EDF RENEWABLES IRELAND LIMITED

KELLYSTOWN WIND FARM

CO. LOUTH

CONSTUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

MANAGEMENT PLAN 7

TRAFFIC MANAGEMENT PLAN

NOVEMBER 2024

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DOCUMENT APPROVAL

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	Prepared by	**Reviewed/Approved by**
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6918/703/JD

KELLYSTOWN WIND FARM

TRAFFIC MANAGEMENT PLAN

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1 INTRODUCTION

1.1 Brief

Jennings O'Donovan & Partners Limited has been appointed by EDF Renewables Ireland Ltd to prepare a Traffic Management Plan ("TMP") for the proposed Kellystown Wind Farm, Co. Louth. The Kellystown Wind Farm Site is located in the townlands of Brittas, Brownstown, Cartanstown, Drumshallon, Gallstown, Groom, Kearneystown, Keeverstown, Piperstown, Rokeby, Stonehouse and Swinestown. Co. Louth. The development will consist of 5 wind turbines with a maximum overall ground to blade tip height of up to 180 metres. 38kV on-site substation, Permanent Met Mast, underground Grid Connection from the onsite 38kV substation to Drybridge 110kV Substation.

1.2 Statement of Authority

The Traffic Management Plan has been prepared by John Doogan 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 site is located to the east of the M1 motorway, approximately 9.3km to the north of Drogheda. The Proposed Development will have four site entrances points from the public road network, two access points from the L2674 local road and two access points from the L2275. The Proposed Development will consist of 5 turbines with a maximum overall ground to blade tip height of up to 180 metres, 38kV substation, Meteorological Masts and underground grid connection from onsite 38kV substation to Drybridge 110kV Substation. Each turbine will be founded on a reinforced concrete foundation and will have a crane hardstand constructed from granular materials to accommodate cranes and store turbine components during turbine erection. Access to the turbines will be from two site entrances on the existing L2674 local road via a network of site roads constructed from granular materials. The L2674 access points will be constructed to accommodate the swept path and to withstand wheel loading from abnormal load vehicles delivering turbine components to the site. Access to the onsite 38kV substation and the met mast will be from two existing access points on the L2275. The turbines will be linked to the onsite 38kV substation by underground electrical and communications

cabling. The Proposed Development will be linked to the National Grid by an underground grid connection constructed from the onsite 38kV substation to the existing Drybridge 110kV substation. The wind farm site will be drained by an integrated site drainage network consisting of clean and dirty water drainage systems. The Location and layout of The Proposed Development is shown on **Figure 1.** The Grid Connection route is shown on **Figu**

Figure 1 – Site Layout

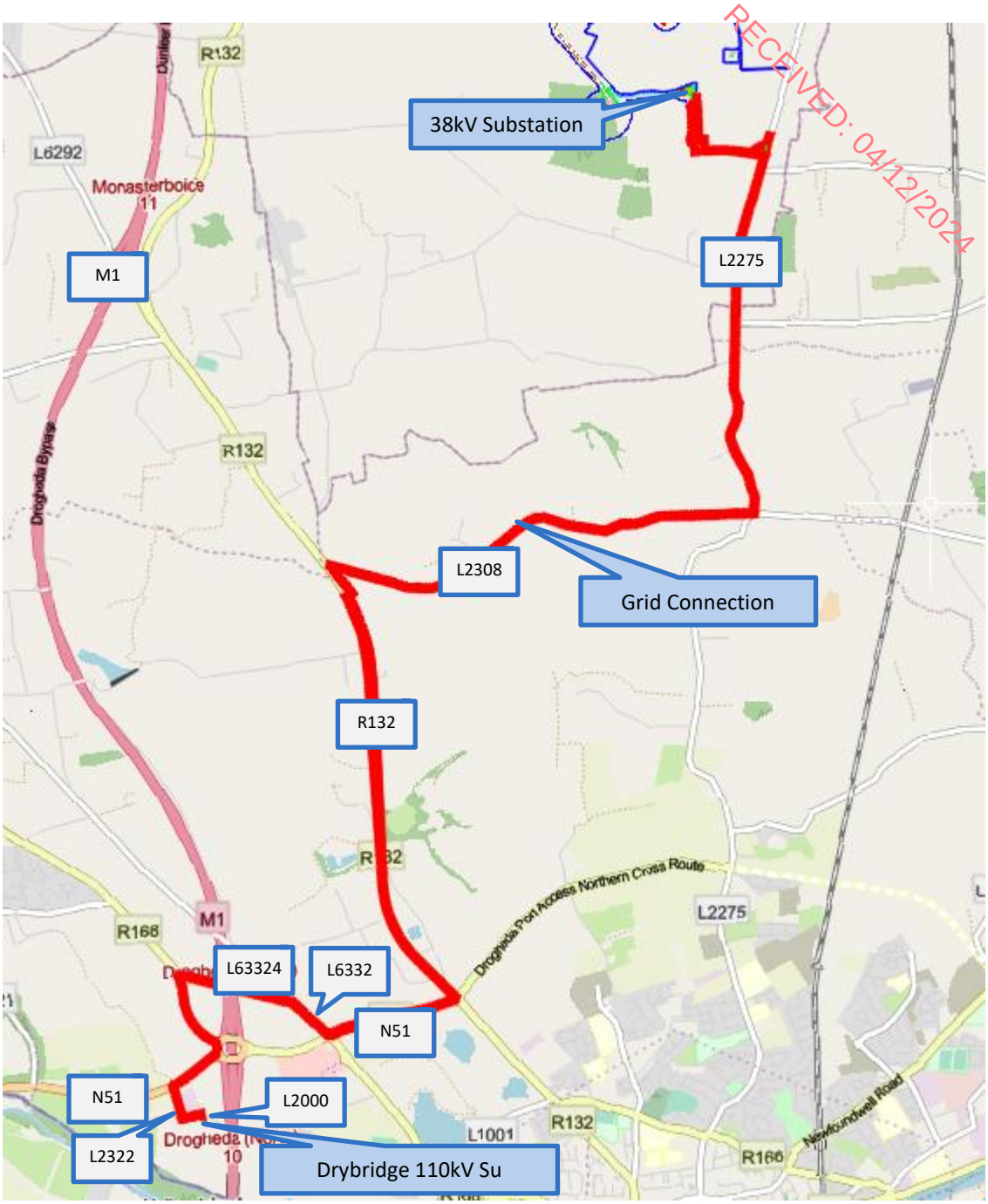


Figure 2 – Grid Connection Route

2 EXISTING PUBLIC ROAD NETWORK

2.1 Existing Roads in the Vicinity of the Site

Site entrances No. 1 and No.2 are located on the L6274 local road (Reference Plate 1). The L6274 is a 6.0m wide single carriageway with grass verges. The L6274 runs between the R132 regional road and the L2275 local road and has an 80km/h speed limit classification. The L6274 is in good condition and will be the primary access road to the site during the construction of the wind farm.

Plate 1 – L6274 Local Road

Site entrance junction No. 3 and No. 4 are located on the L2275 local road (Reference Plate 2). The L2275 is a 5.0m wide single carriageway with grass verges and has an 80km/h speed limit classification. The L2275 runs between the R170 near the village of Grangebellew and the L6302. The L2275 is in good condition and will be used by wind farm construction and operations traffic to access the onsite 38kV substation and met mast.

Plate 2 – L2275 Local Road

The R132 runs to the west of the wind farm site and links the site to the M1 motorway at junctions 11 and 12 (Reference Plate 3). The R132 is a 6.0m wide single carriageway with two lanes, hard strips and grass verges.

Plate 3 – R132 Regional Road

2.2 Existing Junctions in the Vicinity of the Site

The existing R132 / L6274/ L2254 (Reference Plate 4) is a staggered junction with priority for R132 traffic. The junction is signed and marked with regulatory and directional signage and roadmarkings. The junction is not lit by public lighting.

Plate 4 – R132 / L6274 /L2254 Priority junction

The existing L2275 / L6274 (Reference Plate 5) is a simple junction with priority for L2275 traffic. The junction is signed and marked with regulatory and directional signage and roadmarkings. The junction is not lit by public lighting.

Plate 5 – L2275 / L6274 Priority Junction

The existing L2275 / L6277 (Reference Plate 6) is a is a mini roundabout junction. The junction is signed and marked with regulatory and directional signage and roadmarkings. The junction is not lit by public lighting.

Plate 6 – L2275 / L6277 Mini Roundabout Junction

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.**

Site entrance No. 1 will be constructed on the L6274 local road. The site entrance will consist of a simple T-Junction with priority for L6274 traffic. The junction will be constructed to access Turbine T1 during the construction and operation of The Proposed Development. The junction will be constructed to accommodate HGV vehicles with an extended overrun area to accommodate the swept path and wheel loading from abnormal load vehicles delivering turbine components during the turbine erection phase of the project. During the construction wind farm infrastructure such as roads and hardstands, the overrun area at the junctions for abnormal load vehicles will not be in use and access to the overrun areas will be restricted using temporary traffic barriers. The temporary traffic barriers will be used to channelise traffic at the junctions and to prevent parking in the vicinity of the L6274. The overrun area at the junction will be reinstated following the delivery of turbine components. The site entrance junction will have a dwell area with a gradient of -2.5% at its intersection with the L6274 with drainage falling towards the wind farm site and away from the L6274 carriageway. The site entrance junction will be gated and fenced with stock proof fencing during the construction period, the access gates will be set back 20m from the L6274 carriageway edge to accommodate HGV vehicles entering the wind farm site and to eliminate the possibility of vehicles blocking the L6274. Wheel cleaning facilities will be provided at site access junctions to prevent the spread of mud and debris onto the L6274 carriageway. The Layout of site entrance

No.1 is shown on **Figure 3**. Visibility at the junction will be in accordance with Louth County Council Development Plan, Table 13.13 for a non-domestic development on a local road and will have visibility splays of 75m measured from a 4.5m setback.

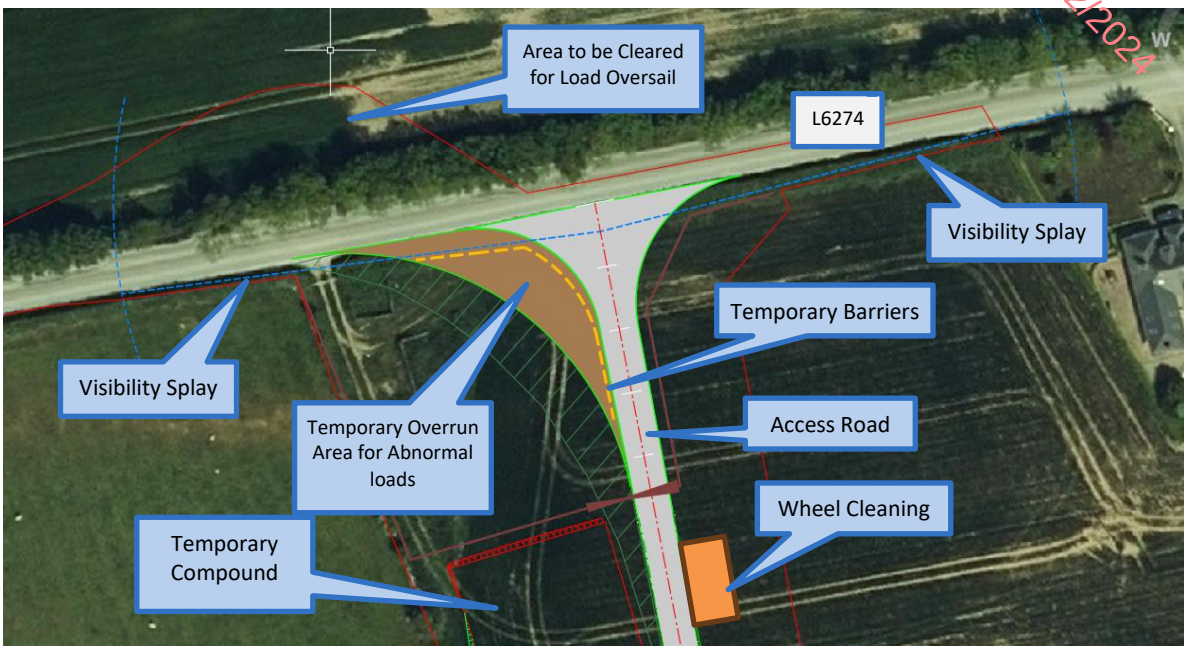


Figure 3 – Site Entrance No. 1

Site entrance No. 2 will be constructed on the L6274 local road. The site entrance will consist of a simple T-Junction with priority for L6274 traffic. The junction will be constructed to access Turbines T2, T3, T4 and T5 during the construction and operation of the wind farm. The junction will be constructed to accommodate HGV vehicles with an extended overrun area to accommodate the swept path and wheel loading from abnormal load vehicles delivering turbine components during the turbine erection phase of the project. During the construction wind farm infrastructure such as roads and hardstands, the overrun area at the junctions for abnormal load vehicles will not be in use and access to the overrun areas will be restricted using temporary traffic barriers. The temporary traffic barriers will be used to channelise traffic at the junctions and to prevent parking in the vicinity of the L6274. The overrun area at the junction will be reinstated following the delivery of turbine components. The site entrance junction will have a dwell area with a gradient of -2.5% at its intersection with the L6274 with drainage falling towards the wind farm site and away from the L6274 carriageway. The site entrance junction will be gated and fenced with stock proof fencing during the construction period, the access gates will be set back 20m from the L6274 carriageway edge to accommodate HGV vehicles entering the wind farm site and to eliminate the possibility of vehicles blocking the L6274. Wheel cleaning facilities will be provided at site access junctions to prevent the spread of mud and debris onto the L6274 carriageway. The Layout of site entrance

No.2 is shown on **Figure 4**. Visibility at the junction will be in accordance with Louth County Council Development Plan, Table 13.13 for a non-domestic development on a local road and will have visibility splays of 75m measured from a 4.5m setback.

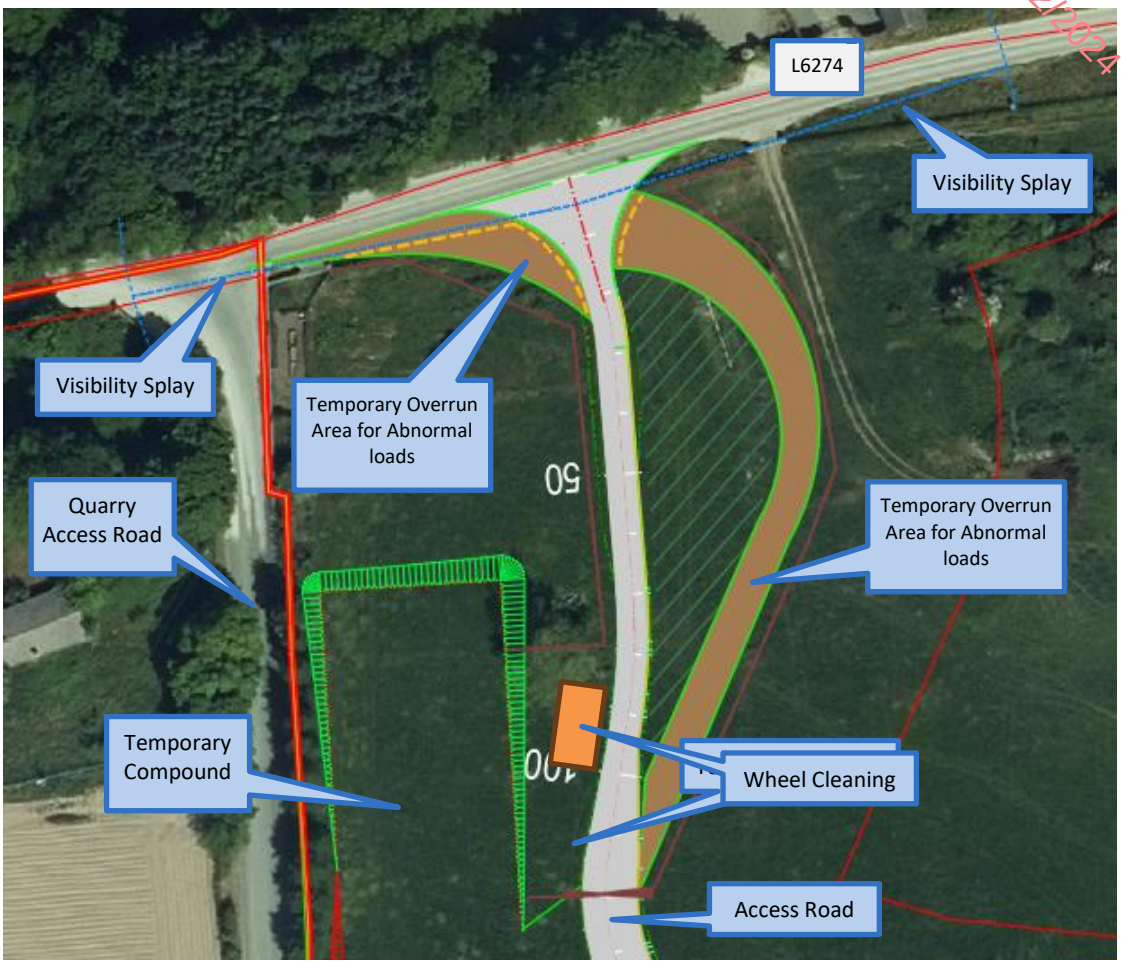


Figure 4 – Site Entrance No. 2

Site entrance No. 3 is an existing priority access junction on the L2275 local road. The junction will be used during the construction and operation of the onsite 38kV substation. The existing access will be realigned to increase visibility splays at the junction. The Layout of site entrance No.3 is shown on **Figure 5**. Visibility at the junction will be in accordance with Louth County Council Development Plan, Table 13.13 for a non-domestic development on a local road with visibility splays of 75m measured from a 4.5m setback.

Figure 5 – Site Entrance No. 3

Site entrance No. 4 is an existing priority access junction on the L2275 local road. The junction will be used during the construction and operation of the permanent met mast. It is not proposed to modify the existing junction as part of the wind farm development. The Layout of site entrance No.4 is shown on **Figure 6**.

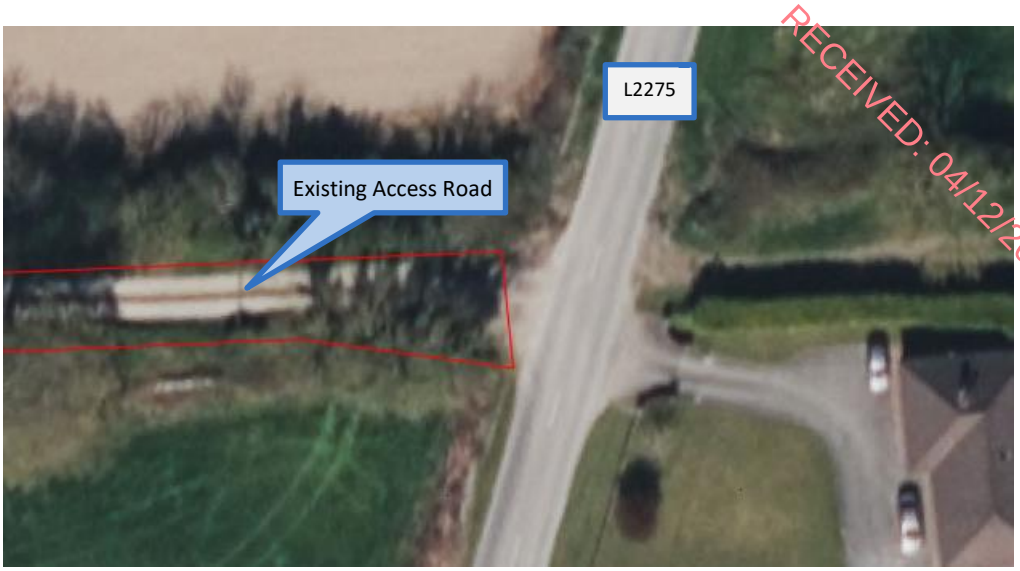


Figure 6 – Site Entrance No. 4

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 layout of site entrance junction advance warning signage is shown on **Figure 7.**

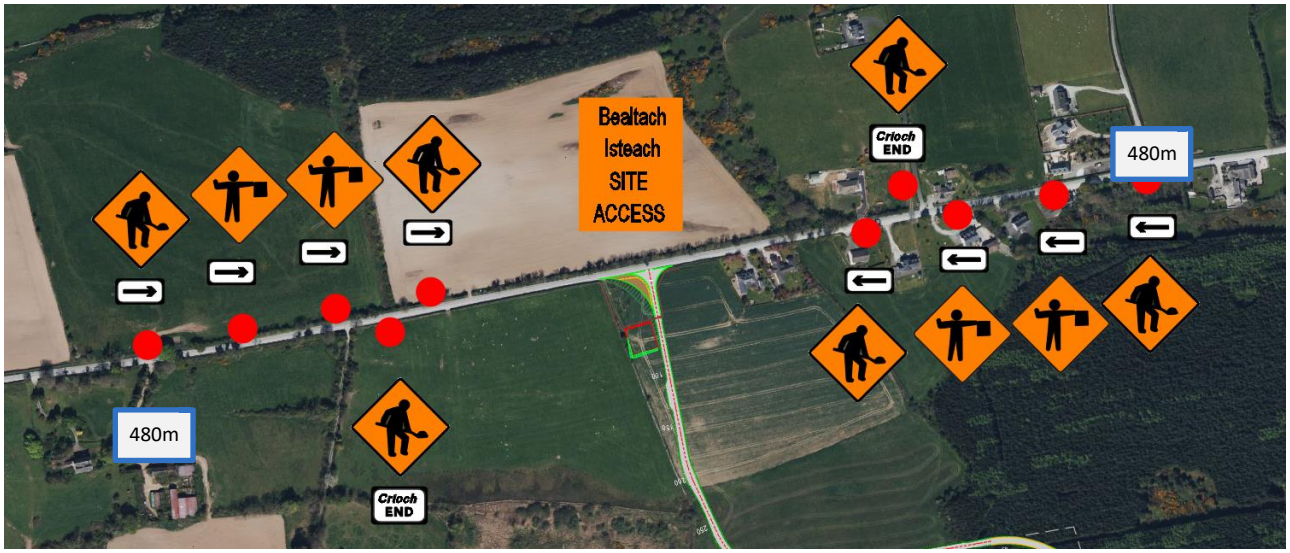
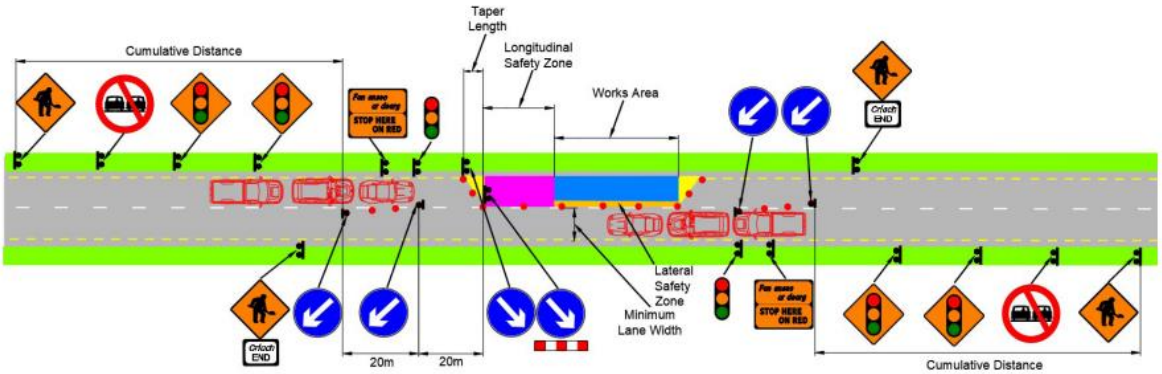
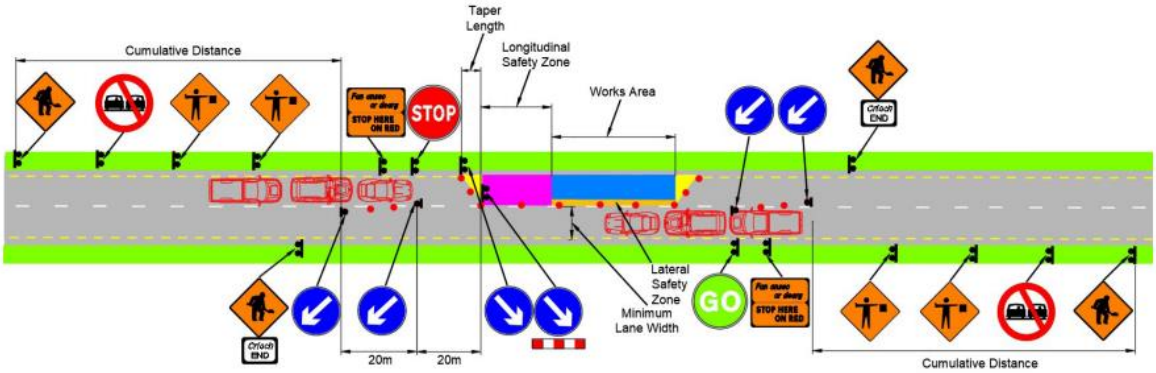


Figure 7 – Site Entrance Signage

Traffic management will be required during the construction of site access junction No.1 and No.2 on the L6274 and during the realignment of site access junction No.3 on the L2275 at the junction interface with the local road network. Traffic management will also be required at site access junction No.1 1 and No.2 during the delivery of turbine components. During the construction of the wind farm 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. During the delivery of turbine components traffic management will be carried out using flagmen at the site entrance, 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. Details of traffic management systems for junction construction and turbine delivery is shown on **Figure 8.**



Temporary Traffic Signals – Site Entrance Construction



Stop & Go – Turbine Delivery

Figure 8 – 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 Proposed Development infrastructure, including site access roads and hardstands will use site entrance junction No. 1 and No. 2 on the L6274. Access to the wind farm will be from the R132 regional road via the R132 / L6274 junction. Access to the onsite 38kV substation during the construction of the substation will be via site entrance No.3 on the L2275.The permanent met mast will be accessed from Junction No. 4 on the L2275. Haul routes for wind farm construction traffic are shown in **Figure 9.**

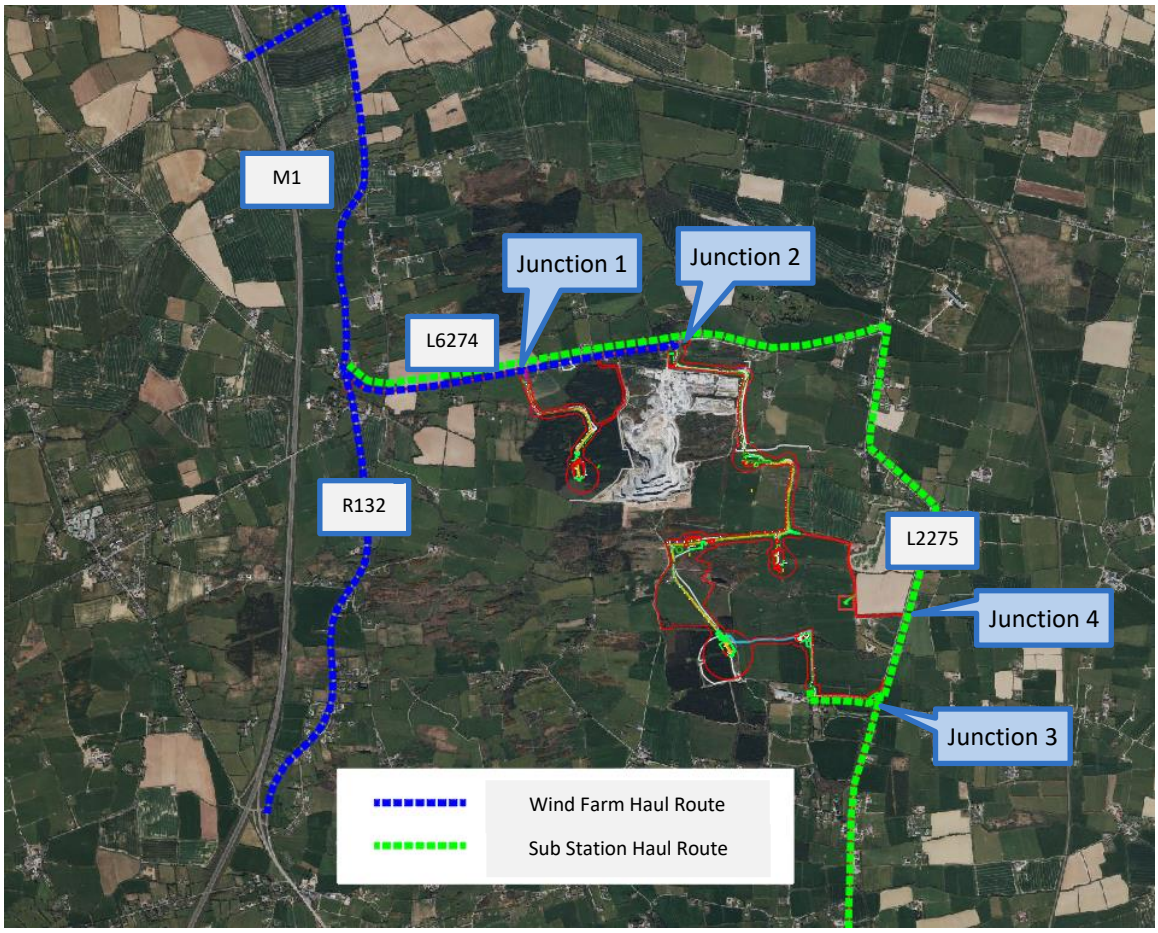


Figure 9 – Construction Haul Route

4.2 Haul Route for Wind Farm Grid Connection Traffic

All HGV traffic associated with the construction of the Grid Connection between the 38kV Onsite Substation and the 110kV substation at Drybridge will follow the grid connection route and associated diversions to access the works. Construction vehicles will be prohibited from using local roads which are not part of the grid connection works or local diversions. The grid connection route is shown in **Figure 2.**

4.3 Grid Connection Works on the Public Road Network

A summary of the grid connection works on the public road network are listed in **Table 1**, Full details of traffic management systems and diversions during the grid connection works on the public road network are included in **Appendix A.**

Road Number	Works	Crossings
L6274	38kV Cable trench from Turbine T1 to Site Entrance No. 2	Cable Trench
L2275	Cable Trench in Public Road	Watermain Crossing HDD Bridge / Stream Crossing Joint Bay Watermain crossing Services Crossing HDD Culvert Crossing HDD Culvert Crossing Services Crossing Services Crossing Joint Bay Culvert Crossing Services Crossing Services Crossing Watermain crossing Services Crossing
L2308	Cable Trench in Public Road	Joint Bay HDD Bridge / Stream Crossing Joint Bay
R132	Cable Trench in Public Road	Culvert Crossing (Offline) Services Crossing Joint Bay (Offline) Services Crossing Services Crossing Services Crossing Services Crossing Joint Bay Services Crossing Watermain Crossing

		Culvert Crossing Joint Bay Services Crossing Services Crossing Joint Bay Watermain Crossing Watermain crossing
N51	Cable Trench in Public Road	Services Crossing Joint Bay Service Crossing
L6332	Cable Trench in Public Road	Watermain Crossing Services Crossing Gas Main Crossing HDD Bridge / Stream Crossing Watermain crossing
L63324	Cable Trench in Public Road	Gas Main Crossing Joint Bay HDD Motorway Crossing Gas Main Crossing Watermain Crossing Service Crossing
R168	Cable Trench in Public Road	Watermain Crossing Joint Bay Watermain Crossing
N51	Cable Trench in Public Road	Service Crossing Watermain Crossing
L2322	Cable Trench in Public Road	Watermain Crossing
L2000	Cable Trench in Public Road	Joint Bay Service Crossing

Table 1 – Grid Connection Works

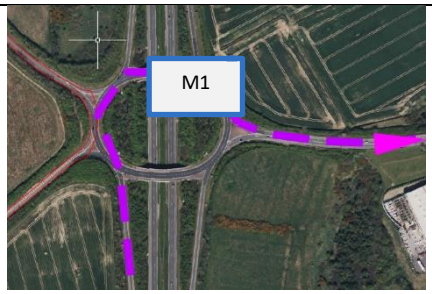
4.4 Haul Route for Turbine Delivery Traffic

The turbine components for The Proposed Development will be shipped to the Port of Galway where they will be stored for transportation. The turbine components will be transported on the public road network using abnormal load vehicles between the Port of Galway and The Proposed Development. The proposed turbine delivery route between the Port of Galway and The Proposed Development site is shown in **Figure 10.** The turbine delivery route in the vicinity of The Proposed Development is shown in **Figure 11.** The turbine components will be delivered to the The Proposed Development using the following public road network and local authority jurisdiction.

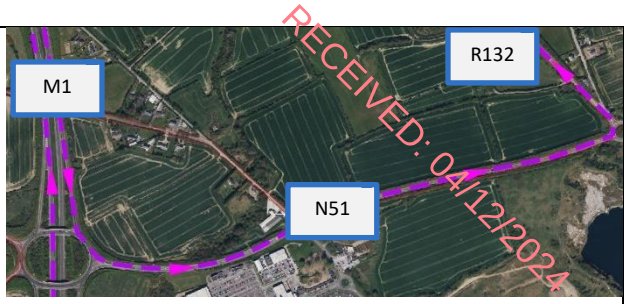
- Exit from Port of Galway onto Dock Street – Galway City Council
- Lough Atalia Road – Galway City Council
- R339 – Galway City Council

- R336 – Galway City Council
- N6 national primary road – Galway County Council / Transport Infrastructure Ireland
- M6 motorway – Galway County Council / Transport Infrastructure Ireland / PPP Operator
- M6 motorway – Roscommon County Council / Transport Infrastructure Ireland
- M6 motorway – Westmeath County Council / Transport Infrastructure Ireland
- M4 motorway – Westmeath County Council / Transport Infrastructure Ireland
- M4 motorway – Meath County Council / Transport Infrastructure Ireland
- M4 motorway – Kildare County Council / Transport Infrastructure Ireland / PPP Operator
- M4 motorway – South Dublin County Council / Transport Infrastructure Ireland
- M50 Motorway – Fingal /South Dublin Co. Co. / Transport Infrastructure Ireland / PPP Operator
- M1 Motorway - Fingal County Council / Transport Infrastructure Ireland
- M1 Motorway - Meath County Council / Transport Infrastructure Ireland / PPP Operator
- M1 Motorway - Louth County Council / Transport Infrastructure Ireland
- N51National Secondary Road - Louth County Council / Transport Infrastructure Ireland
- R132 – Louth county Council
- L6274 – Louth County Council

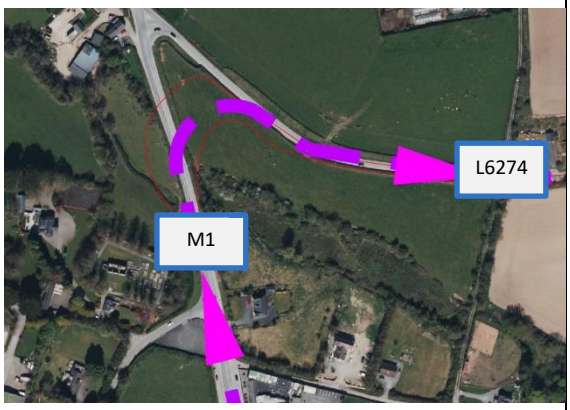
Figure 10 – Turbine Delivery Route

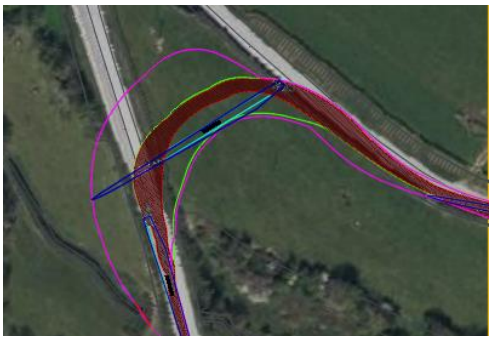


Turn at M1 Junction 10

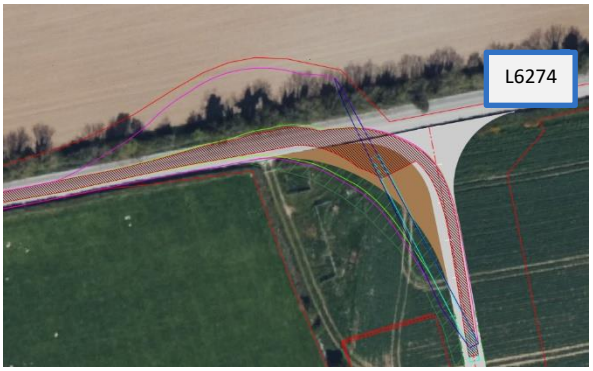


Exit M1 Junction 10 onto N51 / R132





Temporary Turning area at R132 / L6274 Junction



L6724 Junction 1

L6724 Junction 2

Figure 11 – Turbine Delivery Route - M1 Motorway to The Proposed Development

4.5 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.

4.6 Enabling Works for Turbine Delivery on the Public Road Network

The haul route for the transportation of turbine components between the Port of Galway and the Kellystown Wind Farm 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 between the Port of Galway and the wind farm site. A summary of the assessment is listed in **Table 2**. Full details of the works locations on the turbine delivery route are shown in **Appendix B**.

Area	Location	Easting	Northing	Enabling Works
1	Galway Docks	530193	724926	Parking Restrictions in Galway Port Car Park. Alterations to Existing Fencing. Loadbearing Surface to be provided
2	Lough Atalia Road / R339 College Rd Junction	531807	727013	Existing Signs and traffic lights to be temporarily removed during abnormal load deliveries.
3	R338 / R339 Junction	531068	726264	Existing Signs and traffic lights to be temporarily removed during abnormal load deliveries. Hedge to be trimmed.
4	R339 / Connolly Avenue Junction	531068	726264	Existing hedge to be trimmed.
5	Connolly Avenue / R336 Junction	531068	N726264	Verge to be Strengthened, Lighting column and signs to be temporarily removed during abnormal load deliveries.

Area	Location	Easting	Northing	Enabling Works
6	R336 / N6 Junction			Verge to be Strengthened, Lighting column to be temporarily removed during abnormal load deliveries.
7	N6 / R865 Junction			Traffic island to be Strengthened, traffic signals to be temporarily removed during abnormal load deliveries.
8	N6 R339 Junction			Traffic island to be Strengthened, traffic signals to be temporarily removed during abnormal load deliveries.
9	N6 / N67 Roundabout Segregated Left Turn Lane			The swept path analysis carried out at the roundabout slip lane indicates that abnormal loads will overrun the carriageway edge and oversail the road verge on the nearside and offside of the slip lane. Widening to withstand wheel loading from abnormal load vehicles to be provided. Lighting column and sign on nearside to be temporarily relocated. Signs to be relocated on the offside of the slip lane to allow load oversail.
10	M4 / M50 interchange, Lucan	531068	726264	Existing rebound bollards on the N4 Slip road hard shoulder to be temporarily removed during abnormal load deliveries.
11	M1 Motorway Junction 10			The swept path analysis carried out at the junction indicates that verge widening will be required on the slip lane verge at the approach to the roundabout and at the exit from the roundabout. Existing signage in the verges to be removed to allow loads to oversail when circulating the junction Existing splitter islands to be modified to withstand wheel loading from abnormal load vehicles.
12	N51 Hill of Rath Roundabout	706443	776673	The swept path analysis carried out at the roundabout indicates that a temporary access road will be required through the roundabout central island to allow abnormal load vehicles to navigate the roundabout. The access road will be constructed to withstand wheel loading from abnormal load vehicles. Existing signage on the roundabout central to be relocated. Trimming of existing vegetation at the approach to the roundabout

Area	Location	Easting	Northing	Enabling Works
13	N51 Rosehall Roundabout	707289	776930	A swept path assessment has been undertaken and indicates that loads will overrun and oversail the verge on the right hand side approaching the roundabout and the left hand side existing the roundabout. Signs on the middle island approaching and existing the roundabout will be temporary removed to allow loads to oversail roundabout central island.
14	R132 Northbound	705255	781491	Abnormal load vehicles will contraflow the R132 slip lane to travel north on the R132 regional road. The contraflow manoeuvre has been agreed in principle with Louth County Council during the pre-planning process.
15	R132 / L6274 Junction	705781	784666	The swept path analysis carried out at the junction indicates that a temporary access road will be required at the R132 / L6274 junction for abnormal load vehicles to navigate the bend.

Table 2 – Turbine Delivery Route Enabling Works

4.7 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 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 works 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 wind farm shall be agreed with the relevant service provider prior to works commencing on Site.

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 R132. 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 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.

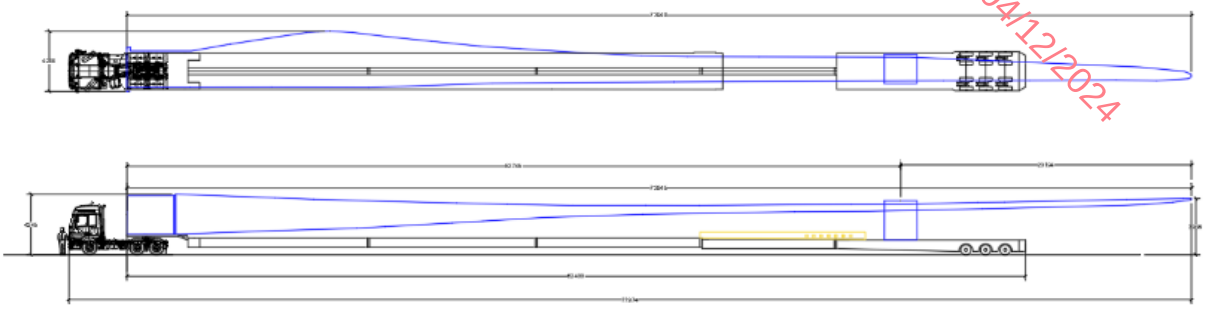
5.7 Emergency Access Routes

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.

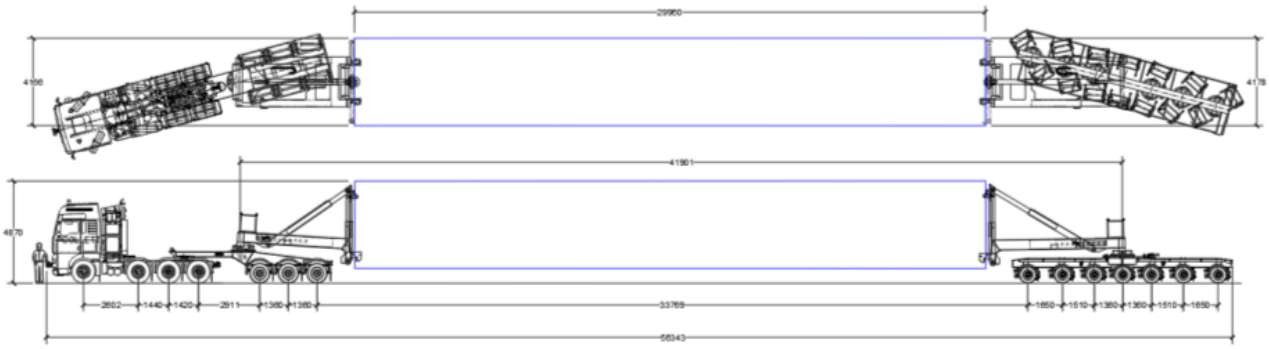
6 DELIVERY VEHICLE SPECIFICATION

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 largest turbine blades will be 79.35m long, approximately 21 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 three sections on extendable semi-trailers, the tower sections range in length from 30.0m to 23.0m with a maximum width of 4.3m. All material deliveries will have a maximum axle load of up to 12 tonnes per axle, and a maximum total truck weight 63 tonnes approx. 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 approx. Vehicles delivering counter-weights for the crane will have a maximum axle loading of up to 12 tonnes per axle. Typical abnormal load vehicles used for the transportation of turbine components are shown

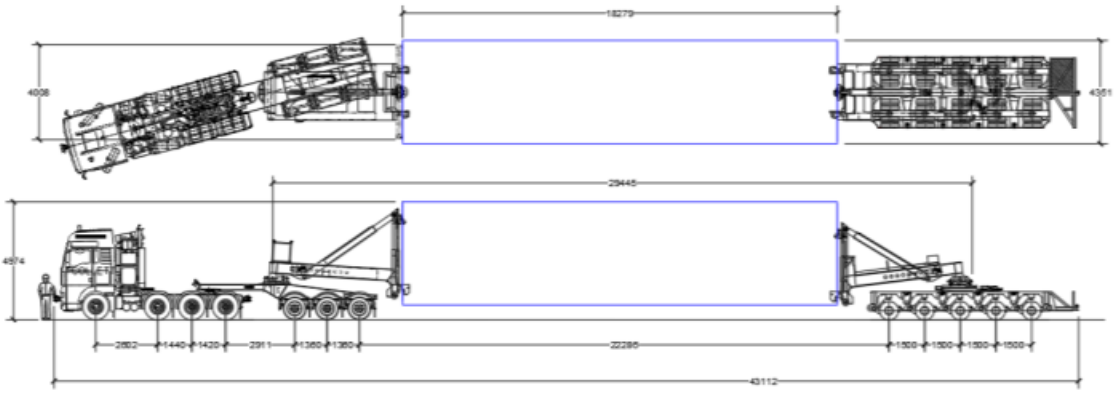
below. The transport vehicles used for transportation of components may differ from those shown below depending on the haulage contractor's preferences.



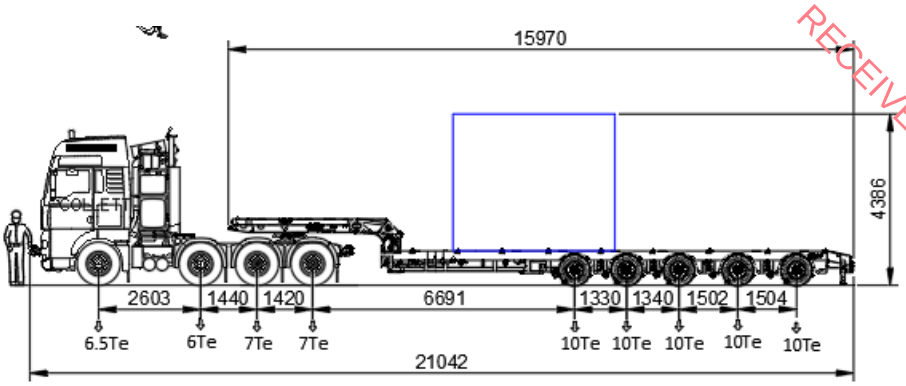
Typical Turbine Blade Transport Vehicle



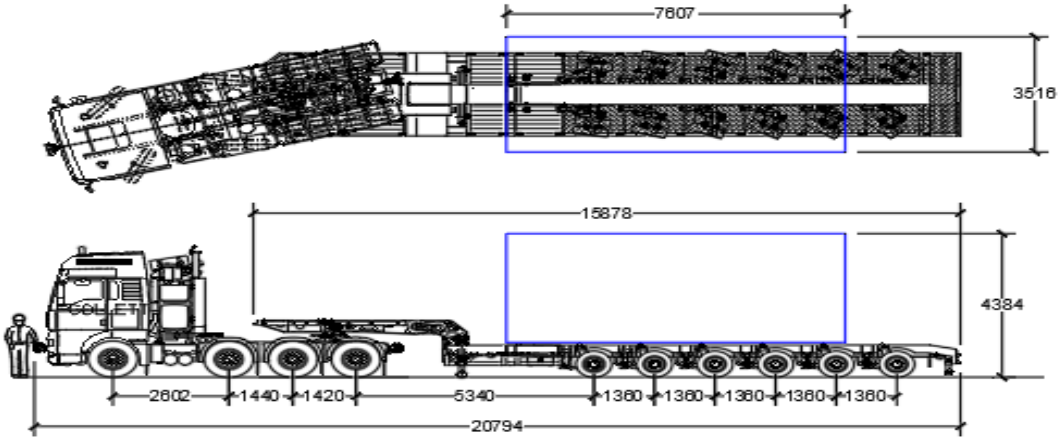
Typical Turbine Tower Transport Vehicle



Typical Nacelle Transport Vehicle



Typical Hub Transport Vehicle



Typical Generator Transport Vehicle

7 CONSTRUCTION, OPERATION & DECOMMISIONING TRAFFIC VOLUMES

7.1 Construction Period

The construction period of the Proposed Development 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** below. 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 Louth County Council.

Proposed Works	Timetable (Month No.)
Civil Works	
Site Establishment & Fencing	1
Temporary Construction Compound	1-3
Forestry felling and drainage	2-5
Internal Access Road Upgrade & Construction	2-6
Substation & Compound Construction	4-7
Substation Electrical Works	10-16
Substation Commissioning	18
Excavation & Construction of Turbine Foundations & Hardstands	2-10
Internal Cabling Installation	8-10
Turbine Delivery and Erection	10-13
Grid Connection	10-13
Energisation	15-16
Turbine Commissioning	16-18
Site Restoration	17-18

Table 3 Project Timeframe

7.2 Construction Period – Trip Generation HGV's

The estimated HGV deliveries to the Site during the construction period are shown in Table 4. 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 suppliers 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.

- All material excavated during grid connection trench works will be removed from site and replaced with imported material.
- Material used for the construction of temporary compounds will be incorporated into the site road construction at the end of the contract and will not be removed from site.

Materials	Quantity	No. Of Deliveries	Timeframe (Month)	Maximum Loads / Day at R132 / L6274 Junction	Vehicle Type
Site Establishment & Fencing		10	1	5	OGV1 / OGV2
Temporary Construction Compound	1,665m^3	167	1-3	10	OGV1 / OGV2
Forestry felling and drainage	9.4ha @ 190m^3/ha	1,800	2-5	10	OGV2
Internal Access Road Upgrade & Construction	17,775m^3	1,777	2-6	10	OGV1 /OGV2
Substation (17 Loads) & Compound Construction (435m3)		60	4-7	5	OGV1
Substation Electrical Works		20	10-16	2	OGV1
Substation Commissioning		5	18	2	OGV1
Construction of Turbine Hardstands	11,250m^3	1,125	2-10	15	OGV1 / OGV2
Construction of Turbine Foundations (949m3 Per Base)	4,745m^3	594	2-10	119	OGV1 / OGV2
Internal Cabling Installation	530m^3	53	8-10	5	OGV1
Turbine Delivery and Erection	5 Turbines	70	10-13	10	OGV2
Grid Connection Excavated material 7,275m3 Imported Backfill 7,275m3 Reinstatement 1,100m3	12,120m 15,650m^3	1,565	10-13	15	OGV1
Energisation		5	15-16	2	OGV1
Turbine Commissioning		5	16-18	2	OGV1
Site Restoration		15	17-18	5	OGV1
Total		**5,541**			

Table 4 HGV and Abnormal Load Deliveries to Site During Construction

It is estimated that during the wind farm construction, an approximate total of 5,541 loads of material and building supplies will be delivered and removed from the Site. The majority of HGV movements to

and from Site will occur during the first ten months of the construction period and will be associated with site road construction, turbine hardstand construction and turbine foundation construction.

A schedule of maximum predicted daily traffic movements to site over a 18-month construction period is shown in **Table 5.**

Activity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Site Establishment & Fencing	5																	
Temporary Construction Compound	10	10	10															
Forestry felling and drainage		10	10	10	10													
Internal Access Road Upgrade & Construction		10	10	10	10	10												
Substation & Compound Construction				5	5	5	5											
Substation Electrical Works										2	2	2	2	2	2	2		
Substation Commissioning																		2
Construction of Turbine Hardstands		15	15	15	15	15	15	15	15	15								
Construction of Turbine Foundations						119	119	119	119	119								
Internal Cabling Installation								5	5	5								
Turbine Delivery and Erection										10	10	10	10					
Grid Connection										15	13	15	15					
Energisation															2	2		
Turbine Commissioning															2	2	2	2
Site Restoration																	5	5
Total	**15**	**45**	**45**	**40**	**40**	**149**	**139**	**139**	**139**	**166**	**25**	**27**	**27**	**2**	**6**	**6**	**2**	**4**

Table 5 HGV and Abnormal Load Deliveries to Site During Construction

The first month of the wind farm construction period will involve deliveries of materials for site access works, site compound, site offices and site security. This period will include deliveries of fencing materials for site boundaries and compounds, temporary fencing to protect trees, hedges and ecological buffer zones, road construction materials for site compounds and site entrances, and delivery of

temporary site office units. It is anticipated that a maximum of 15 HGV vehicles (30 HGV movements) will visit the Site on a daily basis during the first month of the contract.

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

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

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

Time	Arrivals		Departures	
	HGV	LGV	HGV	LGV
06.00 – 07.00		20		
07.00 – 08.00	20	15	20	
08.00 – 09.00	15	5	15	2
09.00 – 10.00	15		15	
10.00 – 11.00	15		15	
11.00 – 12.00	20		20	
12.00 – 13.00	15		15	

Time	Arrivals		Departures	
	HGV	LGV	HGV	LGV
13.00 – 14.00	10	5	10	5
14.00 – 15.00	20		20	
15.00 – 16.00	15		15	
16.00 – 17.00	10		10	
17.00 – 18.00	8	2	8	5
18.00 – 19.00	5		5	15
19.00 – 20.00				20

Table 6 - Development Traffic Profile

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 40 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

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 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 18 Months, during which time the entire 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 an 18 month construction and an 18 month decommissioning period. The 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 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 on the L6274, l2275 and R132 advising the general 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.

- Grid Connection works will proceed at a rate of approximately 100m per work shift, the rate will depend on the ground conditions and the number of existing services encountered in the excavation. The works area will be fully enclosed within the traffic management system. Traffic management using temporary traffic lights shall be kept to the minimum length necessary to accommodate the works being undertaken and to minimise delays to the public road users.

- 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.

- The Grid Connection cable trench shall be excavated using a rubber tyre excavator on all public roads. The sides of the trench shall be supported to prevent damage to the road. Material arising from trench excavations may be stored at a safe location within the works area and used to backfill trenches, surplus excavated material shall be removed from Site and disposed at licenced landfills.

- All excavated trenches 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 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 Kellystown Wind Farm.

Increased volumes of traffic will be generated by the proposed Development during the construction and decommissioning periods. Traffic analysis carried out in the Traffic and Transport Assessment (TTA) report for the project shows that traffic generated by the Development during the construction, operation and decommissioning phases of the Kellystown Wind Farm can be accommodated on the existing public road network.

During the operational phase of the project the Site will be accessed by a light vehicle 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 on Site 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.

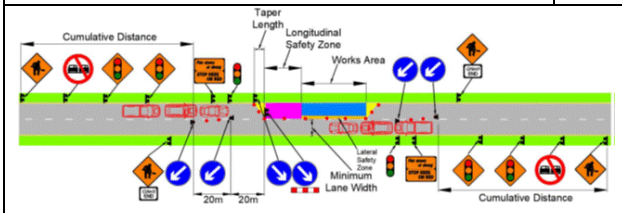
Grid Connection works carried out on the public road network will be fully enclosed within the traffic management system.

APPENDIX A

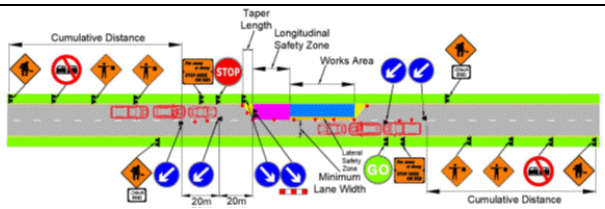
GRID CONNECTION WORKS

L6274 Grid Connection Works Location

Works Location	L6274 - 38kV Underground Grid Connection (2.5km)
Road Number	L6274
Description of Works to be Undertaken	Construction of 38kV underground grid connection between Turbine T1 and the onsite 38kV Substation
Drawing Reference	
Road Width (approximate)	6.0m carriageway with grass verges
Traffic Management System	Temporary Traffic Lights / Stop & Go 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	5 Days Trenching, ducting, reinstatement and temporary surfacing. 2 days 38kV cable installation 2 days surfacing.
Duration of Road Closure	N/A
Diversion	N/A
Emergency Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,

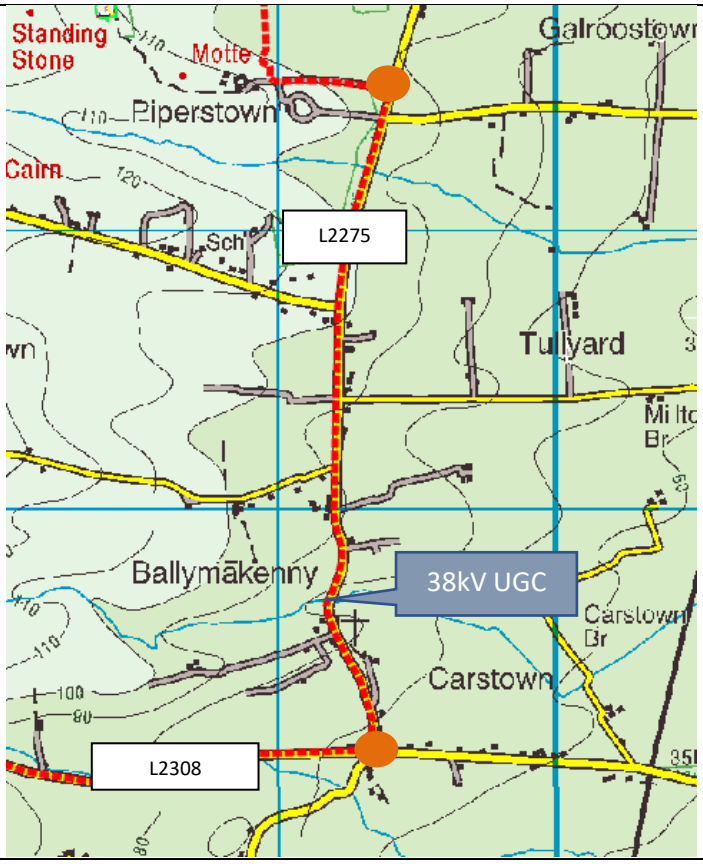


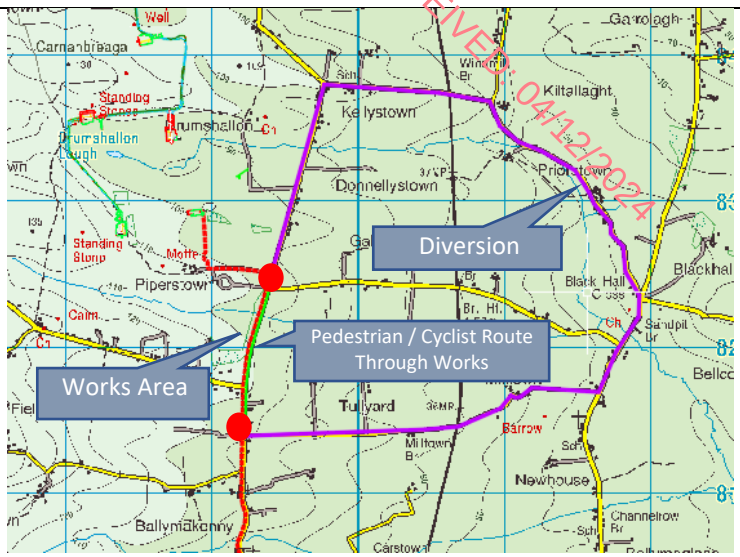
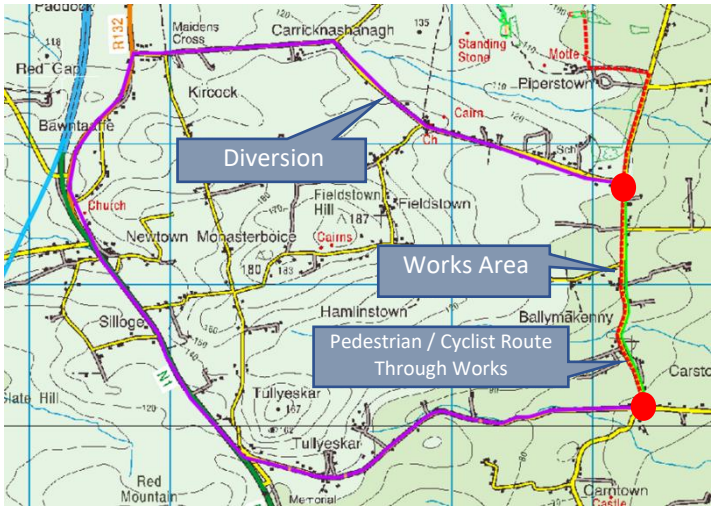
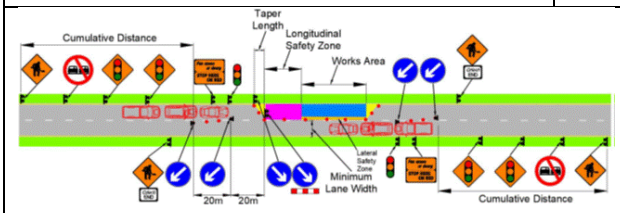
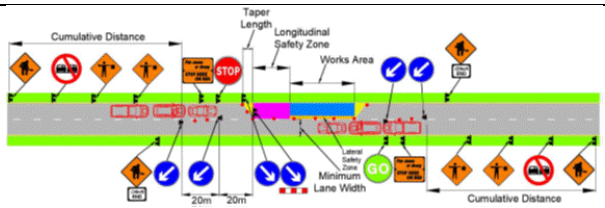
Temporary Traffic Lights



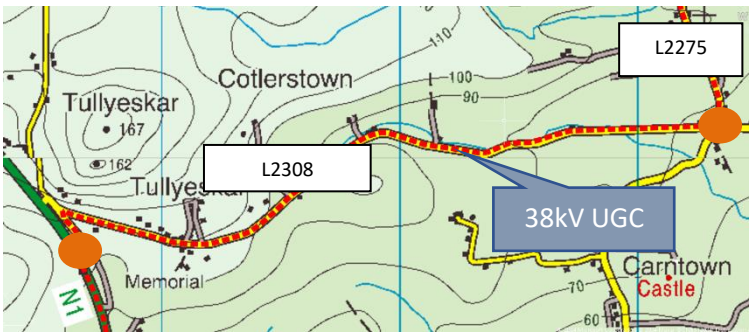
Stop & Go

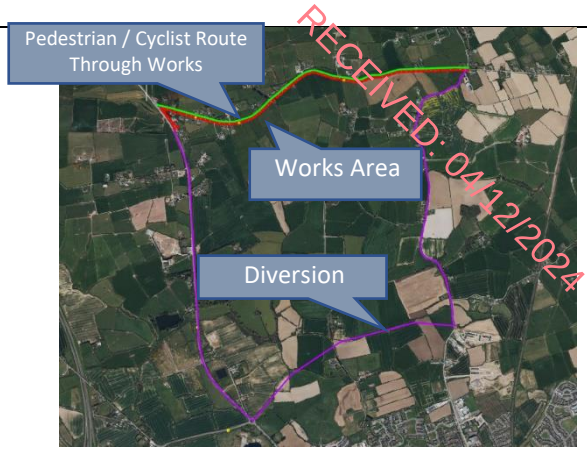
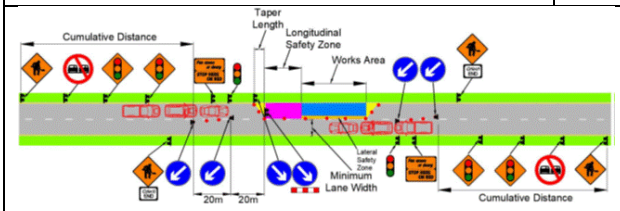
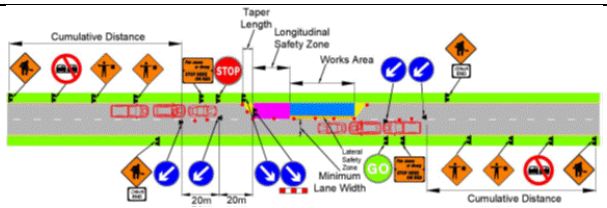
L2275 Grid Connection Works Location

Works Location	L2275 38kV Underground Grid Connection (2.5km)
Road Number	L2275
Description of Works to be Undertaken	Construction of 38kV underground grid connection, Joint bays, service crossings, watermain crossings and HDD bridge and culvert crossings.
Drawing Reference	
Road Width (approximate)	Width varies, typically 5.5m carriageway with grass verges (varying Width)
Traffic Management System	Road Closure 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	25 Days Trenching, ducting, reinstatement and temporary surfacing. 5 days 38kV cable installation 3 days surfacing.

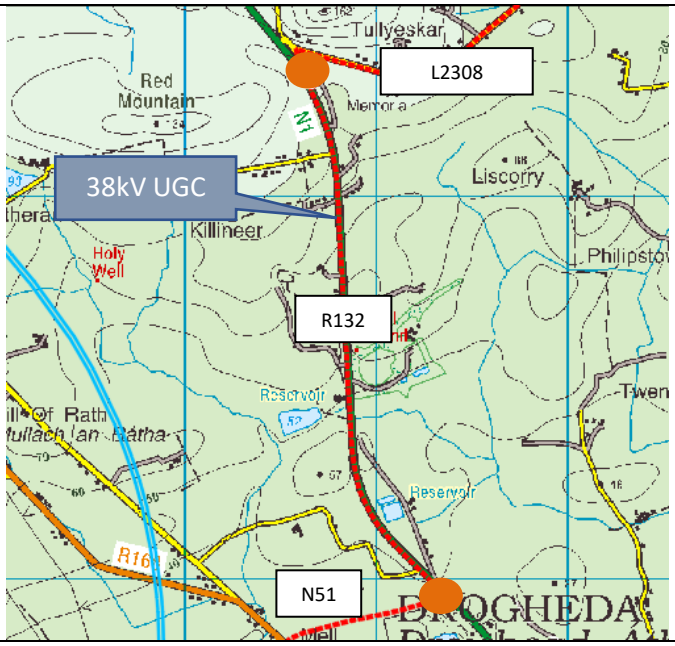
Duration of Road Closure	25 days during trenching works
Diversion	 
Emergency Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,
 Temporary Traffic Lights	 Stop & Go

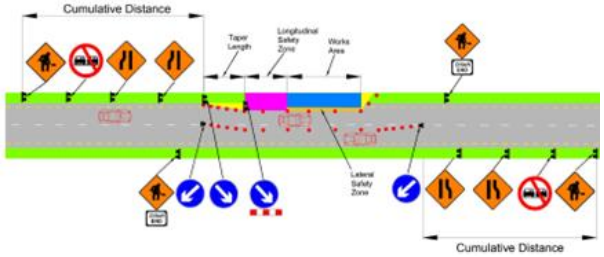
L2308 Grid Connection Works Location

Works Location No.2	L2308 - 38kV Underground Grid Connection (3.3km)
Road Number	L2308
Description of Works to be Undertaken	Construction of 38kV underground grid connection, joint bays and HDD bridge crossing
Drawing Reference	
Road Width (approximate)	Width varies, typically 6.0m carriageway with occasional hard strips and grass verges (varying Width)
Traffic Management System	Road Closure during trenching works with temporary traffic lights where road width allows. 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	33 Days Trenching, ducting, reinstatement and temporary surfacing. 6 days 38kV cable installation 3 days surfacing.
Duration of Road Closure	33 days during trenching works

Diversion	
Emergency Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,
 Temporary Traffic Lights	 Stop & Go

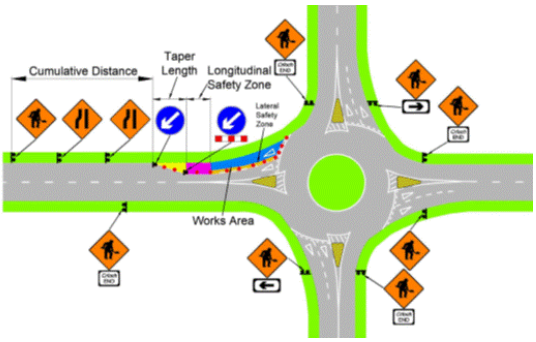
R132 Grid Connection Works

Works Location No 3	R132 - 38kV Underground Grid Connection (2.8km)
Road Number	R132
Description of Works to be Undertaken	Construction of 38kV underground grid connection, joint bays, service crossings, watermain and culvert crossing
Drawing Reference	
Road Width (approximate)	7.3m carriageway, 2.5m hard shoulders with grass verges.
Traffic Management System	Two way traffic operation during trenching works. Two way traffic operation, 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	28 Days Trenching, ducting, reinstatement and temporary surfacing. 5 days 38kV cable installation 3 days surfacing.
Duration of Road Closure	N/A
Diversion	N/A
Emergency Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,

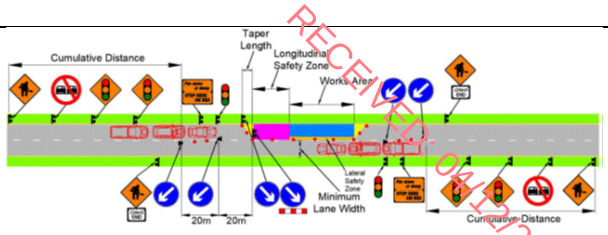


Two Way Traffic Operation

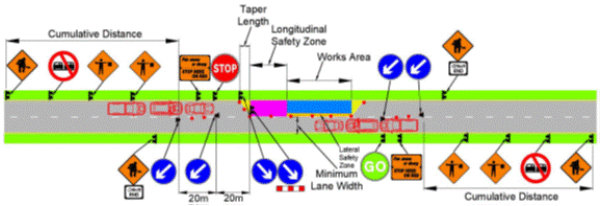
Works at exit from roundabout



Works at entry to roundabout

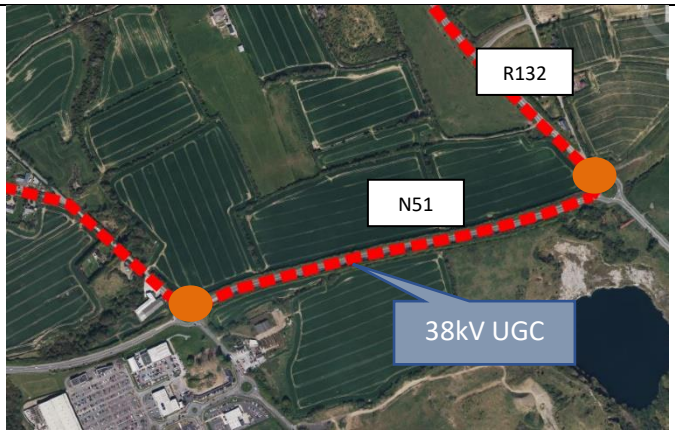
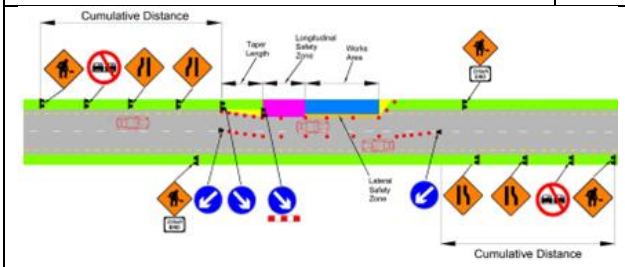
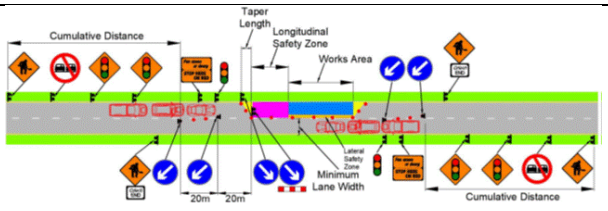


Temporary Traffic Lights



Stop & Go

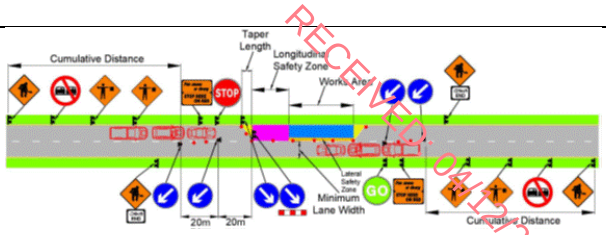
N51 Grid Connection Works

Works Location No. 4	N51 - 38kV Underground Grid Connection (0.9km)
Road Number	N51
Description of Works to be Undertaken	Construction of 38kV underground grid connection, joint bays and service crossings.
Drawing Reference	
Road Width (approximate)	7.3m carriageway, 2.5M hard shoulders with grass verges.
Traffic Management System	Two way traffic operation during trenching works. Two way traffic operation, 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	9 Days Trenching, ducting, reinstatement and temporary surfacing. 4 days 38kV cable installation 2 days surfacing.
Duration of Road Closure	N/A
Diversion	N/A
Emergency Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,
	 Temporary Traffic Lights

Two Way Traffic Operation

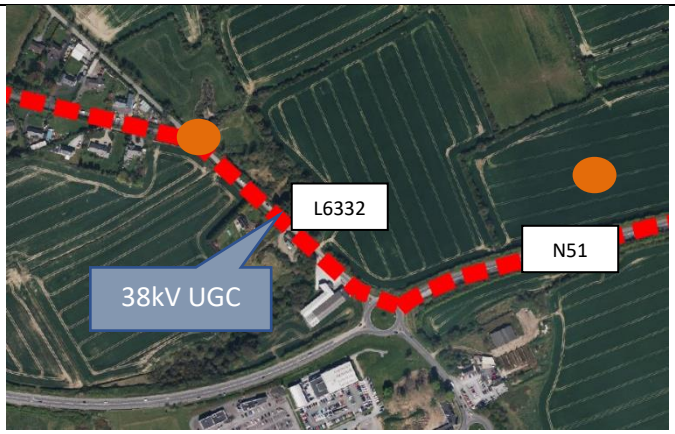
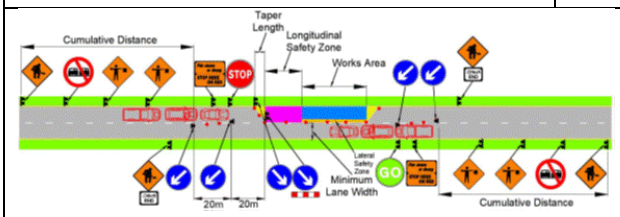
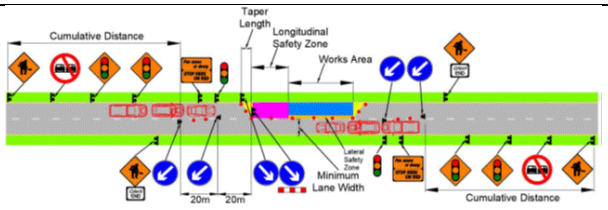
Works at exit from roundabout

Works at entry to roundabout



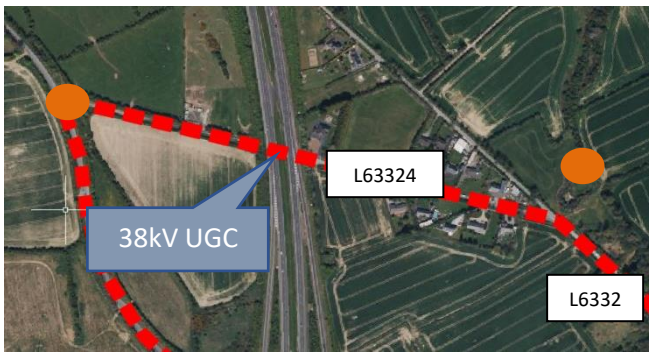
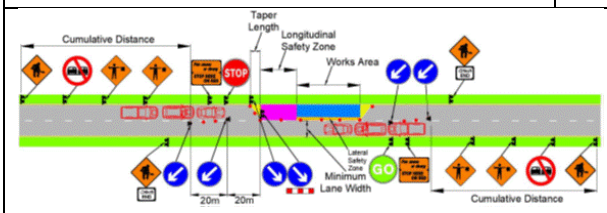
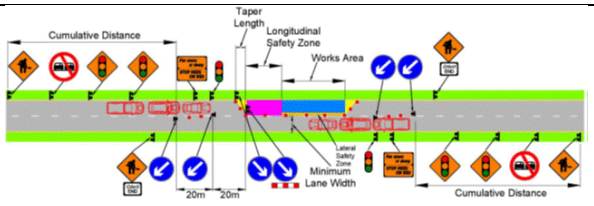
Stop & Go

L6332 Grid Connection Works

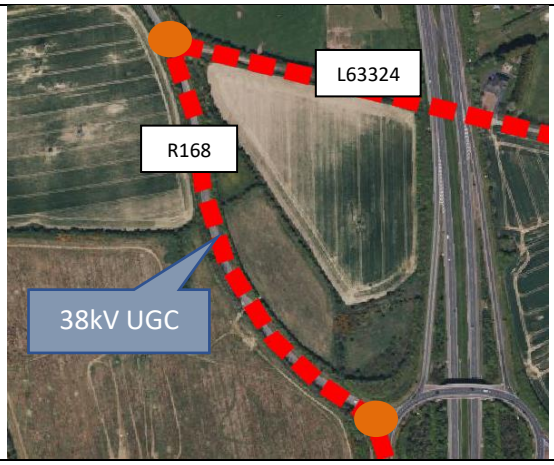
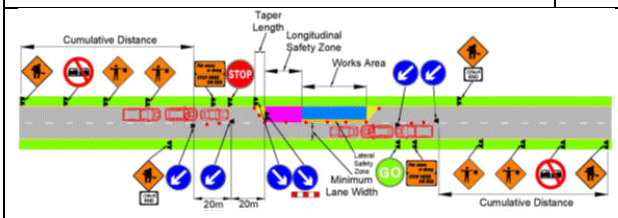
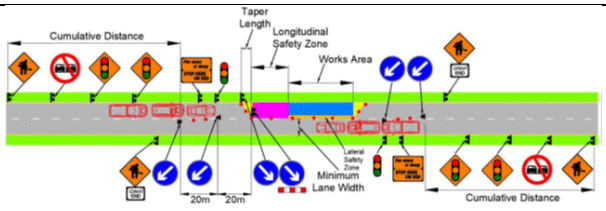
Works Location No. 4	L6332 38kV Underground Grid Connection (0.3km)
Road Number	L6332
Description of Works to be Undertaken	Construction of 38kV underground grid connection, joint bays, watermain crossing, gas main crossing, HDD bridge crossing and service crossings.
Drawing Reference	
Road Width (approximate)	5.7m carriageway with grass verges.
Traffic Management System	Temporary Traffic Lights / Stop & Go 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	3 Days Trenching, ducting, reinstatement and temporary surfacing. 2 days 38kV cable installation 2 days surfacing.
Duration of Road Closure	N/A
Diversion	N/A
Emergency Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,
	

Stop & Go	Temporary Traffic Lights
	
Works at exit from roundabout	Works at entry to roundabout

L632234 Grid Connection Works

Works Location	L63224 38kV Underground Grid Connection (0.8km)
Road Number	L632234
Description of Works to be Undertaken	Construction of 38kV underground grid connection, joint bays, gas main crossing, watermain crossing, service crossings and HDD motorway crossings.
Drawing Reference	
Road Width (approximate)	5.5m carriageway with grass verges.
Traffic Management System	Temporary Traffic Lights / Stop & Go 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	8 Days Trenching, ducting, reinstatement and temporary surfacing. 3 days 38kV cable installation 2 days surfacing.
Duration of Road Closure	N/A
Diversion	N/A
Emergency Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,
 Stop & Go	 Temporary Traffic Lights

R168 Grid Connection Works

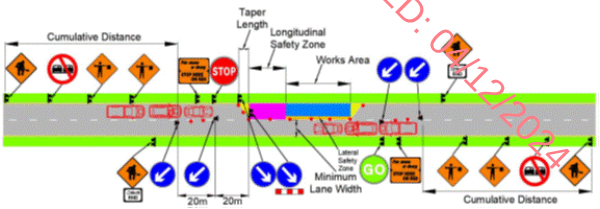
Works Location	R168 - 38kV Underground Grid Connection (0.55km)
Road Number	R168
Description of Works to be Undertaken	Construction of 38kV underground grid connection, joint bays, watermain and service crossings.
Drawing Reference	
Road Width (approximate)	8.0m carriageway with hard strips and grass verges.
Traffic Management System	Two Way Traffic Operation / Temporary Traffic Lights / Stop & Go during trenching works. Two Way Traffic Operation / 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	6 Days Trenching, ducting, reinstatement and temporary surfacing. 2 days 38kV cable installation 2 days surfacing.
Duration of Road Closure	N/A
Diversion	N/A
Emergency Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,
	

Stop & Go

Works at exit from roundabout

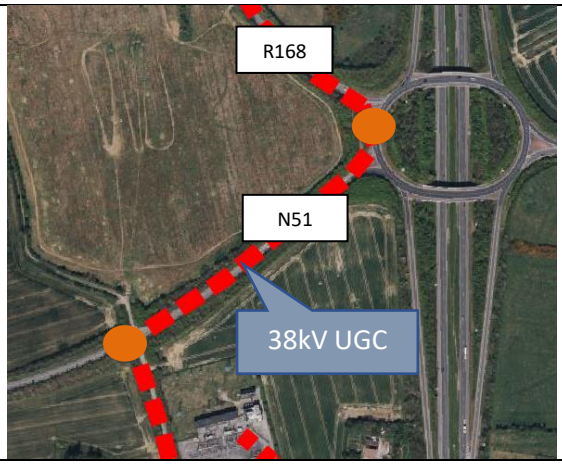
Works at entry to roundabout

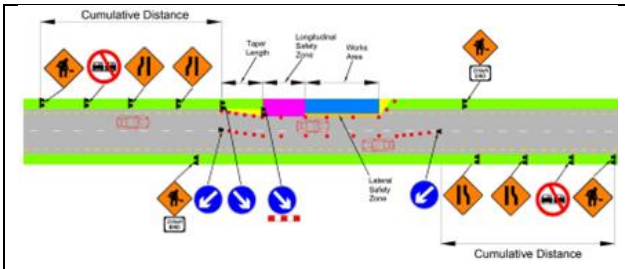
Temporary Traffic Lights



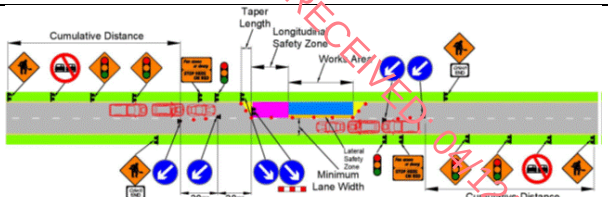
Stop & Go

N51 Grid Connection Works

Works Location	N51 38kV Underground Grid Connection (0.4km)
Road Number	N51
Description of Works to be Undertaken	Construction of 38kV underground grid connection, joint bays, watermain and service crossings.
Drawing Reference	
Road Width (approximate)	8.5m carriageway with hard strips and grass verges.
Traffic Management System	Two Way Traffic Operation / Temporary Traffic Lights / Stop & Go during trenching works. Two Way Traffic Operation / 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	4 Days Trenching, ducting, reinstatement and temporary surfacing. 2 days 38kV cable installation 2 days surfacing.
Duration of Road Closure	N/A
Diversion	N/A
Emergency Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,

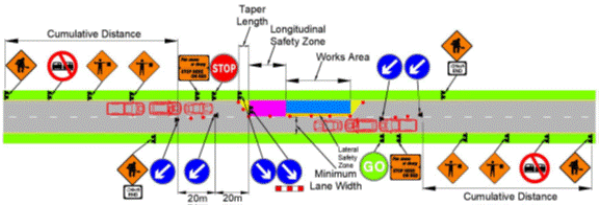


Two Way Traffic Operation

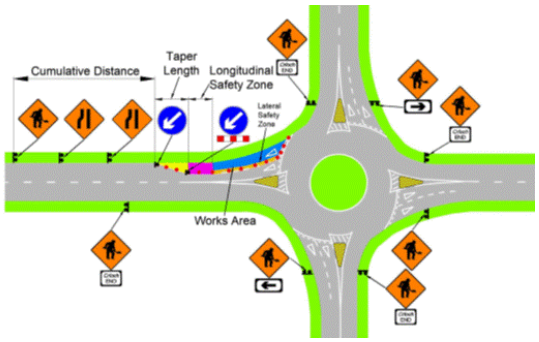


Temporary Traffic Lights

Works at exit from roundabout

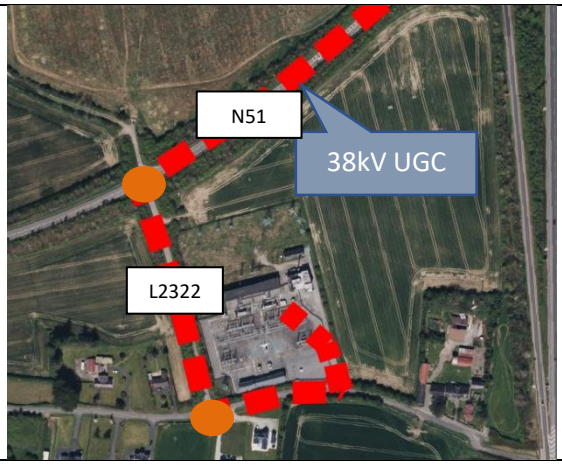
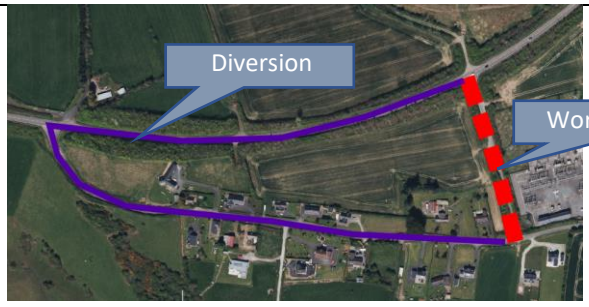


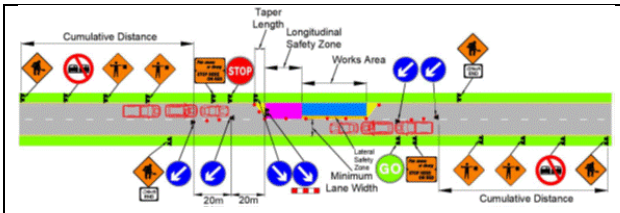
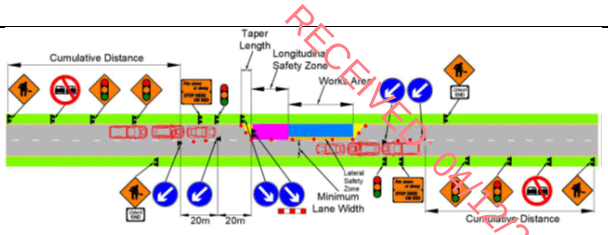
Stop & Go



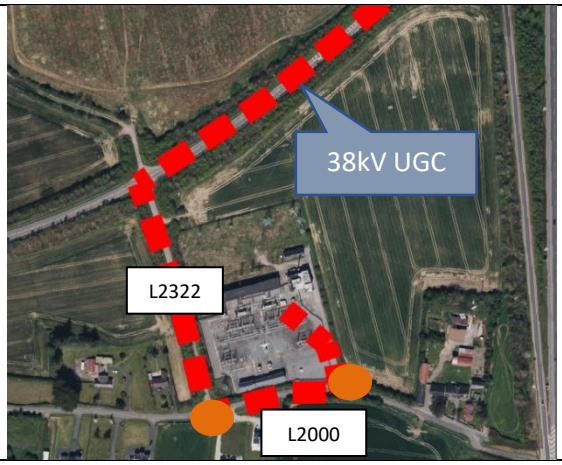
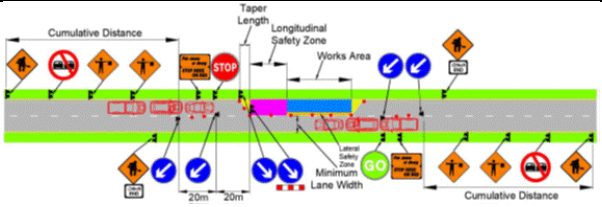
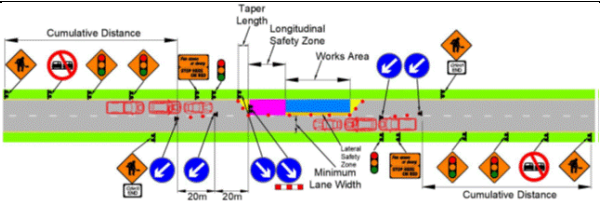
Works at entry to roundabout

L2322 Grid Connection Works

Works Location	L2322 - 38kV Underground Grid Connection (0.2km)
Road Number	L2322
Description of Works to be Undertaken	Construction of 38kV underground grid connection, joint bays and watermain crossing.
Drawing Reference	
Road Width (approximate)	5.7m carriageway with hard strips and grass verges.
Traffic Management System	Road Closure 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	2 Days Trenching, ducting, reinstatement and temporary surfacing. 1 day 38kV cable installation 2 days surfacing.
Duration of Road Closure	2 Days
Diversion	
Emergency Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,

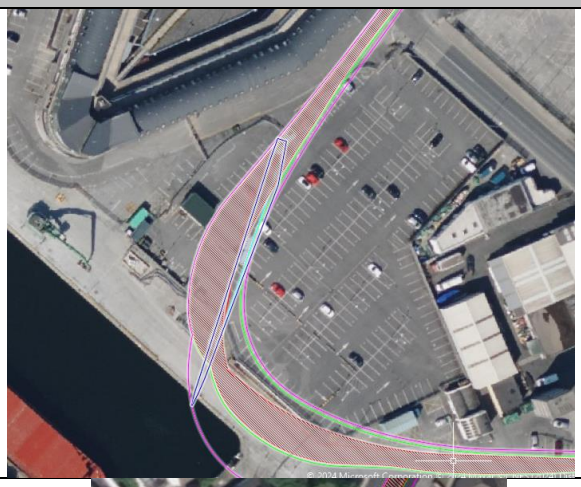
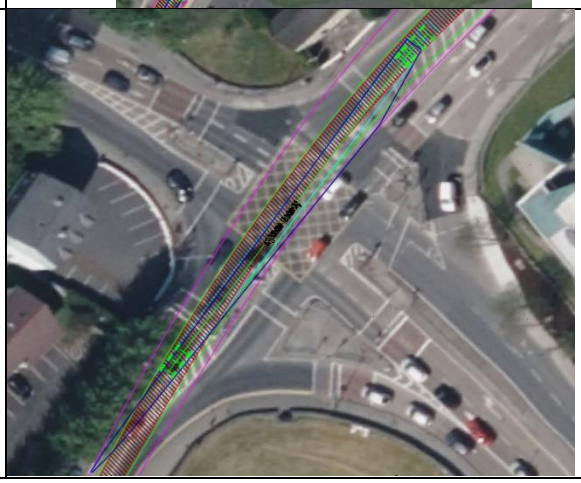
	
Stop & Go	Temporary Traffic Lights

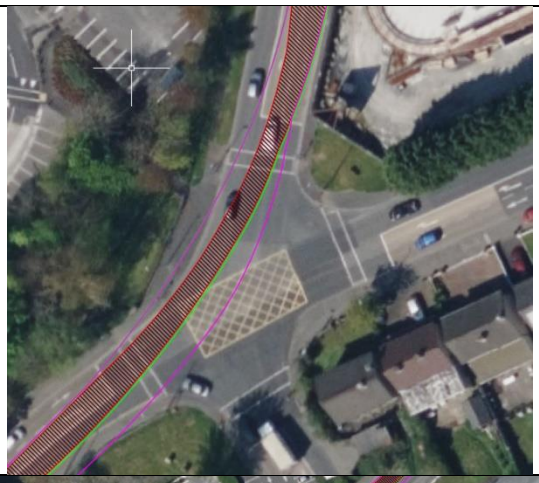
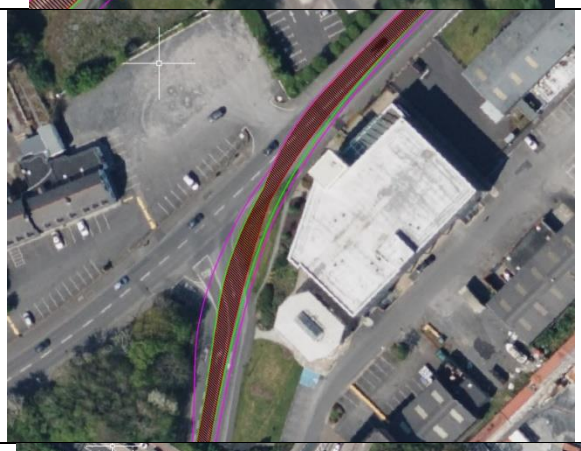
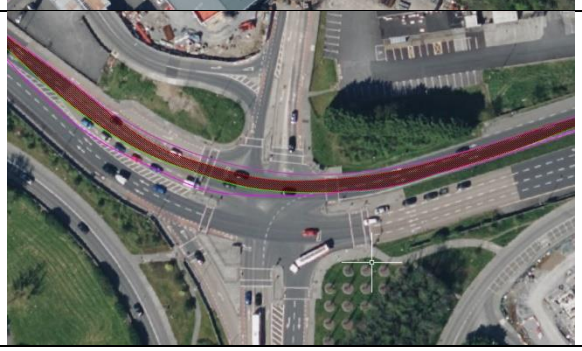
L2000 Grid Connection Works

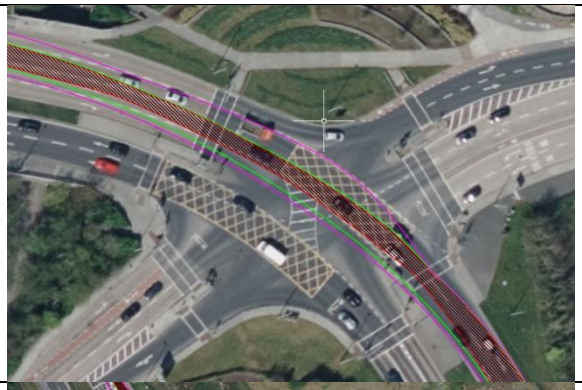
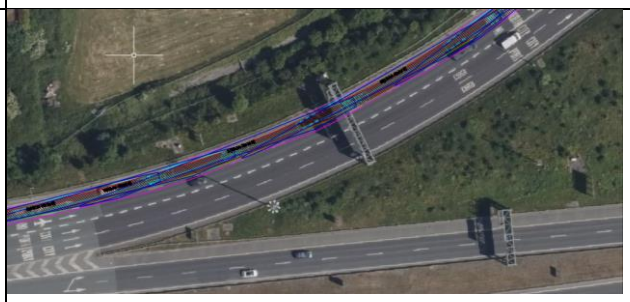
Works Location	L2000 - 38kV Underground Grid Connection (0.12km)
Road Number	L2000
Description of Works to be Undertaken	Construction of 38kV underground grid connection, joint bay and service crossings.
Drawing Reference	
Road Width (approximate)	5.5m carriageway with hard strips and grass verges.
Traffic Management System	Temporary Traffic Lights / Stop & Go 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	1 Day Trenching, ducting, reinstatement and temporary surfacing. 1 day 38kV cable installation 1 day surfacing.
Duration of Road Closure	N/A
Diversion	N/A
Emergency Access	To be maintained through the works at all times using steel plates / temporary backfilling of trenches,
 Stop & Go	 Temporary Traffic Lights

APPENDIX B

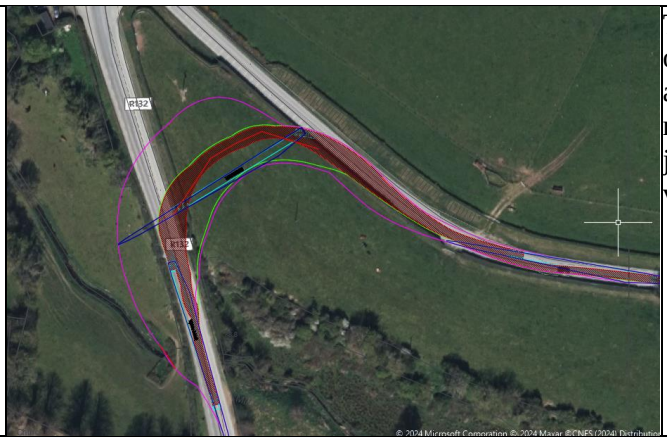
TURBINE DELIVERY ROUTE – ENABLING WORKS

Location		Enabling Works
Galway Docks		Parking Restrictions in Galway Port Car Park. Alterations to Existing Fencing. Loadbearing Surface to be provided
Lough Atalia Road / R339 College Rd Junction		Existing Signs and traffic lights to be temporarily removed during abnormal load deliveries.
R338 / R339 Junction p		Existing Signs and traffic lights to be temporarily removed during abnormal load deliveries. Hedge to be trimmed.

R339 / Connolly Avenue Junction		Existing hedge to be trimmed.
Connolly Avenue / R336 Junction		Verge to be Strengthened, Lighting column and signs to be temporarily removed during abnormal load deliveries.
R336 / N6 Junction		Verge to be Strengthened, Lighting column to be temporarily removed during abnormal load deliveries.
N6 / R865 Junction		Traffic island to be Strengthened, traffic signals to be temporarily removed during abnormal load deliveries.

N6 R339 Junction		Traffic island to be Strengthened, traffic signals to be temporarily removed during abnormal load deliveries.
N6 / N67 Roundabout Segregated Left Turn Lane		The swept path analysis carried out at the roundabout slip lane indicates that abnormal loads will overrun the carriageway edge and oversail the road verge on the nearside and offside of the slip lane. Widening to withstand wheel loading from abnormal load vehicles to be provided. Lighting column and sign on nearside to be temporarily relocated. Signs to be relocated on the offside of the slip lane to allow load oversail.
M4 / M50 interchange, Lucan		Existing rebound bollards on the N4 Slip road hard shoulder to be temporarily removed during abnormal load deliveries.
M1 Motorway Junction 10		The swept path analysis carried out at the junction indicates that verge widening will be required on the slip lane verge at the approach to the roundabout and at the exit from the roundabout. Existing signage in the verges to be removed to allow loads to oversail when circulating the junction Existing splitter islands to be modified to withstand wheel loading from abnormal load vehicles.

N51 Hill of Rath Roundabout		The swept path analysis carried out at the roundabout indicates that a temporary access road will be required through the roundabout central island to allow abnormal load vehicles to navigate the roundabout. The access road will be constructed to withstand wheel loading from abnormal load vehicles. Existing signage on the roundabout central to be relocated. Trimming of existing vegetation at the approach to the roundabout
N51 Rosehall Roundabout		A swept path assessment has been undertaken and indicates that loads will overrun and oversail the verge on the right hand side approaching the roundabout and the left hand side existing the roundabout. Sign on the middle island approaching and existing the roundabout will be temporary removed to allow loads to oversail roundabout central island.
R132 Northbound		Abnormal load vehicles will contraflow the R132 slip lane to travel north on the R132 regional road. The contraflow manoeuvre has been agreed in principle with Louth County Council during the pre-planning process.

R132 / L6274 Junction		The swept path analysis carried out at the junction indicates that a temporary access road will be required at the R132 / L6274 junction for abnormal load vehicles to navigate the bend.