date February 2026	Signature 	Signature 

This document, and information or advice which it contains, is provided by JENNINGS O'DONOVAN & PARTNERS LIMITED solely for internal use and reliance by its Client in performance of JENNINGS O'DONOVAN & PARTNERS LIMITED's duties and liabilities under its contract with the Client. Any advice, opinions, or recommendations within this document should be read and relied upon only in the context of the document as a whole. The advice and opinions in this document are based upon the information made available to JENNINGS O'DONOVAN & PARTNERS LIMITED at the date of this document and on current standards, codes, technology and construction practices as at the date of this document. Following final delivery of this document to the Client, JENNINGS O'DONOVAN & PARTNERS LIMITED will have no further obligations or duty to advise the Client on any matters, including development affecting the information or advice provided in this document. This document has been prepared by JENNINGS O'DONOVAN & PARTNERS LIMITED in their professional capacity as Consulting Engineers. The contents of the document does not, in any way, purport to include any manner of legal advice or opinion. This document is prepared in accordance with the terms and conditions of JENNINGS O'DONOVAN & PARTNERS LIMITED contract with the Client. Regard should be had to those terms and conditions when considering and/or placing any reliance on this document. Should the Client wish to release this document to a Third Party for that party's reliance, JENNINGS O'DONOVAN & PARTNERS LIMITED may, at its discretion, agree to such release provided that:

- (a) JENNINGS O'DONOVAN & PARTNERS LIMITED written agreement is obtained prior to such release, and
- (b) By release of the document to the Third Party, that Third Party does not acquire any rights, contractual or otherwise, whatsoever against JENNINGS O'DONOVAN & PARTNERS LIMITED and JENNINGS O'DONOVAN & PARTNERS LIMITED, accordingly, assume no duties, liabilities or obligations to that Third Party, and
- (c) JENNINGS O'DONOVAN & PARTNERS LIMITED accepts no responsibility for any loss or damage incurred by the Client or for any conflict of JENNINGS O'DONOVAN & PARTNERS LIMITED's interests arising out of the Client's release of this document to the Third Party.

Directors
 Nigel Board, Abigail Draper,
 David Kiely, Seamus Lee,
 David O'Hagan, Alan Ryder

Chief Finance Officer
 Rose Davis
Technical Directors
 Joe Healy, Sean Molloy
Regional Director
 Audrey Phelan

Senior Associates
 Seán Gilmartin, John McElvaney, Tomás McGloin
Associates
 Breana Coyle, Dermot Guilfoyle, Lindsey McCormack,
 Sarah Moore, Cáit O'Reilly



CARRIGEEN RENEWABLE ENERGY DEVELOPMENT
TRAFFIC MANAGEMENT PLAN

CONTENTS

1	INTRODUCTION	1
1.1	Brief.....	1
1.2	Statement of Authority	1
1.3	Site Location, Context and Proposed Development.....	1
2	EXISTING PUBLIC ROAD NETWORK	6
2.1	Existing Roads in the Vicinity of the Site.....	6
3	SITE ACCESS	9
3.1	Proposed Wind Farm Site Entrances.....	9
3.2	Junction Signage and Traffic Management.....	13
4	HAUL ROUTES FOR CONSTRUCTION, TURBINE DELIVERY & OPERATIONS	
	TRAFFIC	15
4.1	Haul Route for Wind Farm Infrastructure Construction HGV Traffic.....	15
4.2	Material Supplies	17
4.3	Haul Route for Wind Farm Grid Connection and Internal Cabling	17
4.4	Grid Connection Works and Internal Cabling Works	18
4.5	Haul Routes for the Removal of Material from Site.....	18
4.6	Haul Route for Turbine Delivery Traffic.....	19
4.7	Transportation of Abnormal Load Turbine Components on the Public Road Network	19
4.8	Enabling Works for Turbine Delivery on the Public Road Network.....	20
4.9	Enabling Works for Turbine Delivery – Materials, Specification and Reinstatement.....	21
5	PRE-CONSTRUCTION WORKS REQUIREMENTS	22
5.1	Location and Diversion of Existing Services.....	22
5.2	Road and Verge Maintenance Agreement – Local and Regional Roads	22
5.3	Road and Verge Maintenance Agreement – National Roads.....	22
5.4	Permits to Work on the Public Road Network.....	23
5.5	Traffic Management Plan.....	23
5.6	Site Access Roads and speed limits.....	23
5.7	Road Condition Survey.....	23
5.8	Public Information and Access	23
5.9	Emergency Access Routes	24
5.10	Vulnerable Road Users.....	24

6	DELIVERY VEHICLE SPECIFICATION.....	24
7	CONSTRUCTION, OPERATION & DECOMMISSIONING TRAFFIC VOLUMES..	26
7.1	Construction Period.....	26
7.2	Construction Period – Trip Generation HGV’s.....	27
7.3	Construction Period – Light Vehicles\Vans and Construction Personnel.....	31
7.4	Operational Period – Traffic.....	32
7.5	Decommissioning Period – Traffic.....	32
8	PROPOSED MITIGATION MEASURES	33
9	SUMMARY	35

1 INTRODUCTION

1.1 Brief

Jennings O'Donovan & Partners Limited has been appointed by Carraigin Power Ltd (the Applicant) to prepare a Traffic Management Plan ("TMP") for the proposed Carrigeen Renewable Energy Development (the Project), Co. Roscommon.

1.2 Statement of Authority

The TMP has been prepared by John Doogan of Jennings O'Donovan & Partners Limited, Finisklin, Sligo. Established in Sligo in 1950, Jennings O'Donovan & Partners Limited (JOD) is a Clean Tech Company providing consulting engineering services in the areas of road design, renewable energy, civil and structural engineering, water supply, wastewater collection and treatment, environmental resource management and impact assessment and in the area of industrial and commercial development.

1.3 Site Location, Context and Proposed Development

The Wind Farm Site is located to the north of the N5 national primary road approximately 2.2km southwest of Frenchpark, 11.5km north-east of Castlerea and 15.3km south-west of Carrick-on-Shannon.

The Project will consist of the following main components:

- 11 no. wind turbines with an overall turbine tip height of 185m, turbine hub height of 103.5m, and rotor blade diameter of 163m and a meteorological mast with a height of 30m, and subsequent decommissioning of the wind turbines and meteorological mast, following a 35 year operational life from the date of full commissioning of the wind turbines;
- Associated wind turbines and meteorological mast foundations and hardstanding areas,
- A 110kV substation compound (Including control buildings (with a combined floor area of 594m²) with welfare facilities, all associated electrical plant and apparatus, security fencing, underground cabling, lightning protection poles, underground wastewater holding tank, site drainage and all ancillary works);
- Underground electrical (110kV) and communications cabling from the proposed 110kV substation to the existing Flagford 220kV substation (including joint bays, communication chambers, earth sheath links, and ancillary works along the underground electrical cabling route). This cabling route is primarily located within the public road corridor;
- Underground electrical (33kV) and communications cabling connecting the wind turbines and meteorological mast to the proposed 110kV substation;

-
- 6 no. temporary construction compounds (including site offices and welfare facilities,
 - Junction accommodation works to facilitate construction access and turbine delivery to the site (off the existing N5 and new N5 national road, and L5642 and L1217 Local Roads), including a new temporary access road off the existing N5 to the L56402,
 - Upgrade of existing roads/ tracks and provision of new site access roads, junctions and hardstand areas (including of the L1217, L56402, L5642, L56421, L56492 and L56491 Local Roads), including new gated site entrances at each junction,
 - 2 no. Borrow Pits;
 - Peat & Spoil Management;
 - Site Drainage;
 - Tree felling and vegetation removal;
 - Biodiversity enhancement measures;
 - Operational stage site signage; and
 - All associated site development works and apparatus.

The location of the Project is shown in **Figure 1**, the layout of the Project is shown in **Figure 2**, the route of the Grid Connection between the Onsite Substation and the existing Flagford 220kV substation is shown in **Figure 3** and the route of Internal Cabling which connects the individual Wind Turbines to the Onsite Substation is shown in **Figure 4**. The Wind Turbine components for the Project will be shipped to the Port of Galway and delivered to the Wind Farm Site on the public road network using abnormal load vehicles, the Turbine Delivery Route for the Project is shown in **Figure 5**.

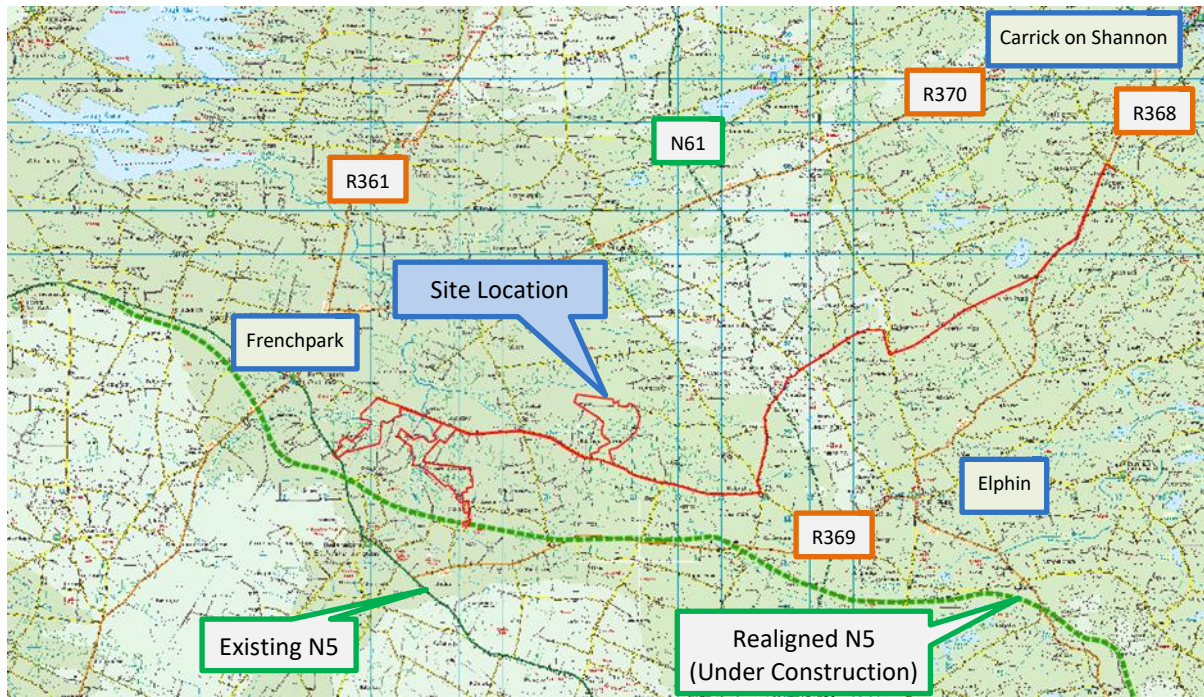


Figure 1 – Site Location



Figure 2 – Site Layout

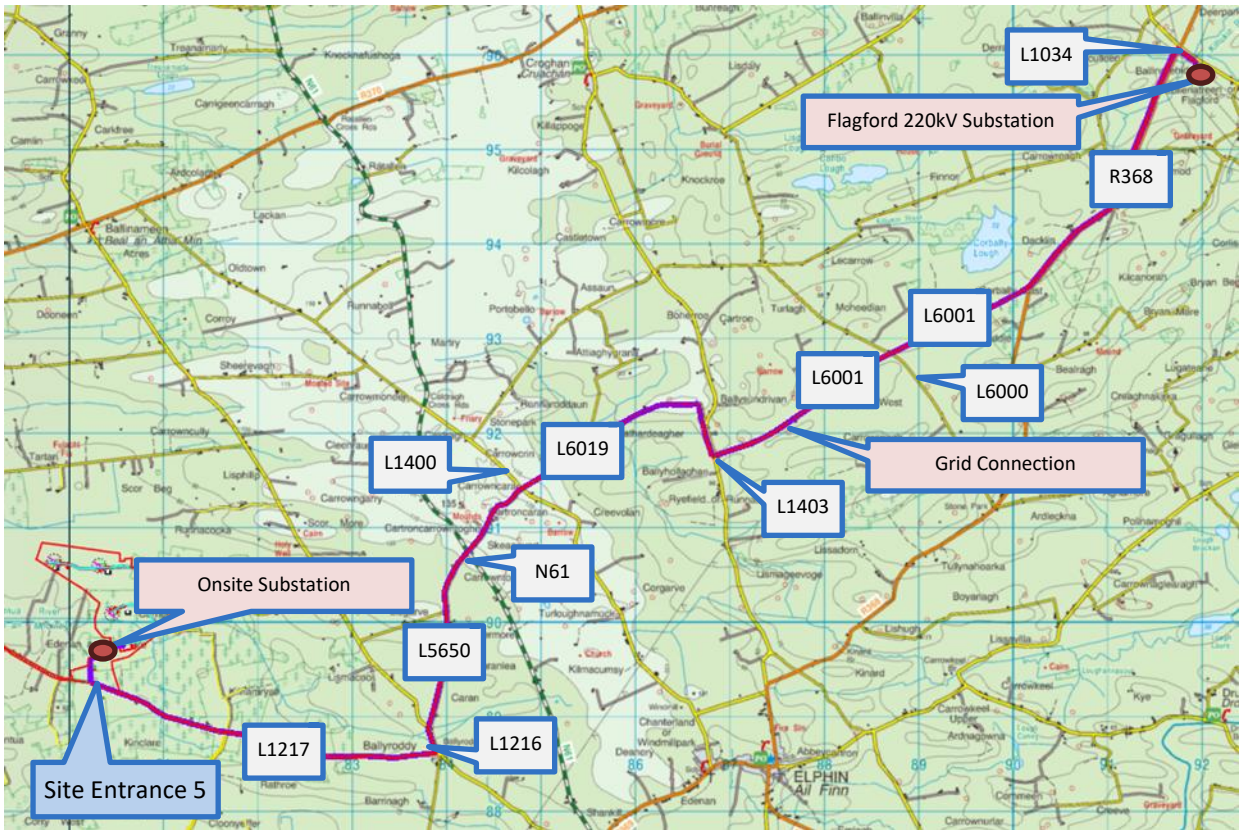


Figure 3 – Grid Connection

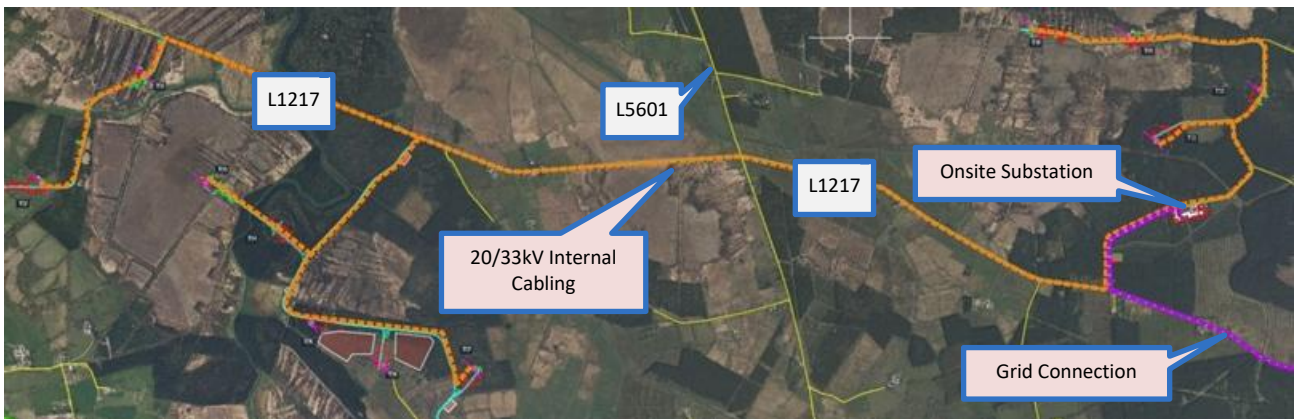


Figure 4 – Internal Cabling

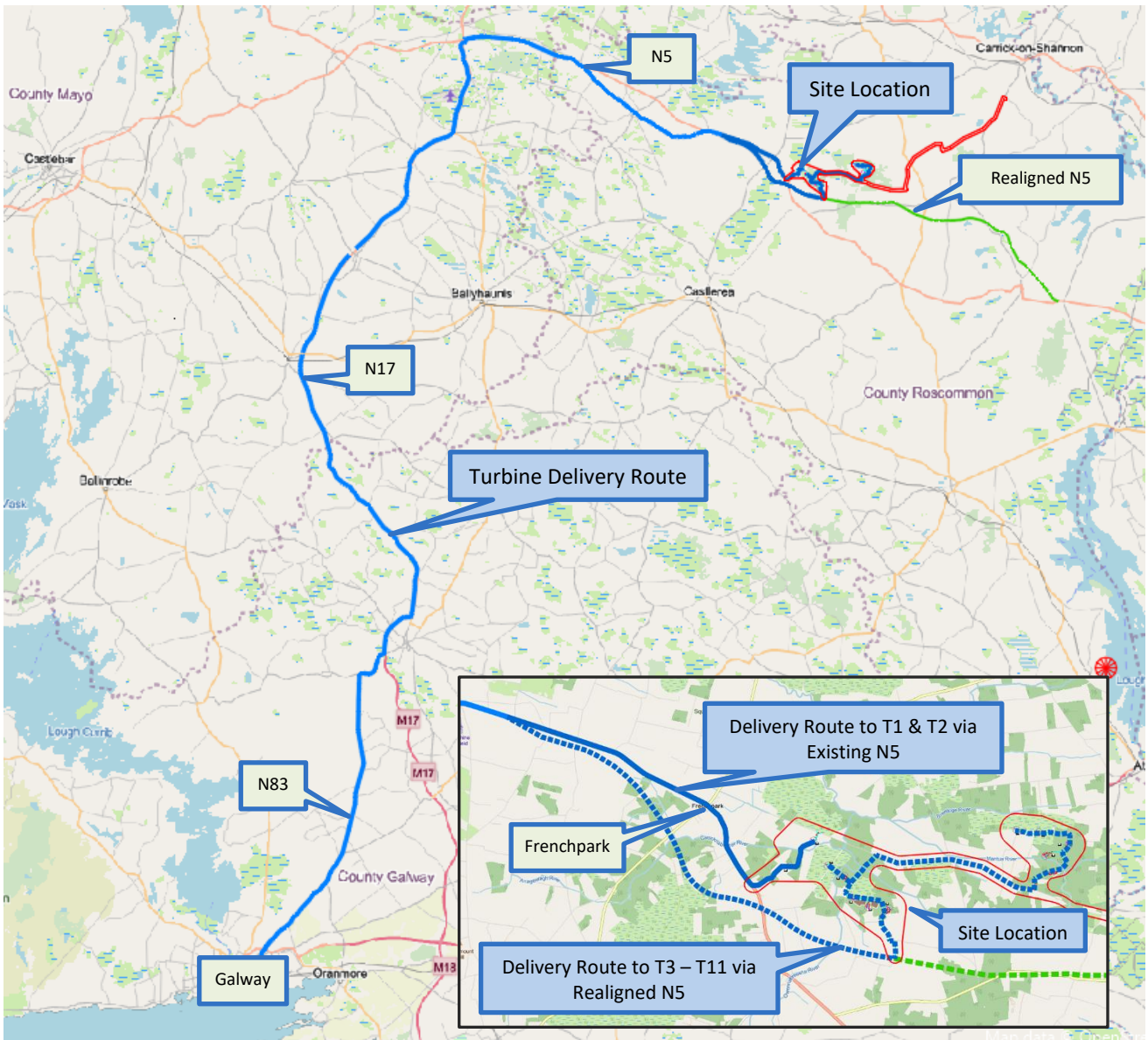


Figure 5 – Turbine Delivery Route

2 EXISTING PUBLIC ROAD NETWORK

2.1 Existing Roads in the Vicinity of the Site

The location of the site entrances to the Wind Farm Site are shown on **Figure 2**. Site entrance 1 on the existing N5 will be constructed to facilitate the delivery of Wind Turbine components to Wind Turbines T1 and T2. Details of site entrance 1 are shown in **Figure 6**. The existing N5 (**Plate 1**) is a 6.0m wide Type 3 single carriageway with hard strips and grass verges. The N5 runs between Longford and Westport and currently has a 100km/h speed limit classification at the proposed site entrance 1. The realignment of the N5 between Ballaghaderreen to Scramoge is due to open in 2026 and the section of the N5 at site entrance 1 will become a regional / local road with reduced traffic volumes and reduced speed limit. Site entrance 1 on the N5 will be used by abnormal load vehicles during Wind Turbine delivery, general

construction traffic will use the N5 / L56402 junction and site entrance 1a as shown in **Figure 6**. The L56402 (**Plate 2**) is typically a 3.0m wide single carriageways with grass verges and has a 60km/h speed limit classification.



Plate 1 – N5 National Primary Road



Plate 2 – L56402

The realignment of the N5 (**Plate 3**) between Ballaghaderreen to Scramoge will bypass the village of Frenchpark. The realigned N5 will consist of a type 1 single carriageway and will be used by general construction and Wind Turbine delivery traffic to access the Wind Farm Site via the new N5 / L5642 priority junction leading to site entrance 4.



Plate 3 – Realigned N5

Site entrance 4 on the L56421 will be a new entrance constructed to access Wind Turbines T3 to T11 of the Project. Details of site entrance 4 are shown in **Figure 8**. Access to site entrance 4 will be from the new N5 / L5642 priority junction using the L5642 and L56421 local roads. The L5642 (**Plate 4**) and L56421 (**Plate 5**) local roads are typically 3.0m wide single carriageways with grass verges and have a 60km/h speed limit classification. The L5642 and L56421 local roads will be used by construction, operations and Decommissioning traffic to access the Wind Farm Site.



Plate 4 – L5642



Plate 5 – L56421

Site entrances 2, 3 and 5 will be constructed on the L1217 local road (**Plate 6**). Site entrance 2 will be a new entrance and site entrances 3 and 5 will be constructed at existing forestry entrances which will be upgraded for construction and Wind Turbine delivery traffic. Details of site entrances 2, 3 and 5 are shown in **Figures 7, 8 and 10**. The L1217 runs between the R361 regional road at Frenchpark to the L1216. The L1217 is typically a 3.0m wide single carriageways with grass verges and has a 60km/h speed limit classification. The L1217 local road will be used by construction, operations and Decommissioning traffic to access the Wind Farm Site.



Plate 6 – L1217

Details of the road network for Grid Connection works and Internal Cabling works are given in **Section 4** and **Appendix A** of this report. Details of the road network and enabling works for the delivery of Wind Turbine components are given in **Section 4** of this report and in the Turbine Delivery Haul Route Assessment, **Appendix 16.3**.

3 SITE ACCESS

3.1 Proposed Wind Farm Site Entrances

The location of the site entrances to the Project are shown on **Figure 2**. Site entrance 1 and site entrance 1a will be constructed as temporary entrances for delivery of abnormal load components to Wind Turbines T1 and T2 from the existing N5 national primary road. Site entrance 1 will consist of a simple T-Junction constructed to accommodate the swept path and wheel loading from abnormal load vehicles delivering Wind Turbine components during the Wind Turbine delivery phase of the project. Site entrance 1a will be a simple priority junction constructed on the L56402, the access will serve as a link between the existing N5 and the L56402 for abnormal load vehicles which will not be able to negotiate the existing N5 / L65402 junction when delivering turbine components. Site entrance 1 and site entrance 1a will only be used during delivery of abnormal loads such as Wind Turbine components, cranes and transformers and will not be used for general construction traffic.

When site entrance 1 and 1 are not in use for abnormal load deliveries, access to the entrances will be restricted using temporary fencing erected along the existing N5 and L56402 boundary. The temporary fencing will be used to restrict access and to prevent parking at the entrances in the vicinity of the existing N5. Following construction, site entrance 1 and site entrance 1a will be closed off and the N5, L65402 boundaries will be fenced to prevent access. Site entrance 1 and site entrance 1a will remain in place for future use such as the delivery of replacement Wind Turbine components and Decommissioning. The layout of site entrance 1 and site entrance 1a during the construction phase of the Project are shown in **Figure 6**. During the operations phase of the project, operations traffic will access the Wind Farm Site via the existing N5 / L56402 priority junction. Site entrance 1 will have a dwell area with a gradient of -2.5% at its intersection with the existing N5 with drainage falling towards the Wind Farm Site and away from the N5 carriageway. Visibility at site entrance 1 will be in accordance with TII standards and will have visibility splays of 215m measured from the carriageway edge at a 3.0m setback distance. Site entrance 1a will have a dwell area with a gradient of -2.5% at its intersection with the existing L56402 with drainage falling towards the Wind Farm Site and away from the public road. Visibility at site entrance 1a will be available at a distance of 90m measured at a 3.0m setback from the L56402 carriageway edge.



Figure 6 – Site Entrance 1 on the Existing N5 and Site Entrance 1a on the L56402

Site entrance 2 will be constructed on the L1217 local road and will consist of a simple T-Junction with priority for L1217 traffic. Site entrance 2 will be used during the construction, operations and Decommissioning phases of the Project but will not be used for abnormal load deliveries. The layout of site entrance 2 is shown in **Figure 7**. Site entrance 2 will have a dwell area with a gradient of -2.5% at its intersection with the L1217 with drainage falling towards the Wind Farm Site and away from the L1217 carriageway. Wheel cleaning facilities will be provided at the junction to prevent the spread of mud and debris onto the L1217 carriageway. Visibility at site entrance 2 will be available at a distance of 90m measured at a 3.0m setback from the L1217 carriageway edge.



Figure 7 – Site Entrance 2 on the L1217

Site entrance 3 will be constructed on the L1217 local road and will consist of a simple T-Junction with priority for L1217 traffic. Site entrance 3 will be used during the construction, Wind Turbine delivery, operations and Decommissioning phases of the Project. Site entrance 3 will be constructed with a temporary overrun area to accommodate the swept path and wheel loading from abnormal load vehicles delivering Wind Turbine components. The overrun area will be closed using temporary barriers when not in use for Wind Turbine delivery. The layout of site entrance 3 is shown in **Figure 8**. Site entrance 3 will have a dwell area with a gradient of -2.5% at its intersection with the L1217 with drainage falling towards the Wind Farm Site and away from the L1217 carriageway. Wheel cleaning facilities will be provided at the junction to prevent the spread of mud and debris onto the L1217 carriageway. Visibility at site entrance 3 will be available at a distance of 90m measured at a 3.0m setback from the L1217 carriageway edge.

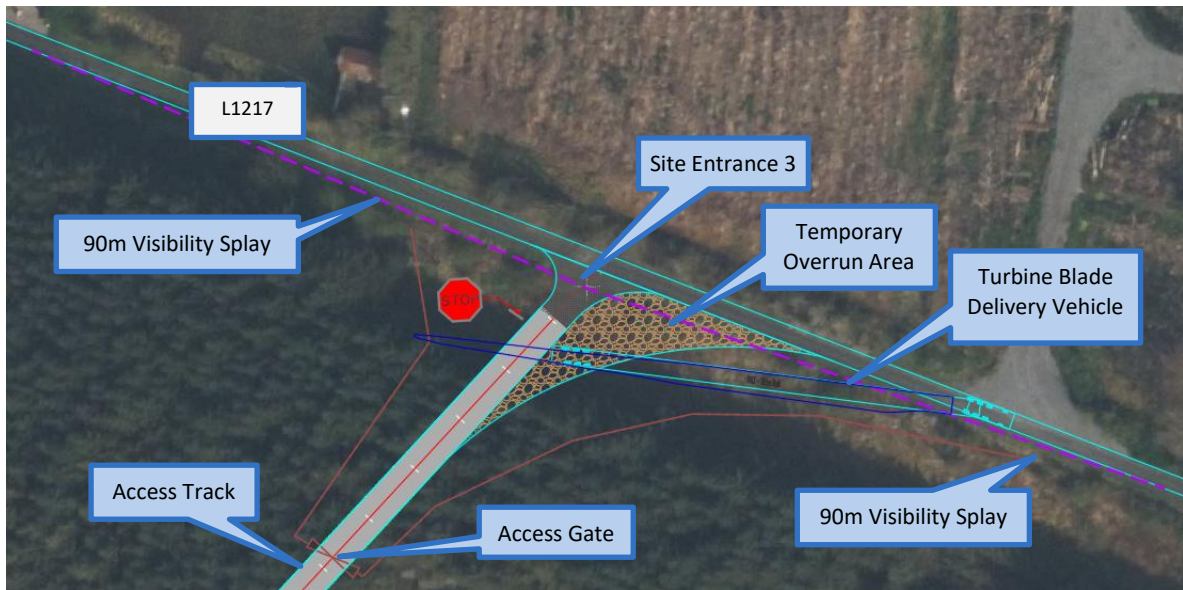


Figure 8 – Site Entrance 3 on the L1217

Site entrance 4 will be constructed on the L56421 local road and will consist of a simple T-Junction with priority for L56421 traffic. Site entrance 4 will be used during the construction, Wind Turbine delivery, operations and Decommissioning phases of the Project. The layout of site entrance 4 is shown in **Figure 9**. Site entrance 4 will have a dwell area with a gradient of -2.5% at its intersection with the L56421 with drainage falling towards the Wind Farm Site and away from the L56421 carriageway. Wheel cleaning facilities will be provided at the junction to prevent the spread of mud and debris onto the L56421 carriageway. Visibility at site entrance 4 will be available at a distance of 90m measured at a 3.0m setback from the L1217 carriageway edge.



Figure 9 – Site Entrance 4 on the L56421

Site entrance 5 will be constructed on the L1217 local road and will consist of a simple T-Junction with priority for L1217 traffic. Site entrance 5 will be used during the construction, Wind Turbine delivery, operations and Decommissioning phases of the Project. Site entrance 5 will be constructed with a temporary overrun area to accommodate the swept path and wheel loading from abnormal load vehicles delivering Wind Turbine components. The overrun area will be closed using temporary barriers when not in use for Wind Turbine delivery. The layout of site entrance 5 is shown in **Figure 10**. Site entrance 5 will have a dwell area with a gradient of -2.5% at its intersection with the L1217 with drainage falling towards the Wind Farm Site and away from the L1217 carriageway. Wheel cleaning facilities will be provided at the junction to prevent the spread of mud and debris onto the L1217 carriageway. Visibility at site entrance 5 will be available at a distance of 90m measured at a 3.0m setback from the L1217 carriageway edge.



Figure 10 – Site Entrance 5 on the L1217

3.2 Junction Signage and Traffic Management

The Project site access junctions will be stop controlled junctions and will be signposted and marked in accordance with the Traffic Signs Manual during the operations phase of the Project. The junctions will be fitted with a RUS 027 stop sign and markings in accordance with TSM Figure 7.35.

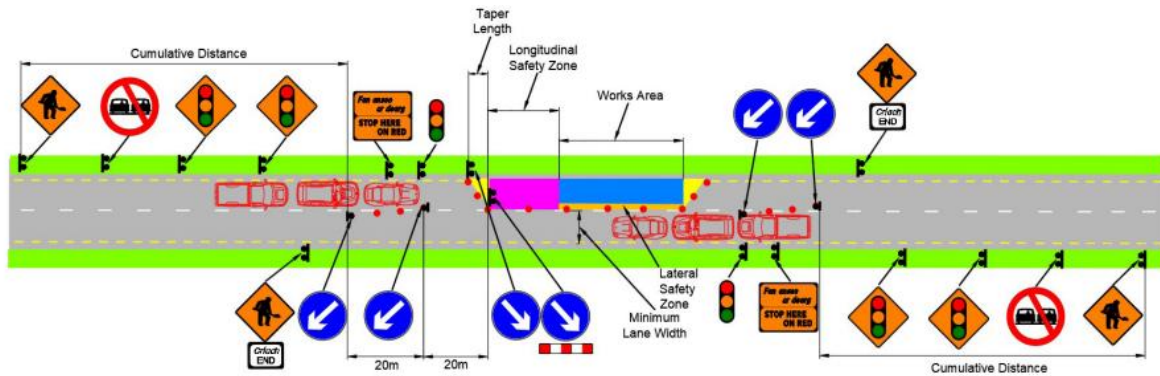
During the construction of the Project the site entrance junctions will be signposted with advance warning signs in accordance with Chapter 8 of the Traffic Signs Manual. The layout of site entrance junction advance warning signage for site entrance 1 is shown on **Figure 11**.



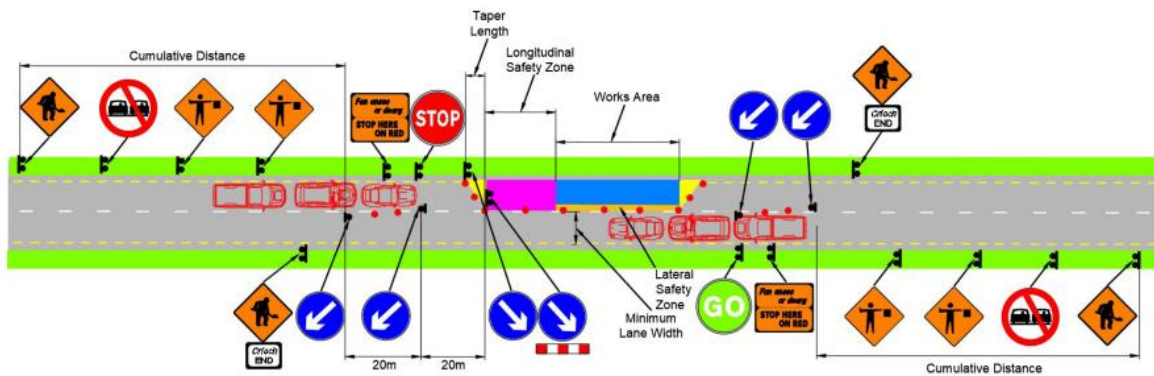
Figure 11 –Signage at Site Entrance 1

Traffic management will be required to construct the Project site entrances on the N5, L1217 and L56421. Traffic management will also be required during the delivery of Wind Turbine components at site entrance 1 on the N5, site entrance 3 and 5 on the L1217 and site entrance 4 on the L56421. During the construction of the Project site access junctions, traffic management will be carried out in accordance with Chapter 8 of the Traffic Signs Manual using temporary traffic signals and flagmen. The construction of site entrance 1 at the interface with the existing N5 will be carried out over a period of approximately two weeks. The majority of the site entrance works will be carried out from within the Wind Farm Site and will not impact on the operation of the N5. Deliveries of materials for the construction of site entrance 1 will access via the existing N5/L56402 junction as shown in **Figure 6**. Works at site entrance 1 involving alterations to fencing and the construction of the interface with the N5 carriageway will require temporary traffic management to be installed on the N5. Works at site entrance 1 which require temporary traffic management will be completed outside peak traffic hours on the N5 and the temporary traffic management will be removed at the end of each work shift to allow two-way traffic on the N5, subject to a safety assessment of the worksite. During the delivery of Wind Turbine components traffic management at site

entrances will be carried out using flagmen, traffic management during Wind Turbine deliveries will be required for short periods of time during off peak hours on the public road network to allow abnormal load vehicles to access the Wind Farm Site. During the delivery of Wind Turbine components, abnormal load vehicles will be accompanied by personnel who will carry out enabling works and traffic management. Details of traffic management systems for junction construction and Wind Turbine delivery is shown on **Figure 12**.



Temporary Traffic Signals – Site Entrance Construction



Stop & Go – Wind Turbine Delivery

Figure 12 – Traffic Management

4 HAUL ROUTES FOR CONSTRUCTION, TURBINE DELIVERY & OPERATIONS TRAFFIC

4.1 Haul Route for Wind Farm Infrastructure Construction HGV Traffic

All HGV traffic associated with the construction of the Project will use the site entrances and road network shown on **Figure 13**. Workers employed on the Wind Farm Site will follow the road network shown in **Figure 13** to access the works. General HGV deliveries to Wind Turbines T1 and T2 will use the existing N5/L56402 junction as shown in **Figure 6**. The haul routes will be signposted with directional signs at all major junctions.



Figure 13 – Construction Haul Routes

4.2 Material Supplies

The construction of the Project will require specific grades of granular material to be delivered to the Wind Farm Site for the structural layers of Site 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 will require delivery of general building materials such as concrete blocks. Precast concrete products and plastic ducting 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 14**. Material suppliers will follow the construction haul routes shown in **Figure 13** to access the site.

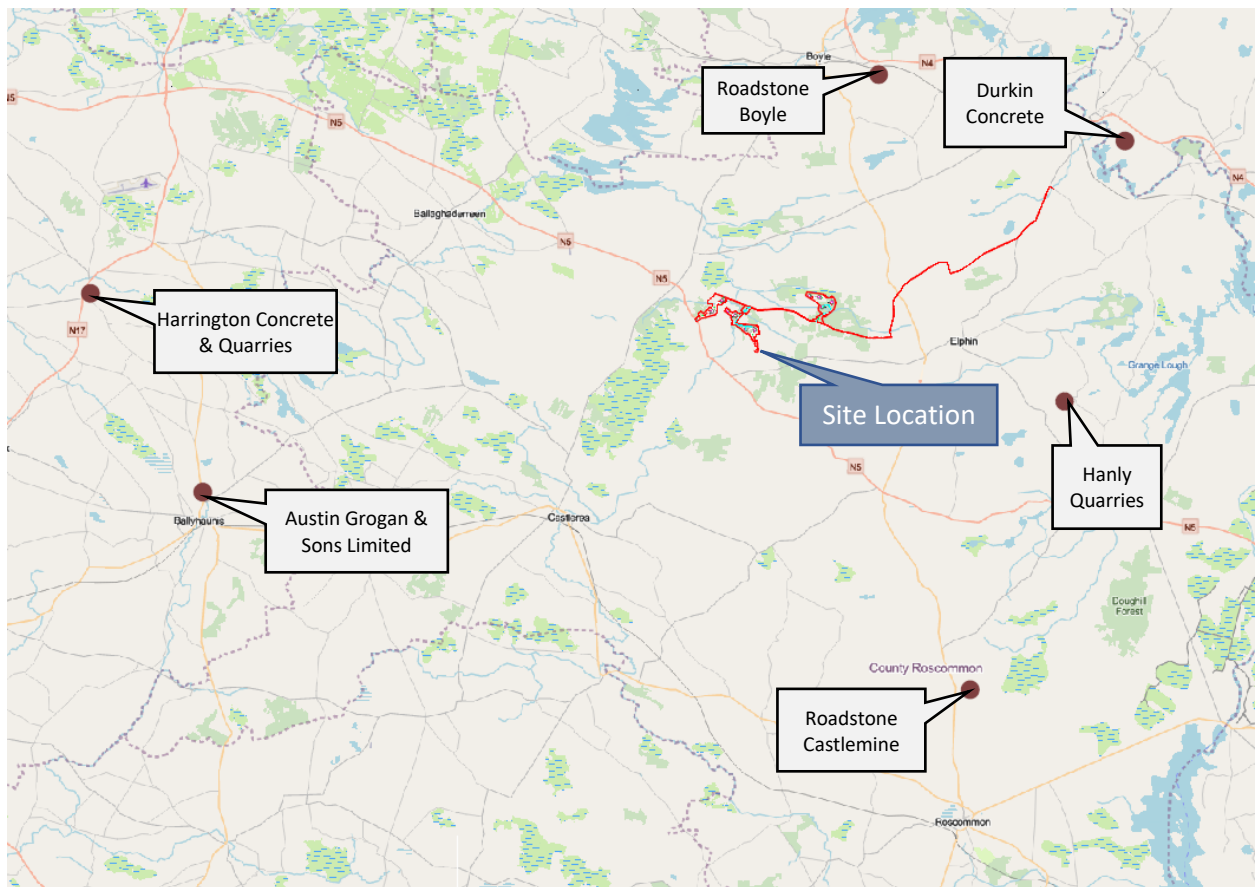


Figure 14 – Concrete and Aggregate Suppliers

4.3 Haul Route for Wind Farm Grid Connection and Internal Cabling

All HGV traffic associated with the construction of the Grid Connection between the Onsite Substation and the 220kV substation at Flagford will follow the Grid Connection route and associated diversions to access the works. All HGV traffic associated with the construction of Internal Cabling connection will follow the internal cable route and associated diversions to access the works.

The route of the Grid Connection is shown in **Figure 3**. The route of the Internal Cabling connection is shown in **Figure 4**. Construction vehicles will be prohibited from using local roads which are not part of the Grid Connection works and associated diversions. Workers employed on the Grid Connection route and Internal Cabling works will follow the routes shown in **Figures 3 and 4** to access the works.

4.4 Grid Connection Works and Internal Cabling Works

A summary of the Grid Connection works on the public road network is listed in **Table 1**. A summary of the Internal Cabling connection on the public road network is listed in **Table 2**. Full details of traffic management systems and diversions during the Grid Connection works and Internal Cabling connection on the public road network are included in **Appendix A**.

Table 1 – Grid Connection Works

Road Number	Works	Crossings
L1217	110kV cable trench in public road 5 no. joint bays in public road	Stream crossing – directional drilling.
L1216	110kV cable trench in public road	Stream crossing
L5650	110kV cable trench in public road 2 no. joint bays in public road	Stream crossing
N61 (crossing)	110kV cable trench in public road	
L6019	110kV cable trench in public road 5 no. joint bays in public road	Stream crossing
L1400 (crossing)	110kV cable trench in public road	
L1403	110kV cable trench in public road	
L6001	110kV cable trench in public road 6 no. joint bays in public road	
L6000	110kV cable trench in public road	
R368	110kV cable trench in public road 4 no. joint bays in public road	Stream crossing – directional drilling. Stream crossing
L1034	110kV cable trench in public road	Stream crossing – directional drilling.

Table 2 – Internal Cabling

Road Number	Works	Crossings
L1217	20kV or 33kV cable trench in public road 6 no. joint bays in public road	Stream crossing

4.5 Haul Routes for the Removal of Material from Site

The construction of the Project will require the felling of forestry prior to the commencement of the works. Felled timber will be removed using the existing road network for commercial forestry operations. Topsoil and unsuitable subsoil material resulting from the Wind Farm 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. Surplus topsoil and subsoil will be deposited at spoil depository locations throughout the Wind Farm Site. Volumes of excavated material are detailed in the Project CEMP, Management Plan 4 of Appendix 2.1. The construction of enabling works for Wind Turbine delivery on the public road network will result in waste granular and asphalt material which will be transported for recycling / disposal at a licenced waste facility.

4.6 Haul Route for Turbine Delivery Traffic

The Wind Turbine components for the Project will be shipped to the Port of Galway. The Wind Turbine components will be transported on the public road network using abnormal load vehicles between the landing port and the Project. The proposed Turbine Delivery Route is shown in **Figure 5**. Delivery vehicles will use the following road network to access the Wind Farm 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
- N83 national secondary road – Galway City Council / Galway County Council / Transport Infrastructure Ireland
- N17 national primary road –Galway County Council / Transport Infrastructure Ireland
- N17 national primary road –Mayo County Council / Transport Infrastructure Ireland
- N5 national primary road –Mayo County Council / Transport Infrastructure Ireland
- N5 - Roscommon County Council / Transport Infrastructure Ireland
- L1217 - Roscommon County Council / Transport Infrastructure Ireland
- L5642 - Roscommon County Council / Transport Infrastructure Ireland
- L56421 - Roscommon County Council / Transport Infrastructure Ireland

4.7 Transportation of Abnormal Load Turbine Components on the Public Road Network

The transportation of Wind Turbine components consisting of abnormal loads will be subject to abnormal load permits obtained by the haulage company who will submit details of the transport vehicle, load to be transported and transport route to An Garda Siochana and to the local authority through which the load will pass. As is best industry practice, delivery vehicles will use a combination of trailers and axle configurations based on the weight and dimensions of the load in order to ensure that the maximum axle weight transmitted to the road surface does not exceed the limits set out in the Road traffic Regulations, 2003.

Prior to the transportation of Wind Turbine components between the port and the Wind Farm Site, a trial run will be carried out by a delivery vehicle using a retractable load gauge in order to determine that fully loaded vehicles can access the Wind Farm Site. The trial run will be carried out using appropriate permits in consultation with An Garda Siochana, local authority and all relevant road stakeholders.

Transport Infrastructure Ireland and PPP operators shall be included in all correspondence relating to the transportation of Wind Turbine components.

4.8 Enabling Works for Turbine Delivery on the Public Road Network

The haul routes for the transportation of Wind Turbine components between the Port of Galway and the Wind Farm Site has been assessed by Jennings O'Donovan & Partners Limited using AutoTRACK software to determine the swept path of abnormal load vehicles delivering Wind Turbine components. The assessment has shown that enabling works such as road widening, alterations to junctions, removal and trimming of vegetation, alterations to signs, lighting, traffic signals and street furniture will be required along the haul route between the Port of Galway and the Wind Farm Site, a summary of the assessment is listed in **Table 3**. Full details of the works locations on the Turbine Delivery Route between the Port of Galway are shown in **Appendix 16.3 of the EIA**.

Table 3 – Turbine Delivery Route Enabling Works – Port of Galway

Location	Enabling Works
Galway Docks	Parking restrictions in Galway Port car park.
Lough Atalia Road / R339 College Rd Junction	Contraflow at junction.
R338 / R339 Junction	Contraflow at junction. Bollards to be removed from central island
R339 / L5034 Junction	Traffic lights to be altered to allow temporary removal Lighting Columns to be relocated / modified for temporary removal Pole to be relocated Existing hedge to be trimmed.
L5034 / R336 Junction	Lighting column on inside of bend to be relocated / modified for temporary removal during transportation. Temporary loadbearing area to be constructed on inside of bend. Vegetation to be trimmed for load oversail
N17 / N83 Roundabout Junction, Tuam	Lighting Columns to be relocated / modified for temporary removal Signs on splitter island and verge to be relocated / modified for temporary removal. Vegetation to be trimmed for load oversail

Location	Enabling Works
N17 / N83 Roundabout Junction, Tuam (North)	Lighting Column to be relocated / modified for temporary removal Signs on splitter islands and verge to be relocated / modified for temporary removal.
N17 Milltown	Signs and bollards to be removed from central islands at two locations.
N17 Ballindine	Signs and bollards to be removed from central islands at four locations. Bollards to be removed from central islands at two locations.
N17 / N5 Roundabout, Charlestown	Temporary road widening in verge. Footpath strengthening. Lighting Columns at two locations to be relocated / modified for temporary removal Signs on splitter islands at two locations to be relocated / modified for temporary removal Vegetation to be trimmed for load oversail
N5 Junction Charlestown	Flexible bollards to be removed from N5 and slip road during transportation. Lighting Column to be relocated / modified for temporary removal Signs on splitter island and verge to be relocated / modified for temporary removal. Vegetation to be trimmed for load oversail. Oversail in third party land.
Existing N5 / Realigned N5 Tie in west of Frenchpark	Construction of a temporary access road to allow vehicles to access the realigned N5 from the existing N5
Existing N5	Construction of a new site entrance to access Wind Turbine T1 and T2
Realigned N5 / L5642 Junction	Road widening at junction for abnormal load vehicles. Junction to be clear of obstructions to allow abnormal load vehicle oversail
L4562	Road widening in third party lands Oversail in third party lands
L45621	Road widening in third party lands Oversail in third party lands Construction of a new site entrance
L1217	Construction of three new site entrances Road improvement works in accordance with turbine suppliers requirements

4.9 Enabling Works for Turbine Delivery – Materials, Specification and Reinstatement

The enabling works for transportation of Wind Turbines and reinstatement of road infrastructure on the public road network will be carried out in consultation with the relevant road stakeholders using an approved road opening licence and agreed traffic management plan which shall be in accordance with

Chapter 8 of the Traffic Signs Manual. Transport Infrastructure Ireland shall be included in all correspondence relating to proposed enabling works and transportation of Wind Turbine components on the public road network.

Specification of materials and workmanship shall be in accordance with TII publications and agreed with the relevant road stakeholders prior to any works being carried out on site.

All damage to the national road network shall be repaired using materials and workmanship in accordance with TII specifications and shall be agreed prior to any works commencing on site. A pre-construction condition survey of the road network shall be carried out in order to establish an agreed baseline prior to any works commencing on site. A post construction road condition survey shall be carried out following the completion of construction to determine if deterioration has occurred on the road network.

5 PRE-CONSTRUCTION WORKS REQUIREMENTS

5.1 Location and Diversion of Existing Services

A desk-based study will be carried out to locate existing services at all works locations before work commences on site. Prior to the commencement of works, the location of existing services shall be confirmed by ground penetrating radar. All service diversions and works to protect existing services which are necessary for the construction of the Project shall be agreed with the relevant service provider prior to works commencing.

5.2 Road and Verge Maintenance Agreement – Local and Regional Roads

Prior to the commencement of works, the Applicant / contractor shall liaise with Roscommon County Council and agree a protocol for general and emergency maintenance and repair of the public road network. The agreement will include call-out procedures for council and contractors' staff, maintenance and repair of road surfacing, maintenance and repair of road verges, maintenance and repair of drainage systems on the public road, maintenance of vegetation at site entrances and junctions. emergency repair procedures outside normal working hours and specifications for materials and workmanship.

5.3 Road and Verge Maintenance Agreement – National Roads

Prior to the commencement of works, the Applicant / contractor shall liaise with Transport Infrastructure Ireland (TII) and agree a protocol for general and emergency maintenance and repair of the national road network. The agreement will include call-out procedures for maintenance and repair of road surfacing at junctions on the N5 leading to the wind farm site entrances. Specifications for materials and workmanship will be in accordance with TII standards and specifications which are published on the TII website.

5.4 Permits to Work on the Public Road Network

Prior to the commencement of works, the contractor shall obtain all necessary road opening licenses and road closure permits to work on the public road network. The contractor shall inform the public in advance of any road closures and provide alternative means of access to properties, businesses and farms.

5.5 Traffic Management Plan

All works carried out on the public road network shall be carried out using a traffic management system in accordance with the requirements of Chapter 8 of the Traffic Signs Manual. The appointed contractor shall compile a detailed Traffic Management Plan for the works which will specify the precise traffic management measures for each works section and submit to relevant authority for approval. The contractor will appoint a competent traffic management coordinator who will be the main point of contact for all traffic management matters during the course of the works. The agreed traffic management systems shall be installed and maintained by operatives with the appropriate training to carry out works on traffic management systems. The TMP shall be submitted to the owners engineer and Applicant for review 1 month before scheduled works.

5.6 Site Access Roads and speed limits

All construction traffic shall access the site from the dedicated site entrances. Construction HGV traffic shall be prohibited from using local roads which are not directly affected by the works. The location of site access points shall be signposted and assigned a site access number for the duration of the works. Haul Routes for construction and delivery traffic shall be signposted from the national and regional road network. All construction traffic will observe the posted speed limits which will be signposted along the haul routes.

5.7 Road Condition Survey

A pre-construction road condition survey shall be carried out prior to any works commencing on site. A post-construction condition survey shall be carried out following the completion of the works in consultation with the relevant authority. Reinstatement of defects on the public road network resulting from construction traffic shall be made good to a specification agreed with the relevant local authority / TII. The scope of the road condition survey shall be agreed relevant local authority / TII.

5.8 Public Information and Access

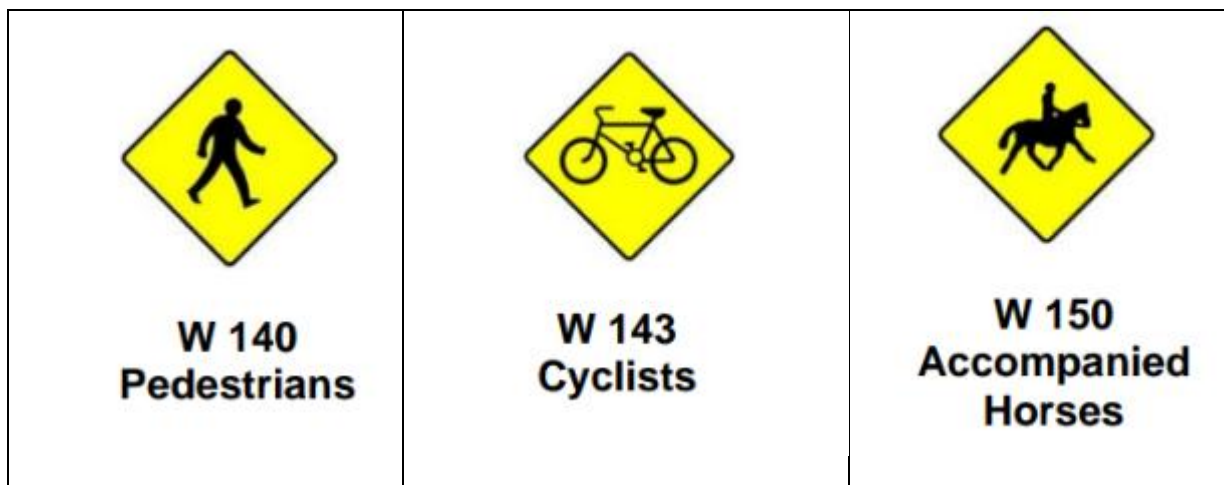
The appointed contractor shall inform local residents, businesses and emergency services of proposed works and road closures in advance of any works taking place on site. Access shall be maintained to properties at all times during the course of the works. The Contractor will appoint a project coordinator who will be the main point of contact for matters relating to traffic which will affect the general public, local businesses and emergency services. An out of hours contact number shall also be provided.

5.9 Emergency Access Routes

Emergency access routes shall be provided at all times for emergency service vehicles to access the site or to bypass the works in the event of an emergency.

5.10 Vulnerable Road Users

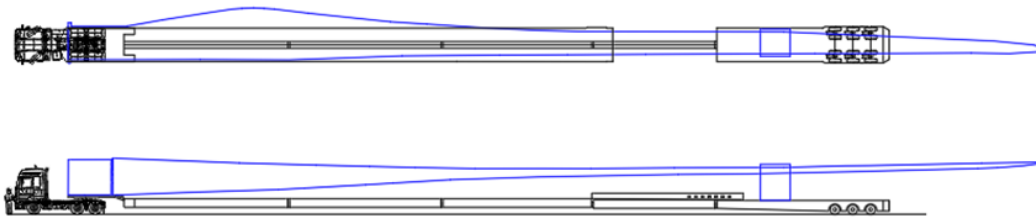
The local road network in the vicinity of the Project is popular with leisure pursuits. Signage from the traffic signs manual shall be located along the haul routes to highlight the presence of vulnerable road users. The signs will include W140 Pedestrians, W143 Cyclists and W150 Horses.



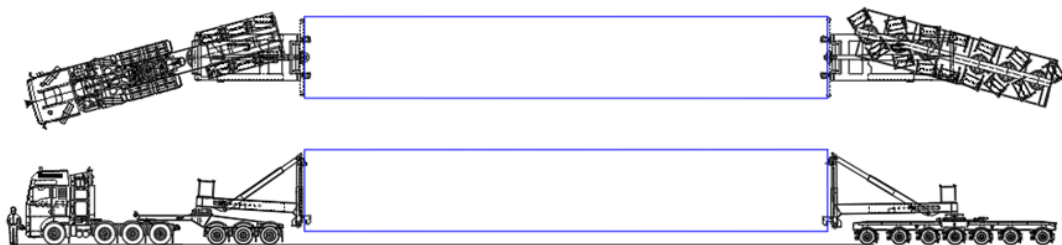
6 DELIVERY VEHICLE SPECIFICATION

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 Wind Turbine components will be carried out using specialist abnormal load vehicles. Wind Turbine blades will be delivered on an extendable semi-trailer, one per trailer. Each Wind Turbine blade will be 80.5m long and weigh 29.3 tonnes, approximately 20m of the blade will overhang the rear of the trailer. Following delivery to the Wind Farm Site, the trailer extendable will be retracted for the return trip. Each Wind Turbine tower will be delivered to site in sections using tower clamps and extendable semi-trailers, the tower sections range in length from 31.43m to 17.17m with a maximum width of 4.3m. Wind Turbine towers weigh between 54.6 and 83.5 tonnes. The Wind Turbine nacelle measures (L)12.77m x (w)4.29m x (h)4.0m and weighs 73.42 tonnes. The Wind Turbine drivetrain measures (L)6.75m x (w)3.41m x (h)3.41m and weighs 83.85 tonnes. The Wind Turbine rotor hub measures (L)4.82m x (w)4.38m x (h)4.00m and weighs 56.33 tonnes. All material deliveries will have a maximum axle load of 12 tonnes per axle. The main crane for Wind Turbine erection will have a maximum axle loading of 12 tonnes per axle and a maximum total weight of 100 tonnes. Vehicles delivering counterweights for the crane will have a maximum axle loading of up to 12 tonnes per axle. Vehicle weights do not exceed 180 tonnes and structures on the Turbine Delivery Route with spans not exceeding 50m are not subject to a Category 3

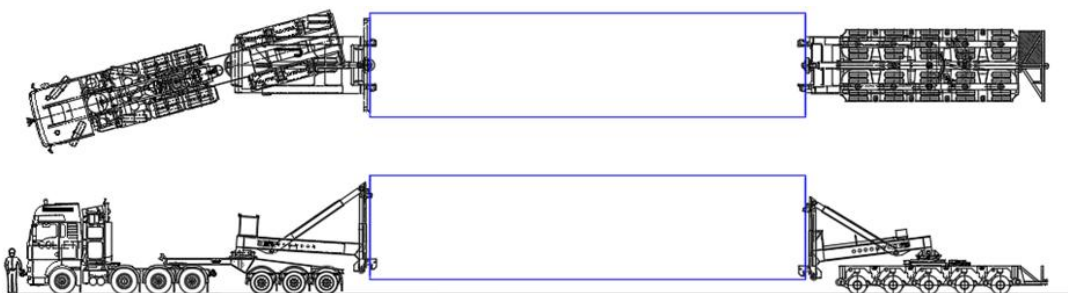
structural assessment as defined in Section 1.3 of DN-STR-03001 published by TII for exceptional abnormal loads. Typical abnormal load vehicles used for the transportation of Wind Turbine components are shown below. The transport vehicles used for transportation of components may differ from those shown below depending on the haulage contractor's preferences.



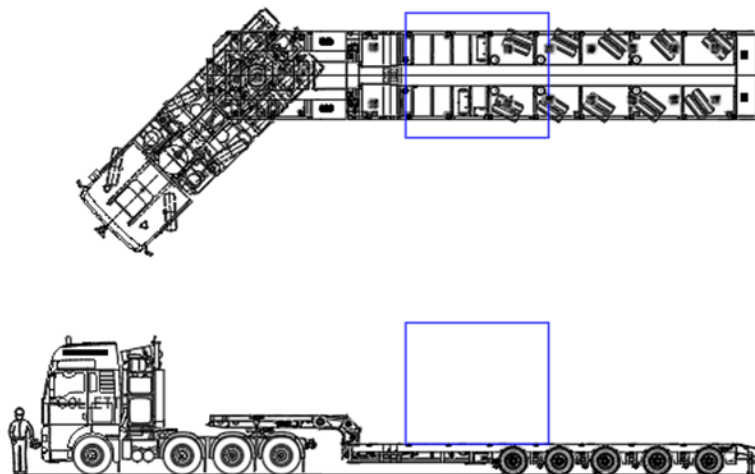
Typical Wind Turbine Blade Transport Vehicle



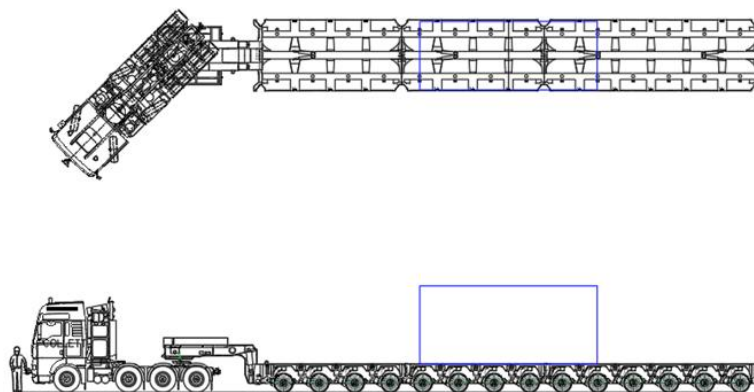
Typical Wind Turbine Tower Transport Vehicle



Typical Nacelle Transport Vehicle



Typical Hub Transport Vehicle



Typical Generator Transport Vehicle

7 CONSTRUCTION, OPERATION & DECOMMISSIONING TRAFFIC VOLUMES

7.1 Construction Period

The construction period of the Project is anticipated to take approximately 18 months with the majority of HGV deliveries to site concluding in month 10. The Project timeframe is summarised in **Table 3**. It is expected that construction hours will be between 07:00 and 19:00 Monday to Friday and 08:00 and 13:00 on Saturday. There may be periods outside normal site working hours when long duration and weather dependent specialist works such as Turbine Foundation construction and Wind Turbine installation may be carried. All construction activities outside normal site working hours will be agreed with Roscommon County Council.

Table 3 Project Timeframe

Proposed Works	Timetable (Month No.)
Site Establishment (Plant, Offices, welfare facilities)	1
Site entrance construction (5 No.)	1
Fencing	1
Temporary Construction Compounds	1
Construction of Site Access Roads	2-7
Site Drainage	2-5
Onsite Substation buildings	4-9
Onsite Substation compound construction	4
Onsite Substation electrical works	10-14
Onsite Substation commissioning	15-16
Construction of Turbine Hardstands	2-10
Construction of Turbine Foundations (950m ³ Per Base)	2-10
Internal Cabling installation	9-12
Internal Cabling installation in Public Road	9-12
Wind Turbine delivery and erection (turbine components)	11-16
Wind Turbine delivery and erection (crane)	11
Grid Connection	10-16
Energisation	16
Wind Turbine commissioning	16-18
Site restoration	16-18

7.2 Construction Period – Trip Generation HGV's

The estimated HGV deliveries to the Wind Farm Site during the construction period are shown in **Table 4**. The trips generated by the construction of the Project are based on AutoCAD Civil 3D site layout design drawings, site investigation results and turbine supplier's specifications. The calculated volumes of materials are based on the following design criteria,

- All granular materials for road and hardstand structural layers will be imported from local quarries.
- All concrete for Turbine Foundations will be imported from local ready-mix facilities.

- Topsoil and subsoil material resulting from site clearance will be incorporated into the design and will not be removed from site. Details of spoil management for the Project are given in the spoil management section of the Project CEMP, Management Plan 4 of Appendix 2.1. All material excavated during enabling works for Wind Turbine deliveries will be removed from site and replaced with imported material.
- All material excavated during Grid Connection works will be removed from site and replaced with imported material.
- Material used for the construction of Temporary Construction Compounds and junction widening will be incorporated into the Site Access Road construction at the end of the contract and will not be removed from site.

Table 4 HGV and Abnormal Load Deliveries to Site During Construction

Materials	Quantity	No. Of Deliveries	Timeframe (Month)	Maximum Loads / Day	Vehicle Type
Site Establishment (Plant, Offices, welfare facilities)		30	1	5	OGV2
Site entrance construction (5 No.)	1,250m ³	125	1	10	OGV2
Fencing	200m	10	1	5	OGV2
Temporary Construction Compound	700m ³	70	1	10	OGV2
Construction of Site Access Roads	16,000m ³	1,600	2-7	10	OGV2
Site drainage	-	20	2-5	5	OGV2
Onsite Substation buildings	-	50	4-9	5	OGV2
Onsite Substation compound construction	400m ³	40	4	10	OGV2
Onsite Substation electrical works	-	20	10-14	5	OGV2
Onsite Substation commissioning	-	5	15-16	1	
Construction of Turbine Hardstands	27,300m ³	2,730	2-10	10	OGV2
Construction of Turbine Foundations (950m ³ Per Base)	10,550m ³	1318	2-10	120	OGV2
Internal Cabling installation	7,330m	100	9-12	5	OGV2
Internal Cabling installation in Public Road (2,925m ³ excavation) (2,925m ³ reinstatement)	4,870m	585	9-12	12	OGV2
Wind Turbine Delivery and erection (turbine delivery)	11 Turbines	110	11-16	3	OGV2
Wind Turbine Delivery and erection (cranes)	-	10	11	5	OGV2
Grid Connection (17.5km) (10,500m ³ excavation) (10,500m ³ reinstatement)	-	2,100	10-16	12	OGV2

Materials	Quantity	No. Of Deliveries	Timeframe (Month)	Maximum Loads / Day	Vehicle Type
Energisation	-	5	16	2	OGV1
Wind Turbine commissioning	-	5	16-18	2	OGV1
Site restoration	-	50	16-18	5	OGV1 / OGV2
Total		8,983			

It is estimated that during the Project construction, an approximate total of 8,983 loads of material and building supplies will be delivered and removed from the Wind Farm 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 Access Road construction, Turbine Hardstand construction and Turbine Foundation construction.

A schedule of maximum predicted daily traffic movements to site which may occur due to combined site activities over an 18-month construction period is shown in **Table 5**.

Table 5 HGV and Abnormal Load Deliveries to Site During Construction

Activity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Site Establishment (Plant, Offices, welfare facilities)	5																	
Site entrance construction (5 No.)	10																	
Fencing	5																	
Temporary Construction Compound	10																	
Construction of Site Access Road		10	10	10	10	10	10											
Site drainage		5	5	5	5													
Onsite Substation buildings				5	5	5	5	5	5									
Onsite Substation compound construction				10														
Onsite Substation electrical works										5	5	5	5	5				
Onsite Substation commissioning															1	1		
Construction of Turbine Hardstands		10	10	10	10	10	10	10	10	10								
Construction of Turbine Foundations (950m3 Per Base)		120	120	120	120	120	120	120	120	120								
Internal Cabling installation									5	5	5	5						

Internal Cabling installation in public Road									12	12	12	12						
Wind Turbine Delivery and Erection (turbine components)											3	3	3	3	3	3		
Wind Turbine Delivery and Erection (crane)											5							
Grid Connection										12	12	12	12	12	12	12		
Energisation																2		
Wind Turbine commissioning																	2	2
Site restoration																	5	5
Total	30	145	145	160	150	145	145	135	152	164	42	37	20	20	16	18	7	7

The first month of the Project construction period will involve deliveries of materials for Site Access Roads, Temporary Construction 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 Temporary Construction Compound and site entrance, and delivery of temporary site office units. It is anticipated that a maximum of 30 HGV vehicles (60 HGV movements) will visit the Wind Farm 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 Roads, Onsite Substation and Internal Cabling, this period will include deliveries of road construction materials for Site Access Roads and Turbine Hardstands, ready mix concrete and steel reinforcement for Turbine Foundations. It is anticipated that a maximum of 164 HGV vehicles (328 HGV movements) will visit the Wind Farm Site on a daily basis during the period. The peak traffic will occur on 11 days during the 9 month period between months 2 to 10 when Turbine Foundations are poured. Concrete pours for individual Turbine Foundations will generate 120 HGV arrivals (240 HGV movements).

Months 10 to 18 will involve HGV movements for works associated with Wind Turbine delivery, erection, 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 42 HGV vehicles (82 HGV movements) will visit the site on a daily basis during this period. Full details of the timeframe for each section of the Grid Connection works and Internal Cabling connection on the public road network are included in **Appendix A**.

Based on the indicative timetable outlined above the peak times for HGV deliveries to the Wind Farm Site will be during months 2 to 10 (44 daily HGV deliveries + 120 additional deliveries during concrete pours which will take place on nine separate days during this period). Project traffic will be distributed throughout the day with morning, afternoon and evening peaks. The distribution of Project traffic is shown in Table 6 during the construction of Turbine Foundations.

Table 6 - Development Traffic Profile

Time	Arrivals		Departures	
	HGV	LGV	HGV	LGV
06.00 – 07.00		30		
07.00 – 08.00	20	10	20	
08.00 – 09.00	15	5	15	2
09.00 – 10.00	16	2	16	2
10.00 – 11.00	15		15	
11.00 – 12.00	18		18	
12.00 – 13.00	15		15	
13.00 – 14.00	10	5	10	5
14.00 – 15.00	15	1	15	1
15.00 – 16.00	15		15	
16.00 – 17.00	10		10	
17.00 – 18.00	10	2	10	5
18.00 – 19.00	5		5	10
19.00 – 20.00				30

7.3 Construction Period – Light Vehicles\Vans and Construction Personnel

The number of staff on site will vary according to the phase of the construction, peaking at approximately 60 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. Labor vehicle sharing will be actively encouraged to reduce vehicular movements.

It is estimated that 35-40 staff vehicles and approximately 10 visitors 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 Wind Farm Site. A number of additional unscheduled visits and staff trips may occur throughout the construction period for site inspections and unforeseen circumstances.

7.4 Operational Period – Traffic

The vehicle movements associated with the operational period of the Project will be very low. Trips during the operational period would normally be made by vans associated with site monitoring, servicing, cleaning and maintenance operations. During the operational period, parking will be provided within the Wind Farm Site and security gates will be set back from the public road to allow operatives to access the site without obstructing the public road network.

Scheduled Site Visits

Weekly maintenance, estimated two visits by two service personnel – 208 trips per year.

Six-month service, estimated of two visits by two service personnel – 4 trips.

Annual service, two visits by two service personnel – 4 trips.

Monthly visit by Developer or agents to check over the site, grass cutting, ecological monitoring etc. – 12 trips.

Unscheduled Site Visits

Visits which may arise as a result of malfunction, damage or vandalism. – 5 trips

The frequency of vehicle trips associated with servicing, monitoring and upkeep of the Wind Farm Site are expected to be in the region of 230 trips per year.

7.5 Decommissioning Period – Traffic

The vehicle movements associated with the Decommissioning period of the Project are estimated to be similar to the construction period. The Decommissioning period will take approximately 4 to 6 Months, during which time infrastructure will be removed from the Wind Farm Site.

8 PROPOSED MITIGATION MEASURES

The impact of the traffic volumes generated by the Project have been identified as being temporary and associated with an 18 month construction and a 4 to 6 month decommissioning period. The Project will generate low volumes of traffic during the operation of the Project.

In order to minimise the impact of development traffic on the local community and public road users, the following mitigation measures have been considered:

- HGV movements will generally be limited to 07:00 - 19:00 Monday to Friday and 08:00 - 13:00 on Saturday. Deliveries will be scheduled to avoid peak times around the morning and evening peak hours. This will avoid HGV traffic arriving during the morning peak hour creating conflict with local residents on their commute/school run. Construction personnel will be encouraged to car-pool, or to travel to site in minibuses.
- Wheel cleaning equipment will be used on site to prevent mud and stones being transferred from the Wind Farm Site to the public road network. All drivers will be required to check that their vehicle is free from dirt and stones prior to departure from the Wind Farm Site. In addition, any dust generating activities will be minimised where practical during windy conditions, and drivers will adopt driving practices to minimise dust creation. Finally, loads will be covered into and out of the site where required to ensure that the spillage or deposit of clay, rubble or other debris on the public road network is prevented.
- Construction works on the public road network will be carried out under a road opening licence with an agreed Traffic Management Plan in accordance with Chapter 8 of the Traffic Signs Manual.
- During the construction phase, clear construction warning signs will be placed on the N5, L1217, L5642 and L56421 advising the general public as to the presence of the Wind Farm Site. The site entry points will also be appropriately signed. Access to the Wind Farm 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. Security gates will be sufficiently set back from the road, so that vehicles entering the Wind Farm Site will stop well clear of the public road, thus obviating the queuing of construction traffic on the public road network. Site visitors will all receive a suitable Health and Safety site induction, and Personal Protective Equipment (“PPE”) will be worn.
- Longitudinal trench excavations in the public road shall be straight and parallel to the centre of the road/footway where practicable. Transverse road or footway crossings shall be at right angles to the kerb or property line. Bituminous and concrete road surfaces and footways be cut using a road saw, concrete saw or equivalent mechanical means to the full depth of the bituminous or concrete material prior to any excavation work. The edges of the road shall be trimmed to provide an overlap for permanent road reinstatement in accordance with chapter 7 of the Managing Openings in Public Roads Specification.

- All excavations in the public road network are to be reinstated at the end of the work shift. A temporary reinstatement shall be carried out in the event that the works are not completed at the end of the work shift.
- Once construction of the Project is completed, all portacabins, machinery and equipment will be removed and temporary hardstanding's excavated and reinstated. The area will be re-graded with the topsoil to a natural profile and allowed to regenerate from the seed bank within the topsoil.

9 SUMMARY

This TMP has been undertaken to outline the management of traffic movements during the construction, operation and Decommissioning phases of the Carrigeen Renewable Energy Development (the Project).

Increased volumes of traffic will be generated by the Project during the construction and Decommissioning periods. Traffic analysis carried out in the Traffic and Transport Assessment (TTA) report in **Appendix 16.1** for the Project shows that traffic generated by the Project during the construction, operation and decommissioning phases of the Project can be accommodated on the existing public road network.

During the operational phase of the Project, the Wind Farm Site will be accessed by light vehicles for an estimated 230 times per year for routine monitoring, servicing and site maintenance.

Priority at junctions for existing public road users will remain unchanged during the construction, operation and Decommissioning phases of the Project.

All traffic accessing and leaving the Wind Farm Site will use the designated haul route for construction and Decommissioning traffic.

Mitigation measures have been proposed to minimise impacts of construction traffic on the public road network and local road users. Security gates will be provided at the Wind Farm site entrances. Gates will be set back from the public road carriageway edge to accommodate articulated vehicles. Wheel cleaning facilities will be provided at the site entrance and at works locations on the public road network to prevent mud and dust spreading to the public road.

Temporary Construction Compounds (TCCs) will be provided on the Wind Farm Site and will remain for the duration of the construction period. The TCCs will be used to store construction materials for the Project and as a parking and turning facility for construction and delivery traffic.

Components for each Wind Turbine will be delivered to site in three separate abnormal load convoys over the period of one week. The convoys will travel at times agreed with An Garda Síochána. The haulage contractor will obtain all necessary permits for the transportation of abnormal loads from An Garda Síochána and the relevant County Council through which the load will travel.

APPENDIX A

L1217 Internal Cabling Connection

Works Location	L1217 – 20/33kV Internal Cabling Connection (4.87km)
Road Number	L1217
Description of Works to be Undertaken	Construction of 20/33kV internal cable connection. Cable trench in public road Stream crossing
Road Width (approximate)	3.0m carriageway with grass verges
Traffic Management System	Road closure / diversions during trenching works Temporary Traffic Lights / Stop & Go / Flagman during cable pulling and surfacing works.
Local Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,
Duration of Works 200m per day (two work groups)	24 Days Trenching, ducting, reinstatement and temporary surfacing. 2 days 33kV cable installation 2 days surfacing.
Duration of Road Closure	Works Area 1 – 14 days Works Area 2 – 10 days
Emergency Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,

L1217 110kV Grid Connection

Works Location	L1217 - 110kV Grid Connection (3.8km)
Road Number	L1217
Description of Works to be Undertaken	Construction of 110kV Grid Connection. Cable trench in public road Stream crossing (Directional Drilling) Draw pits in public road (6 No.)
Road Width (approximate)	3.0m carriageway with grass verges
Traffic Management System	Road closure / diversions during trenching works Temporary Traffic Lights / Stop & Go / Flagger during cable pulling and surfacing works.
Local Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,
Duration of Works 200m per day (two work groups)	19 Days Trenching, ducting, reinstatement and temporary surfacing. 2 days 110kV cable installation 2 days surfacing.
Duration of Road Closure	Works Area 1 – 19 days
Emergency Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,

L1216 110kV Grid Connection

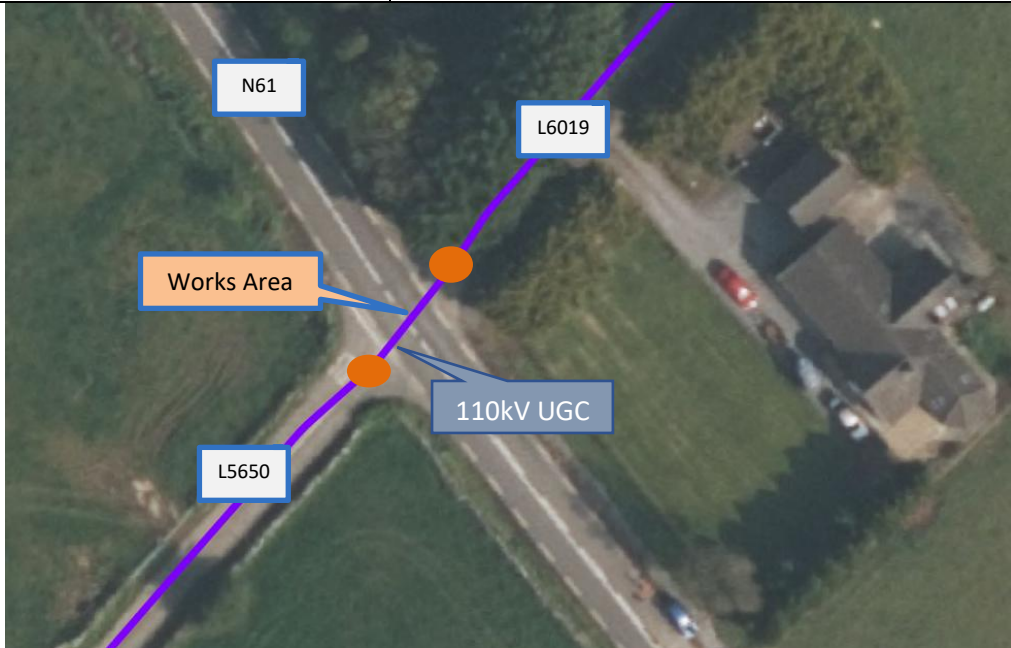
Works Location	L1216 - 110kV Grid Connection (0.26km)
Road Number	L1216
Description of Works to be Undertaken	Construction of 110kV Grid Connection. Cable trench in public road Stream crossing
Road Width (approximate)	3.0m carriageway with grass verges
Traffic Management System	Road closure / diversions during trenching works Temporary Traffic Lights / Stop & Go / Flagman during cable pulling and surfacing works.
Local Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,
Duration of Works 200m per day (two work groups)	1 day Trenching, ducting, reinstatement and temporary surfacing. 1 day 110kV cable installation 1 day surfacing.
Duration of Road Closure	Works Area 1 – 1 day
Emergency Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,

L5650 110kV Grid Connection

Works Location	L5650 - 110kV Grid Connection (1.95km)
Road Number	L5650
Description of Works to be Undertaken	Construction of 110kV Grid Connection. Cable trench in public road Stream crossing Draw pits in public road (2 No.)
Road Width (approximate)	3.0m carriageway with grass verges
Traffic Management System	Road closure / diversions during trenching works Temporary Traffic Lights / Stop & Go / Flagger during cable pulling and surfacing works.
Local Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,
Duration of Works 200m per day (two work groups)	10 Days Trenching, ducting, reinstatement and temporary surfacing. 2 days 110kV cable installation 2 days surfacing.
Duration of Road Closure	Works Area 1 – 6 days Works Area 2 – 4 days
Emergency Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,

N61 110kV Grid Connection

Works Location	N61 - 110kV Grid Connection (0.01km)
Road Number	N61
Description of Works to be Undertaken	Construction of 110kV Grid Connection.
Road Width (approximate)	6.0m carriageway with grass verges
Traffic Management System	Temporary Traffic Lights / Flagman during trenching and surfacing works.



Local Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,
Duration of Works	1 day Trenching, ducting, reinstatement and temporary surfacing. 1 day surfacing.
Duration of Road Closure	N/A
Emergency Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,

L6019 110kV Grid Connection

Works Location	L6019 - 110kV Grid Connection (3.3km)
Road Number	L6019, L1400 (road crossing)
Description of Works to be Undertaken	Construction of 110kV Grid Connection. Cable trench in public road Stream crossing Draw pits in public road (5 No.)
Road Width (approximate)	3.0m carriageway with grass verges
Traffic Management System	Road closure / diversions during trenching works Temporary Traffic Lights / Stop & Go / Flagger during cable pulling and surfacing works.
Local Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,
Duration of Works 200m per day (two work groups)	17 Days Trenching, ducting, reinstatement and temporary surfacing. 6 days 110kV cable installation 3 days surfacing.
Duration of Road Closure	Works Area 1 – 5 days Works Area 2 – 5 days Works Area 3 – 7 days
Emergency Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,

L1403 110kV Grid Connection

Works Location	L1403 - 110kV Grid Connection (0.33km)
Road Number	L1403
Description of Works to be Undertaken	Construction of 110kV Grid Connection. Cable trench in public road
Road Width (approximate)	3.0m carriageway with grass verges
Traffic Management System	Road closure / diversions during trenching works Temporary Traffic Lights / Stop & Go / Flagger during cable pulling and surfacing works.
Local Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,
Duration of Works 200m per day (two work groups)	2 Days Trenching, ducting, reinstatement and temporary surfacing. 1 day surfacing.
Duration of Road Closure	Works Area 1 – 2 days
Emergency Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,

L6001 110kV Grid Connection

Works Location	L6001 - 110kV Grid Connection (3.8km)
Road Number	L6001, L6000 (road crossing)
Description of Works to be Undertaken	Construction of 110kV Grid Connection. Cable trench in public road Draw pits in public road (5 No.)
Road Width (approximate)	3.0m carriageway with grass verges
Traffic Management System	Road closure / diversions during trenching works Temporary Traffic Lights / Stop & Go / Flagman during cable pulling and surfacing works.
Local Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,
Duration of Works 200m per day (two work groups)	19 Days Trenching, ducting, reinstatement and temporary surfacing. 6 days 110kV cable installation 3 days surfacing.
Duration of Road Closure	Works Area 1 – 11 days Works Area 2 – 8 days
Emergency Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,

R368 110kV Grid Connection

Works Location	R368 - 110kV Grid Connection (3.1km)
Road Number	R368
Description of Works to be Undertaken	Construction of 110kV Grid Connection. Cable trench in public road Stream crossing (Directional Drilling) Stream crossing Draw pits in public road (5 No.)
Road Width (approximate)	6.0m carriageway with grass verges
Traffic Management System	Temporary Traffic Lights / Flagman during trenching, cable pulling and surfacing works.
Local Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,
Duration of Works 200m per day (two work groups)	16 Days Trenching, ducting, reinstatement and temporary surfacing. 5 days 110kV cable installation 3 days surfacing.
Duration of Road Closure	N/A
Emergency Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,

L1034 110kV Grid Connection

Works Location	L1034 - 110kV Grid Connection (0.25km)
Road Number	L1034
Description of Works to be Undertaken	Construction of 110kV Grid Connection. Cable trench in public road Stream crossing (Directional Drilling)
Road Width (approximate)	4.0m carriageway with grass verges
Traffic Management System	Road closure / diversions during trenching works Temporary Traffic Lights / Stop & Go / Flagman during cable pulling and surfacing works.
Local Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,
Duration of Works 200m per day (two work groups)	4 Days Trenching, ducting, reinstatement and temporary surfacing. 1 day surfacing.
Duration of Road Closure	Works Area 1 – 4 days
Emergency Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,