CONSTANT ENERGY LIMITED

TIRAWLEY WIND FARM

COUNTY MAYO

CONSTUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

MANAGEMENT PLAN 7

TRAFFIC MANGEMENT PLAN

April 2026

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DOCUMENT APPROVAL

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Date April 2026	Signature	Signature

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1 INTRODUCTION

1.1 Scope and Requirements

This Management Plan is a 'live' document that can be reviewed and updated at regular intervals throughout the Proposed Developments life cycle. The Contractor is required to develop and adapt this document in line with the activities of the Proposed Development being undertaken for the Proposed Development. The contractor will approve this Plan (and any future amendments of the document) with the Ecological Clerk of Works prior to any work commencing.

The information in this document forms part of the Construction Environmental Management Plan (CEMP) and is the Site Traffic Management Plan for the Proposed Development.

The CEMP and the measures detailed in this Traffic Management Plan are part of the main requirements for consents for planning permissions. As such, the contractor (and all sub-contractors) onsite are obligated to incorporate these traffic management requirements (contained herein) in all operations.

The general methods and principles detailed within this document will be adhered to by the contractor as they are committed to reduce the traffic disruption in the construction work of the Proposed Development.

1.2 Statement of Authority

The Traffic Management Plan has been prepared by Michael Garvey of Jennings O'Donovan & Partners Limited, Finisklin, Sligo. Established in Sligo in 1950, Jennings O'Donovan & Partners Limited 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 Proposed Development, as shown in **Figure 1.1**, is located ~14.5 km northwest of Ballina Town, ~5.2 km northwest of the village of Killala and ~4 km east of Ballycastle village in north Co. Mayo. The Wind Farm Site has a total area of ~108.06 ha. A Site Entrance Map is shown in **Figure 1.2**. The Wind Farm Site is located within the townland of Ballymurphy, Ballynaleck, Barnhill Lower, Barnhill Upper, Barroe, Billoos, Carn, Carrickanass, Carrowmore, Castlelackan Demesne, Castletown, Conaghra, Glebe, Lackanhill, Lecarrowntemple, Lissadrone East and Lissadrone West.

The GCR, which extends over a length of 13.55 km is in the townlands of Barroe and onto the townlands of Carrad More, Tawnaghmore Upper, Rathbaun, Carrickanass, Cloonavarry, Doonamona, Rathcash, Castlereagh, Rathowen West, Rathowen East, Magherabrack, Cloonawillin, Killala, Mullafarry, Lisglennon, Tawnaghmore Lower, Ballinteean and Carrowreagh.

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 assessed as part of **EIAR Chapter 17: Traffic and Transport**.

The EIAR has considered three possible Turbine Delivery Routes (TDR) with a particular focus on the final leg of the TDR between the Wind Farm Site and the Northern part of Ballina town Co. Mayo:

Option 1: Turbine components will be transported from Killybegs Port (Donegal) to the Wind Farm Site via the R263, N56, N15, N4, N59, L-1141, R294, L-1119, N59, L-1108, R315, L-51722, L-51732.

Option 2: Turbine components will be transported from Galway Port (Galway) to the Wind Farm Site via the R339, R336, N83, N17, N5, L-1331, N5, N58, N26, N59, L-1108, R315, L-51722, L-51732.

Option 3: Turbine components will be transported from Foynes Port (Limerick) to the Wind Farm Site via the N67, N69, N18, M18, M17, N17, N5, L-1331, N5, N58, N26, R294, N59, L-1108, R315, L-51722, L-51732.

The Wind Farm Site is located in a rural setting and housing density in the area is low. There are 266 houses within 2 km of the proposed turbines. The closest inhabited dwelling to a turbine not associated with the Proposed Development (H3) is located 554 m from the nearest turbine (AT08). The V117 turbine with a 135 m blade tip height (4 x 135 m = 540 m) maintains 540 m housing buffer.

There is 1 no. disused vacant dwelling (H1) located c. 265 m southwest of AT12. This dwelling is under the control of the Developer and as part of the planning application, permission is sought for it to be converted and used as an operations building for the lifespan of the Proposed Development (**EIAR Chapter 2: Development Description**, **Section 2.6.8**).

There is 1 no. dwelling (H2) located c. 321 m southwest from AT01. This property is under the control of the Developer and the owner is a financial beneficiary of the Proposed Development. The owner has confirmed that this property will remain unoccupied for the operational lifespan of the Proposed Development.

Figure 1.1: Site Layout Map

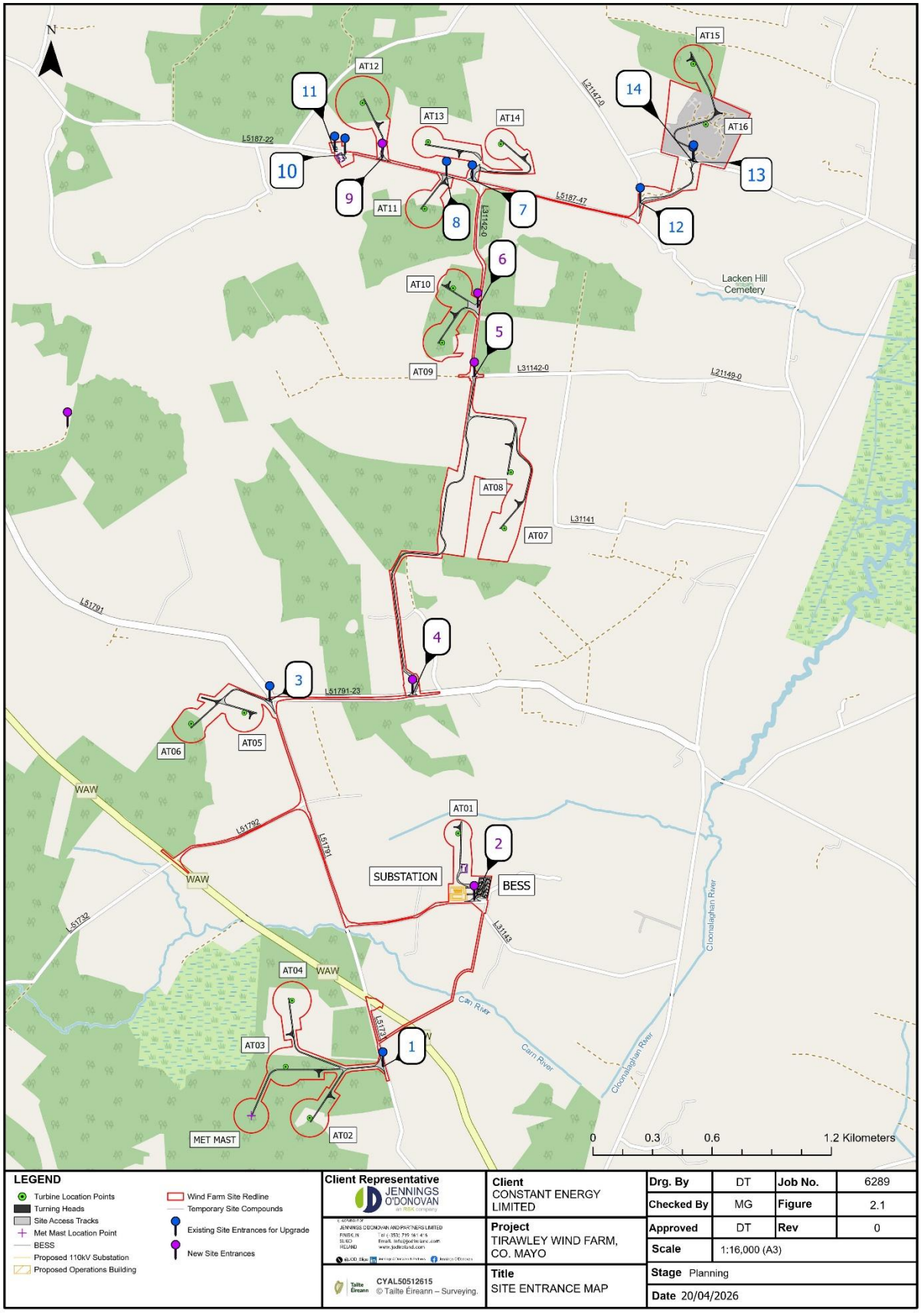


Figure 1.2: Site Entrance Map

2 EXISTING PUBLIC ROAD NETWORK

2.1 Existing Roads in the Vicinity of the Site

Access to the Wind Farm Site will be from a total of 14 entrances, 5 new and 9 existing, refer to **Figure 1.2** and **Table 2.1, Site Entrance Description**. Each entrance will open out onto a local road, (speed limit 60 km to 80 km) and will be constructed or upgraded to accommodate the swept path of abnormal load vehicles accessing the Wind Farm Site during the delivery of turbine components. Visibility splays of 70 m to 160 m will be available from a 3.0 m setback in accordance with TII specifications and with the Mayo County Development Plan. The junctions will be a stop-controlled junction with priority for public traffic.

Table 2.1: Site Entrance Description

Site Entrance Description				
No.	**Entrance**	**Access To**	**Description**	**Road Class**
1	Existing	AT02, AT03, AT04 and Met Mast	Turn Left off the L5173 onto Site Access Track	Local
2	New	AT01, TCC, Onsite Substation and BESS	Turn right off L51791, travel south along local road L31143, then turn right onto Site Access Track	Local
3	Existing	AT05, AT06	Turn right off local L5179 road, then onto Site Access Track	Local
4	New	AT07, AT08,	Turn left off local road L5179-23 onto Site Access Track	Local
5	New	AT07, AT08,	Turn left off local road L-5179-0 onto Site Access Track to AT07, AT08 Turn right off local road L-5179-0 onto local road L-311420 onto Site Access Track to AT09 and AT10.	Local
6	New	AT09, AT10	Turn left off local road L31142-0 onto Site Access Track	Local
7	Existing	AT13, AT14	Turn left off local road L5187-47 , then right on access track.	Local
8	Existing	AT11	Turn left off local road L5187-47 onto Site Access Track	Local
9	New	AT12	Turn right off local road L5187-47 onto Site Access Track	Local
10	Existing	TCC	Turn left off local road L5187-47 onto Site Access Track	Local
11	Existing	Operations Building	Turn right off local road L5187-47 onto Site Access Track	Local

Site Entrance Description				
No.	**Entrance**	**Access To**	**Description**	**Road Class**
12	Existing	Site Access Track, Entrance 13	Turn right off local L21147-0 road onto Site Access Track	Local
13	Existing	Site Entrance 14	Exit Site Access Track at Site Entrance 13, continue north across width of local road to Site Entrance 14	Local
14	Existing	Abandoned Quarry, AT15, AT16	Continue north across width of local road from Site Entrance 13 to 14 and onto Site Access Track	Local

Plate 1 – R314 Regional Primary Road

The R314 and R315 regional road (**Plate 1**) is a 6.0 m wide single carriageway with grass verges and an 80 km/h speed limit classification. The R314 runs north to south between the N59 at Ballina Town and Killala village. The R314 will be used by wind farm construction, operations and decommissioning traffic to access the Proposed Development.

Plate 2 – Typical Local Road

Site Entrances on the local roads are located at existing farm entrances which will be upgraded as part of the Proposed Development. The local roads (**Plate 2**) are typically 3.0 m wide single carriageway with grass verges and has a 60 km/h speed limit classification. The local road network runs between the R314 and R315 between the villages of Killala and Ballycastle. The local road network will be used by wind farm construction, operations and decommissioning traffic to access the Proposed Development.

The existing junction and site entrances will be modified during the construction phase; **Plate 3 Typical Site Entrance Upgrades** is a simple T-junction with priority for a regional road. This type of junction operates with free flow conditions with a level of service of A. Road network and junction capacity is measured in terms of level of service (LOS) thresholds which are based on the queuing delay on each arm of the junction. The transportation LOS system uses the letters A through F, with the following definitions: A = Free flow, B = Reasonably free flow, C = Stable flow, D = Approaching unstable flow, E = Unstable flow, F = Forced or breakdown flow.

3 SITE ACCESS

3.1 Proposed Wind Farm Site Entrances

The location of the site entrances to the Proposed Development are shown on **Figure 1.2.** Site Entrances will be modified or created for abnormal loads to access the Proposed Development Proposed from the R314 and R315 national primary road. Site Entrances will consist of a simple T-Junction located at an existing field entrance. The existing field entrance will be gated. The existing field entrance will remain operational for agricultural use until the required for access during the construction phase, operation phase or decommissioning traffic.

The field access will be upgraded as part of the Proposed Development, upgrades will include 215 m visibility splays, 4 m access track, bound surfacing at Reginal Road intersections and field gate set back from the carriageway edge. Site Entrances will be used during delivery of abnormal loads such as turbine components, cranes and transformers and will be used for general construction traffic. A overrun area will be constructed at the junction to accommodate the swept path and wheel loading from abnormal load vehicles delivering turbine components during the turbine delivery phase of the Proposed Development. When Site Entrances are not in use for deliveries, access to them will be restricted. The fencing will be used to restrict access and to prevent parking at the junction in the vicinity of the local road network. Any overrun areas at junctions will be reinstated with topsoil and seeded with grass following the delivery of turbine components and the removal of cranes from the site. The layout Site Entrances during the construction phase of the Proposed Development is shown in **Plates 3 - 4.** During the operations phase of the Proposed Development, Site Entrances will have a dwell area with a gradient of -2.5 % at its intersection with the local road network with drainage falling towards the Proposed Development and away from the existing carriageways. Visibility at each Site Entrance will be in accordance with the relevant TII standards and will have relevant visibility splays in accordance with the relevant road safety standards, they have a 3.0 m setback distance for the existing road.

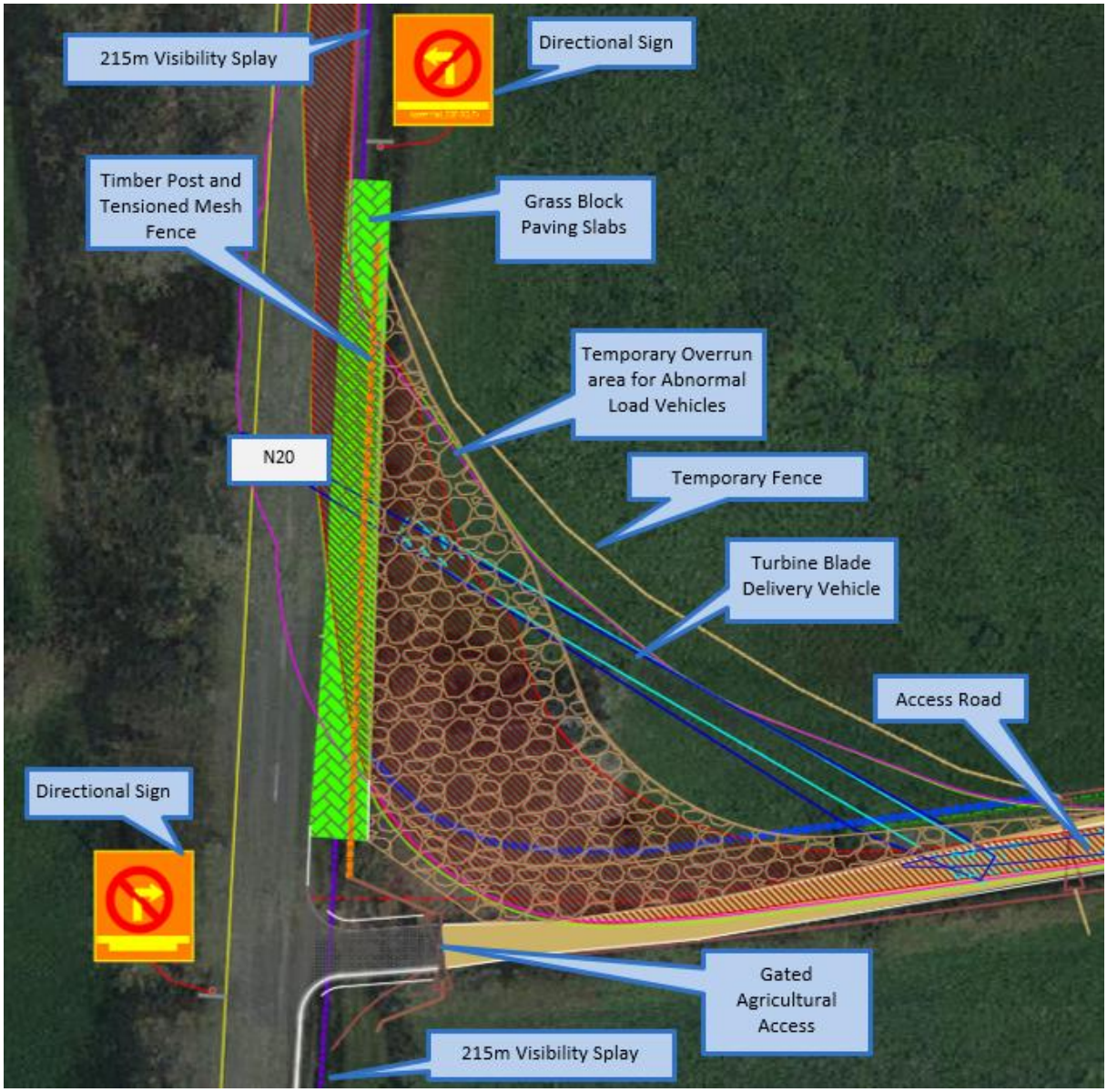


Plate 3 – Typical Site Entrance Upgrades

Plate 4 – Typical Site Entrance Upgrades

3.2 Junction Signage and Traffic Management

The Proposed Development 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 wind farm. 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 wind farm the site entrance junctions will be signposted with advance warning signs in accordance with Chapter 8 of the Traffic Signs Manual. The typical layout of a site entrance junction with advance warning signage for any Site Entrances is shown on **Plate 5.**

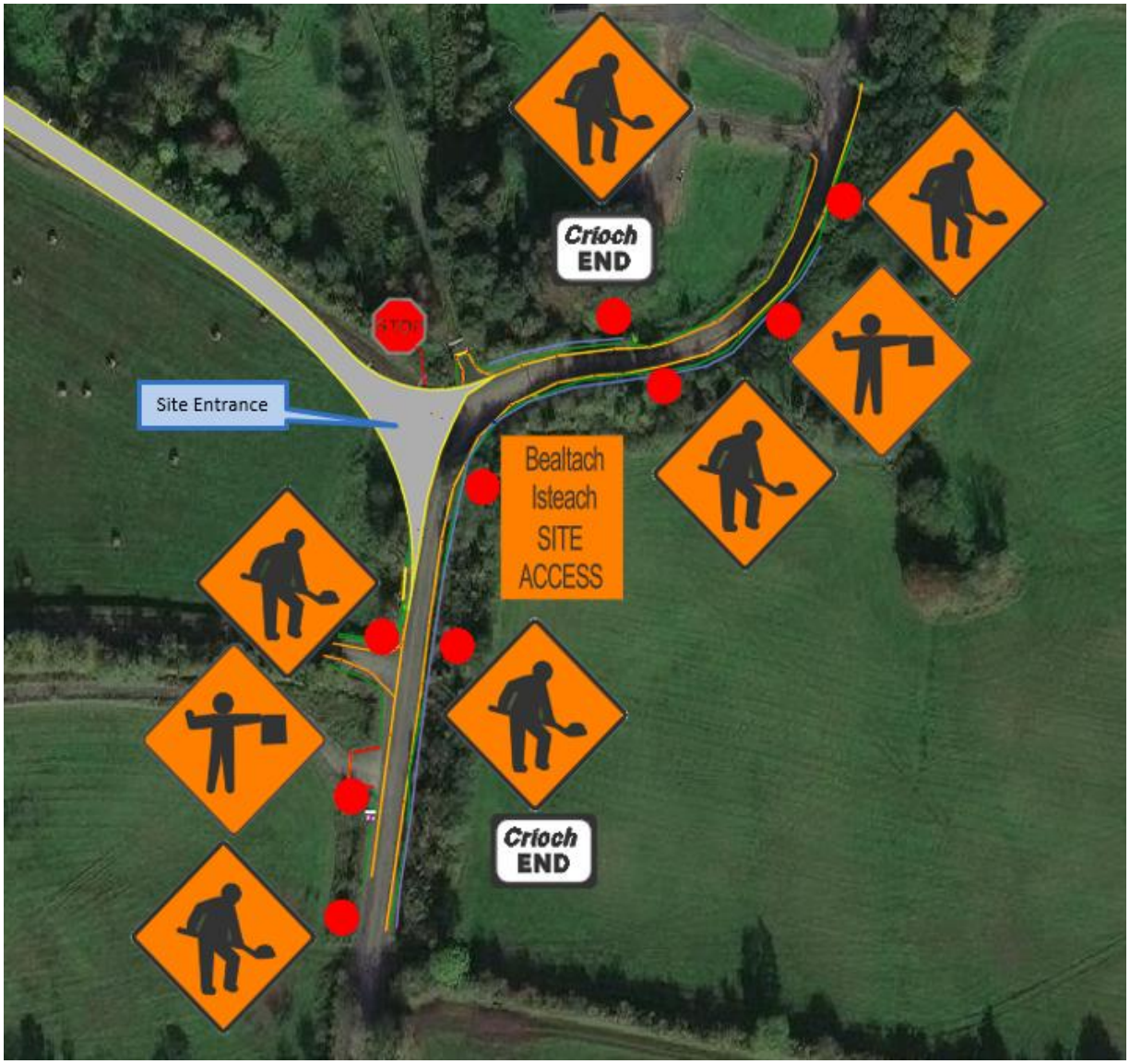
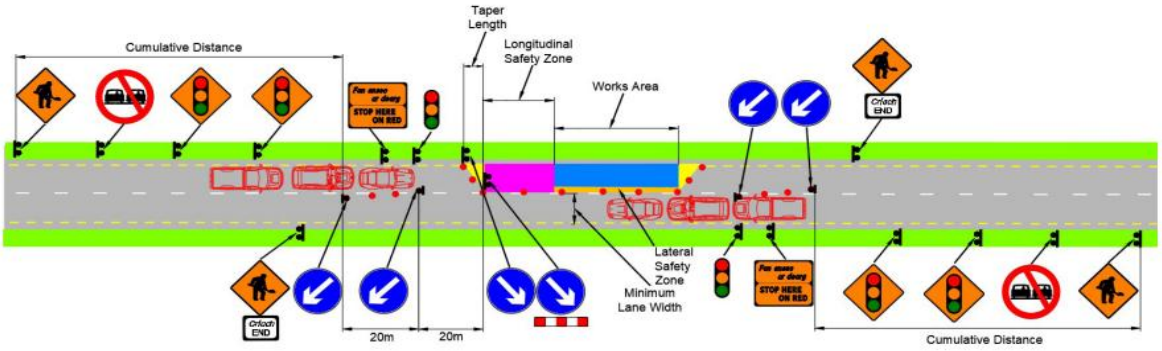


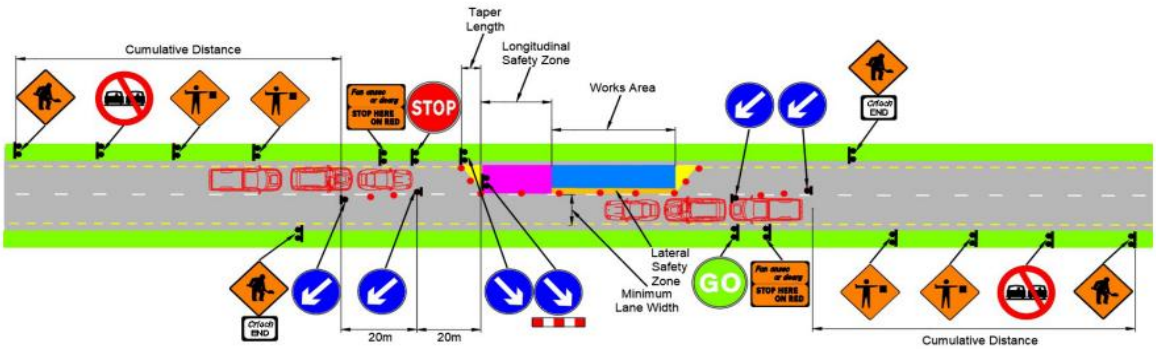
Plate 5 – Typical Site Entrance Signage

Traffic management will be required during the construction of the site entrances on the local road network to construct the site entrances to the Proposed Development. Traffic management will also be required during the delivery of turbine components at each Site Entrance and the local road network. During the construction of the Proposed Development site access junction 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 entrances on the local road network will be carried out over a period of approximately two to three weeks. The majority of the site entrance works, such as the construction of the temporary overrun area for abnormal load vehicles, will be carried out from within the site and will not impact on the operation of the existing road network. Deliveries of materials for the construction of site entrances will access via existing site entrances off the local road network. Works at site entrances involving alterations to fencing and the construction of the interface with the

regional or local road carriageways will require temporary traffic management to be complete the works. Works at site entrances which require temporary traffic management will be completed outside peak traffic hours on the existing road network, and the temporary traffic management will be removed at the end of each work shift to allow two-way traffic on the road, subject to a safety assessment of the worksite. It is proposed to implement a cautionary speed limit at the approach to the works when temporary traffic management is in place at each site entrance. During the delivery of turbine components traffic management will be carried out using flagmen at the Site Entrances, traffic management during 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 site. During the delivery of 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 turbine delivery is shown on **Plate 6**.



Temporary Traffic Signals – Site Entrance Construction



Stop & Go – Turbine Delivery

Plate 6 – Typical Traffic Management Setups

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 Proposed Development will use the site entrances and road network shown on **Figure 1.2**. Workers employed on the Site will follow the road network shown on **Figure 1.2** to access the works. HGV access to site entrances will operate using a one-way system. The haul route will be signposted with directional signs at all major junctions with a one-way system imposed on the construction traffic. Site Entrances will be used during all phases of the wind farm including construction, operation and decommissioning primarily but not limited to the following activities:

- Construction of Site Entrance; The construction of site entrances will be carried out over a period of approximately two to three weeks. The majority of the works will be carried out from within the site and will not impact on the operation of the local roads Works at site entrances which involve alterations to fencing and the construction of the interface with the existing public roads will require temporary traffic management. Works at site entrances which require temporary traffic management will be completed outside peak traffic hours, details of traffic management systems and speed reduction proposals are given in **Section 3.2** of this report.
- Delivery of construction materials and abnormal loads such as turbine components, cranes and transformers.
- Removal of turbine components from site using abnormal load vehicles during the decommissioning period.
- Construction of turbine hardstands and foundations.
- Access during the operation of the Proposed Development.
- Removal of materials including waste from site.
- Field access to agricultural land.
- Construction of the Onsite Substation.
- Construction of the Grid Connection.
- Construction of Met Mast.
- Alterations to the residential dwelling to an operations building
- Construction of the site compounds.

4.2 Material Supplies

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 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 **Plate 7**.

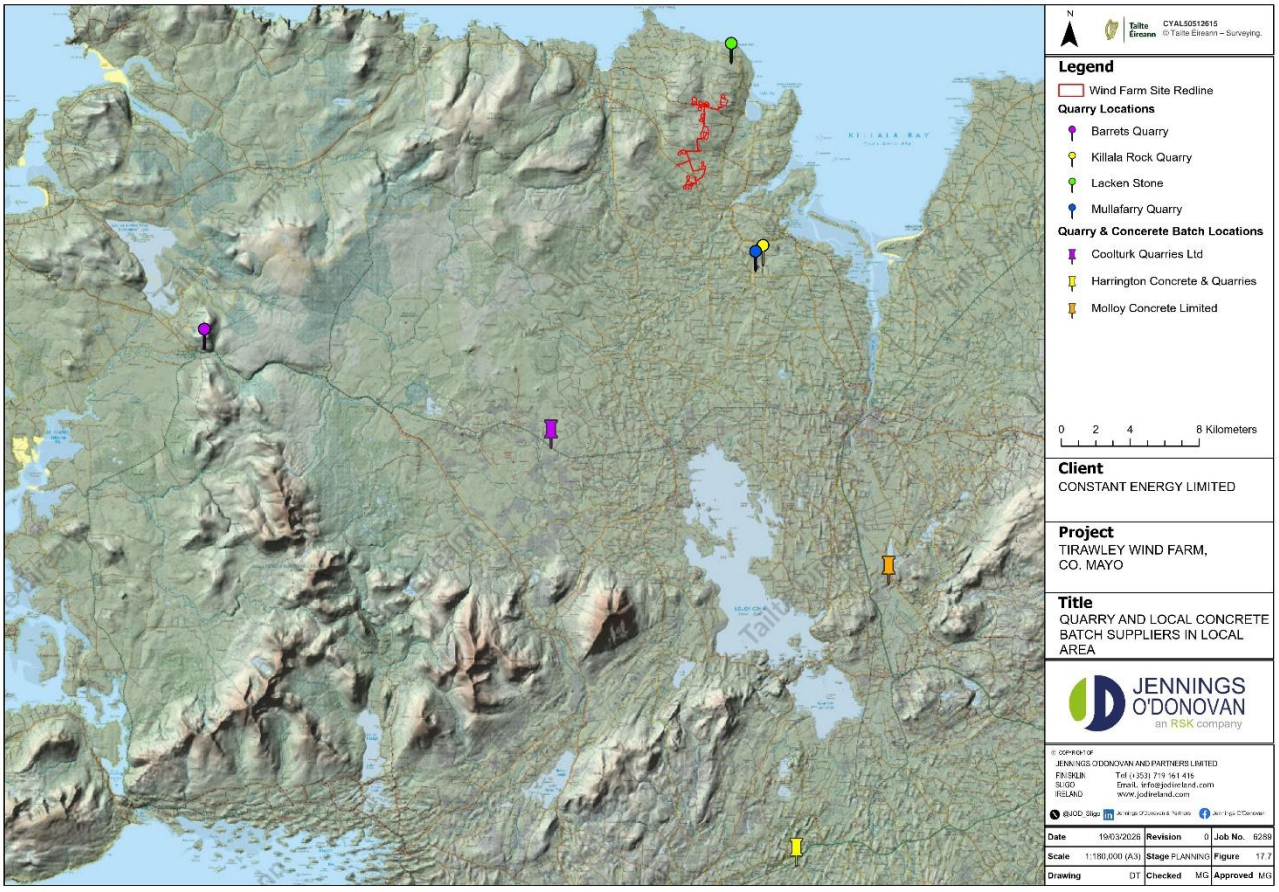


Plate 7 Location of Local Quarries

4.3 Haul Route for Wind Farm Grid Connection Traffic

All HGV traffic associated with the construction of Grid Connection will use the Site Entrances to access the works not along the public roads. All grid connection works will take place within the boundary of the Proposed Development.

4.4 Haul Routes for the Removal of Material from Site

Topsoil and unsuitable subsoil material resulting from Site clearance will be processed / graded onsite 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. Excavated material will be permanently stored in the 17 no. designated disposal areas on-site. Volumes of excavated material are detailed in the Proposed Development CEMP Spoil Management Plan. The construction of enabling works for 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.

4.5 Haul Route for Turbine Delivery Traffic

An initial desk study of the area was completed in advance of undertaking the route survey. This involved examining the TDRs utilised by existing wind farms in the locality (Killala Community Wind Farm, Oweninny Wind Farm Phase 1 & 2). These are assessed in detail in **EIAR Chapter 17: Traffic and Transport, Appendix 17.1 Turbine Delivery Route Report**.

On examination of these windfarms, three separate TDRs were identified:

- **TDR Option 1** – Killybegs Harbour, County Donegal to the Wind Farm Site (**Figure 17.1**). The route from Killybegs Harbour to Ballina Town has been previously utilized for the transportation of turbine components for the following wind farms: Oweninny Wind Farm Phase I (55 m blades) and Phase II (57.5 m blades), Sheskin Wind Farm (57.3 m blades), and Killala Community Group Wind Farm (49 m blades).
- **TDR Option 2** – Galway Port, County Galway to the Wind Farm Site (**Figure 17.2**). The route from Galway Port to Ballina Town previously assessed and considered as a potential TDR by the granted Oweninny Wind Farm Phase III. A swept path analysis using a 57.5 m blade was carried out as part of the Oweninny Wind Farm Phase III assessment.
- **TDR Option 3** – Foynes Port, County Limerick to the Wind Farm Site (**Figure 17.3**). Foynes is being used by Derrinlough Wind Farm, Co. Offaly to transport turbine components (towers) for 180 m tip height turbines. A portion of this route is shared with the Proposed Tirawley Wind Farm, travelling east from the port to Limerick City, then north to Galway on the M18. This leg of the route has been modified for turbine components. The route from Foynes Port to Ballina Town previously assessed and considered as a potential TDR by the granted Oweninny Wind Farm Phase III. A swept path analysis using a 57.5 m blade was carried out as part of the Oweninny Wind Farm Phase III assessment.

For the purposes of this EIAR, the TDR has been delineated into three stages i.e., Legs:

- **The First Leg** of the TDR travels from the ports to Ballina Town, Co. Mayo (**Figure 17.1 to 17.3**).
- **The Second Leg** of the TDR travels north from Ballina Town along the R315 and local public roads to the Wind Farm Site (**Figure 17.4**).
- **The Final Leg** of the TDR travels along the local public roads and Site Access Track's to each turbine's final location within the Wind Farm Site. At the Wind Farm Site, the turbines are accessed via multiple Site Entrance points. For the purposes of this assessment and the EIAR, the Final Leg of the TDR was divided into two distinct routes: Blue and Orange.
  - Blue route depicts the TDR for 4 turbines (AT01 - AT04), Met Mast, the Onsite Substation and Battery Energy Storage System (BESS), refer to (**Figure 17.5**).
  - Orange Route depicts the TDR for 12 turbines (AT05 to AT16), refer to (**Figure 17.6**).

The initial segment (the First Leg) of TDR options were not assessed in detail in this chapter, as it they been previously evaluated and employed by other operating wind farms in the region of the Wind Farm Site. This segment has already undergone modifications, including alterations to roundabouts, junctions, and roadside infrastructure, along with necessary upgrades, to facilitate the delivery of turbine components.

The three TDR options assessed, all share a common final section from Ballina Town to the Wind Farm Site. The TDR assessment for this Proposed Development has focused on the route from Ballina Town to the Wind Farm Site (Second Leg) and the public roads within the Wind Farm Site (Final Leg) (**Appendix 17.1**).

Mayo County Council were consulted in person by the Applicant on the 18th of August 2023 and again on the 9th March 2026 regarding the use of the public road network for haul routes to proposed Wind Farm Site. Traffic count data from the TII traffic counter on the N59 near Corballa as used to inform the location and duration of classified traffic counts carried out on the local road network.

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

The transportation of 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 turbine components between the port and the Proposed Development, 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 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 turbine components.

4.7 Enabling Works for Turbine Delivery on the Public Road Network

The haul routes for the transportation of turbine components between Port and the Proposed Development has been assessed by Jennings O'Donovan & Partners Limited using AutoTRACK software to determine the swept path of abnormal load vehicles delivering 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. A summary of the assessment in full detail, including the works locations on the turbine delivery route between Port and site are detailed in **Chapter 17: Traffic and Transport, Appendix 17.1 Turbine Delivery Route Report** of the **EIAR**.

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

The enabling works for transportation of 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 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 work being carried out onsite.

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 onsite. 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 onsite. 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 onsite. 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 Wind Farm shall be agreed with the relevant service provider prior to works commencing onsite.

5.2 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.

5.3 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 Developer for review 1 month before scheduled works.

5.4 Site Access Roads

All construction traffic shall access the site from the local road network. 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.

5.5 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.

5.6 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 Proposed Development 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.

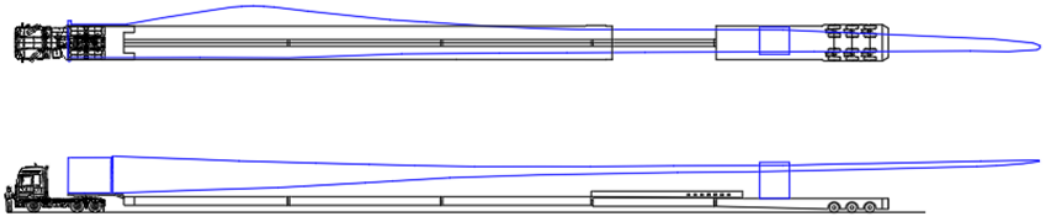
5.7 Emergency Access Routes

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.

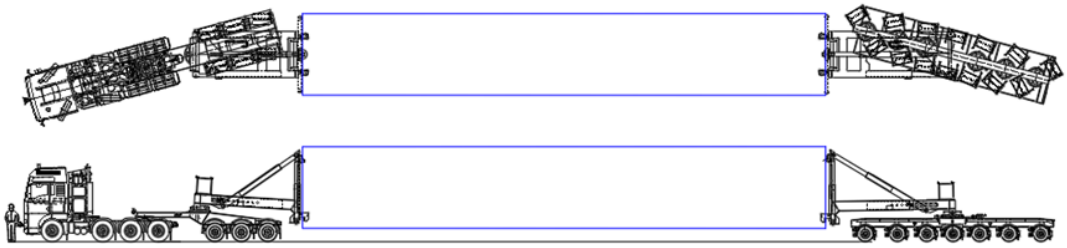
6 DELIVERY VEHICLE SPECIFICATION

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 turbine components will be carried out using specialist abnormal load vehicles. Turbine blades will be delivered on an extendable semi-trailer, one per trailer. The turbine blades will be 76.5 m long, a portion of the blade will overhang the rear of the trailer. Following delivery to the Site, the trailer will be retracted for the return trip. Each turbine tower will be delivered to site in sections on extendable semi-trailers, the tower sections range in length from 33.0 m to 17.5 m with a maximum width of 4.45 m. All material deliveries will have a maximum axle load of 12 tonnes per axle, and a maximum gross vehicle weight of 166.7 tonnes. The main crane for turbine erection will have a maximum axle loading of 12 tonnes per axle and a maximum total weight of 100 tonnes. Vehicles delivering 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 haul route with spans not exceeding 50 m 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. Abnormal load vehicles used for the transportation of turbine components are shown below (**Plate 8 and 9**). The transport vehicles

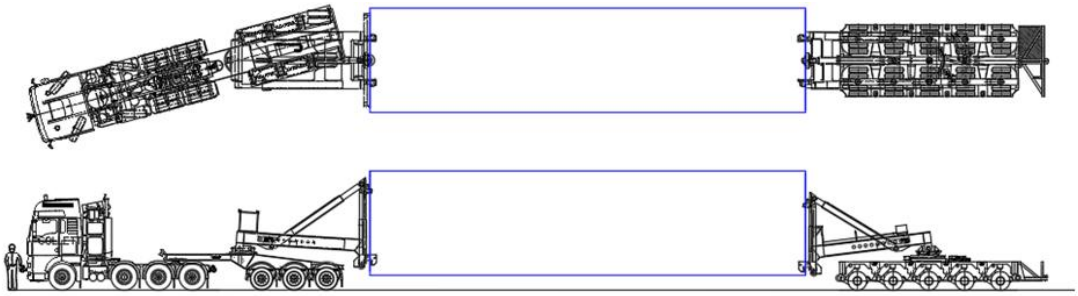
used for transportation of components may differ from those shown below depending on the haulage contractor's preferences.



Typical Turbine Blade Transport Vehicle

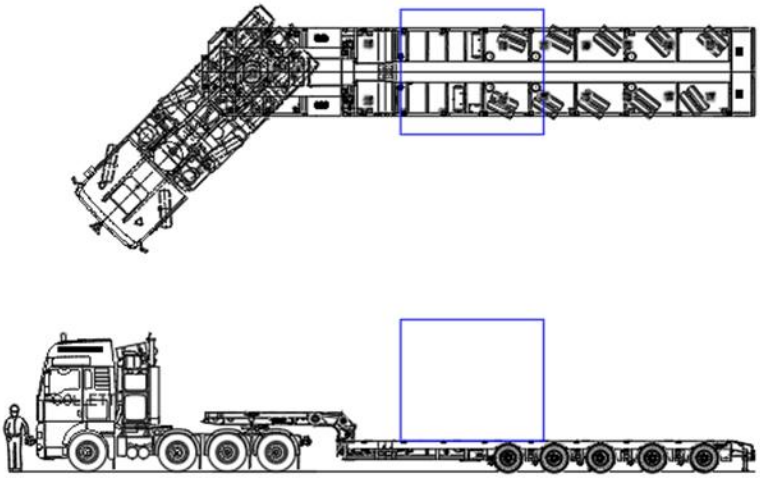


Typical Turbine Tower Transport Vehicle

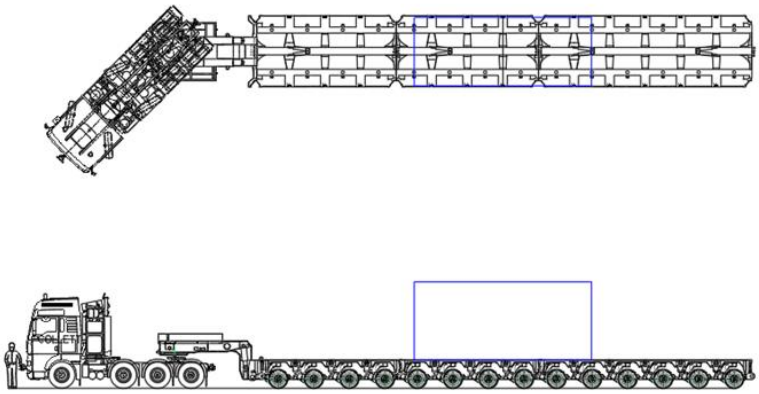


Typical Nacelle Transport Vehicle

Plate 8 – Abnormal load vehicles used for the transportation of turbine components Part 1



Typical Hub Transport Vehicle



Typical Generator Transport Vehicle

Plate 9 – Abnormal load vehicles used for the transportation of turbine components Part 2

7 CONSTRUCTION, OPERATION & DECOMMISSIONING TRAFFIC VOLUMES

7.1 Construction Period

The construction period of the Proposed Development is anticipated to take approximately 21 months with the majority of HGV deliveries to site concluding in month 12. 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 turbine foundation construction and turbine installation may be carried. All construction activities outside normal site working hours will be agreed with Limerick City and County Council. The Proposed Developments potential effects during this period, including summaries of deliveries and timeframes is broken down in detail in **Chapter 17: Traffic and Transport, Section 17.5** of the EIAR.

7.2 Construction Period – Trip Generation HGV's

The estimated HGV deliveries to the Site during the construction period are broken down in **Chapter 17: Traffic and Transport, Section 17.5** of the EIAR, referring to the following tables:

- **Table 17.22:** HGV and Abnormal Load Deliveries – Associated with Civil/Electrical Construction Works
- **Table 17.23:** HGV and Abnormal Load Deliveries – Associated with Wind Turbine Components
- **Table 17.24:** HGV Load Deliveries – Associated with Grid works.

The trips generated by the construction of the Proposed Development 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 Proposed Development are given in the **CEMP – Management Plan 3 - Spoil Management Plan**.
- All material excavated during enabling works for turbine deliveries will be removed from site and replaced with imported material.
- Material used for the construction of temporary compounds and junction widening will be incorporated into the site road construction at the end of the contract and will not be removed from site.

The majority of HGV movements to and from Site will occur during the first ten to 12 months of the construction period and will be associated with Site Access Track construction, Turbine Hardstand construction and Turbine Foundation construction.

The first month of the wind farm construction period will involve deliveries of materials for site access works, 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 35 HGV vehicles (70 HGV movements) will visit the Site on a daily basis during the first month of the contract.

Months 2 to 12 will involve deliveries of materials for Turbine Hardstands, Turbine Foundations, site access tracks, Onsite Substation and Control Building and Wind Farm Internal Cabling, this period will include deliveries of road construction materials for access tracks and Turbine Hardstands, ready mix concrete and steel reinforcement for Turbine Foundations. The peak traffic will occur on 9 days during the 9-month period between months 2 to 12 when Turbine Foundations are poured.

Months 12 to 21 will involve HGV movements for works associated with turbine delivery, turbine erection, turbine commissioning, electrical works, Grid Connection works, road reinstatement, road surfacing, site landscaping and the removal of temporary works materials such as offices and fencing from site. It is anticipated that the maximum movements will visit the site on a daily basis during this period.

Based on the indicative timetable outlined in **Chapter 17: Traffic and Transport, Section 17.5** of the EIAR the peak times for HGV deliveries to Site will be during months 2 to 12. The Proposed Development traffic will be distributed throughout the day with morning, afternoon and evening peaks. The distribution of Proposed Development Traffic is outlined in **Chapter 17: Traffic and Transport, Section 17.5** of the EIAR.

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 45-63 at the height of the construction period. It is expected that the majority of workers will arrive on site in mini-buses and crew vehicles which are used to transport teams of workers from different construction disciplines. Labour vehicle sharing will be actively encouraged to reduce vehicular movements.

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

8 PROPOSED MITIGATION MEASURES

The impact of the traffic volumes generated by the Proposed Development have been identified as being temporary and associated with a 21-month construction and a 4-to-6-month decommissioning period. The Proposed Development will generate low volumes of traffic during the operation of the wind farm.

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 Proposed Development 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 construction 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 along the local road network advising the public as to the presence of the construction site. The site entry points will also be appropriately signed. Access to the construction site will be controlled by on site personnel and all visitors will be asked to sign in and out of the site by security / site personnel. Security gates will be sufficiently set back from the road, so that vehicles entering the 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, c oncrete 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 Proposed Development 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 Proposed Development.

Increased volumes of traffic will be generated by the Proposed Development during the construction and decommissioning periods. Traffic analysis carried out in **Chapter 17: Traffic and Transport** of the EIAR including reports in **Appendix 17.1 Tirawley Turbine Delivery Route** and **Appendix 17.2 Palmerstown Bridge Report** for the Proposed Development shows that traffic generated by the Proposed Development during the construction, operation and decommissioning phases of the Proposed Development can be accommodated on the existing public road network.

During the operational phase of the Proposed Development, the 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 Proposed Development.

All traffic accessing and leaving the 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 Site access. 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 will be provided onsite and will remain for the duration of the construction period. The compound will be used to store construction materials for the Proposed Development and as a parking and turning facility for construction and delivery traffic.

Components for each 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.