

Sure Partners Limited

ARKLOW BANK WIND PARK
PHASE 2

**ONSHORE GRID
INFRASTRUCTURE**

VOLUME III

Chapter 6 APPENDICES

Appendix 6.1B Construction Traffic
Management Plan

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Appendix 6.1B

Construction Traffic

Management Plan

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1 Introduction

1.1 General

This Construction Traffic Management Plan (CTMP) has been prepared for the Arklow Bank Wind Park Phase 2 Onshore Grid Infrastructure (the proposed development) to ensure that construction traffic will be managed and monitored safely and efficiently throughout the construction phase. The Contractor will update the CTMP prior to commencement of construction, will keep the CTMP updated throughout, will agree the CTMP with Wicklow County Council and An Garda Síochána and will fully implement the CTMP.

1.2 Purpose and Scope

This CTMP will be a key construction contract document, the implementation of which will reduce possible impacts which may occur during the construction of the proposed scheme.

The objectives of this CTMP are to:

- Outline minimum traffic management measures to be implemented at the site access/egress locations and at the approaches to such access/egress locations, during the works;
- Demonstrate to the Developer, Contractor and suppliers the need to adhere to the relevant guidance documentation for such works; and
- Provide the basis for the Contractor to further develop the details of this CTMP.

The Developer or the Employer's Representative will be responsible for ensuring that the Contractor manages the construction activities in accordance with this CTMP.

Objectives and measures are also included for the management, design and construction of the project to control the traffic impacts of construction insofar as it may affect the environment, local residents and the public in the vicinity of the construction works.

In the event that approval is granted for the proposed development, the CTMP will address the requirements of any relevant conditions, including any additional mitigation measures which are conditioned. The CTMP (updated by the Contractor prior to construction to incorporate these conditions) will require approval from Wicklow County Council and An Garda Síochána.

The objective of this CTMP is to ensure that the residual impacts to the public road network during the construction phase of the proposed development are minimised and that transport related activities are carried out as safely as possible and with the minimum disruption to other road users.

The CTMP has also been prepared for the purpose of identifying appropriate and safe methods of access for construction traffic to the proposed development.

This CTMP describes the traffic management for the transportation of construction materials, equipment and personnel along the public road network to facilitate the construction of the proposed development. Light vehicles, such as cars and vans, will be used by site operatives travelling to and from the site. Heavy Goods Vehicles (HGV) will be required to deliver general construction materials, such as concrete, to the site and for the removal of excavated material that is to be disposed of off-site.

1.3 Implementation

Key to the implementation of the CTMP is the appointment of a suitably experienced and qualified person on-site (nominated by the Contractor) who will supervise the implementation of the plan and regularly liaise with and update the supervising Employer's Representative team on the operation of the CTMP and any proposed improvements. All site personnel will be charged with following good practice and will be encouraged to provide feedback and suggestions for improvements. Site personnel will also be required to comply with the requirements of the site's CTMP.

1.4 Document Revision

The CTMP will be subject to on-going review throughout the construction phase of the proposed scheme, and regular auditing and site inspections.

All of the information required to further develop the CTMP will be highlighted in the specification for the construction contract. The Contractor will be required to include further details and/or confirmation, as described below.

2 Proposed Construction Traffic Generation

2.1 Overview

The potential temporary impacts of the scheme on the road network are as follows:

- Temporary impacts during construction due to the excavation of materials in order to facilitate construction, and the associated movements of excavation vehicles;
- Temporary impacts associated with the importing of construction materials, equipment, etc to the works areas, and the relevant movements of delivery and construction vehicles and construction workforce;
- Temporary impacts during construction due to road closures, lane closures and diversions;

- Construction staff commuting to and from the construction compounds, cable route corridor and working areas; and
- General service traffic associated with construction activities (i.e. plant deliveries, visitors, traffic between compounds and working areas, etc.)

2.2 Traffic Generation from Proposed Scheme

In the traffic impact assessment, the volumes of traffic associated with the construction activities have been estimated on the basis of the requirements of each individual area of works. All the assumptions made for the purpose of the assessment were conservative and therefore the conclusions are robust.

The time periods assessed as part of this transportation assessment included the busiest periods namely the morning peak period, the evening peak period and also daily flows (i.e. 24-hour period).

The crossing of the M11 will be either via HDD or via an existing underpass. In respect of the M11 crossing, it is considered that, in terms of this transport assessment, the HDD crossing would generate the highest number of vehicle trips due to the amount of excavated material to be removed. The HDD crossing therefore has been used in the traffic impact assessment. Should the option to use the existing underpass materialise then the volume of generated traffic will be less, resulting in a reduced impact.

The duration of construction works at the landfall area will be c. 10 months between September 2023 and June 2024. For the purpose of the assessment it was assumed that the export and import of earthworks will take place over a period of 2 months.

The duration of construction works along the cable route will be c. 24 months commencing in 2023. It was assumed that the export and import of earthworks/fill along the cable route to/from the temporary cable construction compound at the landfall and to/from the substation temporary construction compound will take place over a period of 6 months. It was also assumed that the export and import of earthworks along the cable route to/from the four HDD temporary construction compounds at the R772 and M11 will take place over a period of 1 month.

The duration of construction works at the substation area will be c. 24 months commencing in 2023. For the purpose of the assessment it was assumed that the export and import of earthworks at the substation area will take place over a period of 3 months.

The assessment assumes that the construction of all aspects of the proposed development will take place in parallel, at the same time. It is also assumed that peak construction takes place during summertime where the traffic on the roadways in the study area will be at their busiest.

The maximum projected increase in traffic associated with this likely construction sequence will result in the following increase in traffic flows.

	Daily (Light Vehs)	Daily (HGVs)	Peak Hour (Light Vehs)	Peak Hour (HGVs)
Landfall Area	41	65	9	7
Cable Route (including R772 and M11 HHD construction)	196	221	52	22
Substation Area	103	259	29	26
TOTAL	340	545	90	54

Table 7: Construction Traffic Volumes

The construction trip generation takes into account trips generated by the following:

- Earthworks and materials - excavated waste exported, fill materials imported and construction materials delivered, using the public road network, via the construction area;
- Construction equipment being delivered to the construction area;
- Staff commuting to and from the construction area; and
- Service trips associated with the construction area (i.e. compound set up, maintenance, external third party visitors, etc.).

For the purposes of the traffic impact assessment, it is assumed that all externally generated traffic will arrive to and from Junction 20 on the M11 and this is the designated access point from the Motorway to the construction site(s).

For the cable route construction, it is assumed that during construction 100% of the traffic could travel along the R772 Dublin Road and R750 Sea / Coast Road. Alternatively, 100% of the traffic could travel along the R772 Dublin Road, L2180 Beech Road and L6179 Kilbride Road.

Most of the construction site staff will be on site for standard working hours between 07.00-19.00 and will arrive before and depart after these times, although the traffic impact assessment undertaken in respect of the proposed development has assumed that the peak traffic generation associated with the construction activities will coincide with the peak periods on the receiving road network.

2.3 Envisaged Construction Equipment

Construction equipment and vehicles required for each construction element/operation will be delivered to site by appropriate vehicles.

Specific equipment and vehicles which are deemed to be required for the proposed development by the contractor, suppliers and staff are to be confirmed and included in the updated CTMP, prior to the commencement of construction.

3 Matters to be Addressed in More Detail

The Contractor will be required to ensure that the contents of this CTMP are further developed prior to the commencement of works and in accordance with the EIAR. The Contractor will implement monitoring measures to confirm the effectiveness of the mitigation measures outlined in the CTMP.

The following aspects of traffic management during the construction stage are considered in further detail hereunder:

- Site/works area access and egress;
- Traffic management signage;
- Timings of material, plant and equipment deliveries to site;
- Traffic management speed limits;
- Road cleaning;
- Vehicle cleaning;
- Road condition;
- Road closures;
- Enforcement of traffic management plan;
- Emergency procedures during construction; and
- Communication.

These details (see below) will be further developed by the Contractor prior to commencement of construction.

3.1 Site Access and Egress

The proposed site access locations have been identified and the Contractor will provide advanced warning signs, in accordance with the latest current Department of Transport's 'Traffic Signs Manual, Chapter 8: *Temporary Traffic Measures and Signs for Roadworks* , on the approaches to proposed site access locations, a minimum of one week prior to construction works commencing at that location.

Appropriate lines of sight have been identified at each access location, with the exception of R747 Vale Road which has restricted visibility in one direction. This will be managed by the use of banksman and / or temporary traffic management for all vehicles entering / egressing from the working area.

3.1.1 National Road Network

Junction 20 on the M11 national primary route is anticipated to be utilised as the access route for all construction activity during the construction period.

3.1.2 Regional and Local Road Network

The following regional roads will be utilised as delivery routes during the construction period:

Regional Road Network

- R750 Sea / Coast road
- R772 Dublin Road

Local Road Network

- L6197 Kilbride Road
- L2180 Beech Road

No construction traffic will be permitted to use the L95115 during the course of the construction works, however some short-term activity will occur during the construction of the cable crossing this road.

No construction traffic will be permitted to use Love Lane during the course of the construction works.

3.1.3 Construction Compounds and Working Areas

Seven temporary construction compounds have been identified: There will be both a HDD compound and a temporary cable construction compound at the landfall site, at Johnstown North. There will also be a temporary construction compound at the substation site at Shelton Abbey. There will also be four compounds along the cable route, at the HDD crossing locations (M11 and R772 Dublin Road) to accommodate the HDD equipment and accommodate construction staff for the HDD crossing.

In addition, four working areas have been identified to serve specific activities related to the decommissioning of old overhead line towers, the construction of new towers and the flood defence works at the substation area.

3.2 Traffic Management Signage

The Contractor will undertake consultation with the relevant authorities for the purpose of identifying and agreeing signage requirements. Such signage will be installed prior to works commencing on site.

Proposed signage will include warning signs to provide warning to road users of the works access/egress locations and the presence of construction traffic.

All signage will be provided in accordance with the latest current Department of Transport's 'Traffic Signs Manual, Chapter 8: *Temporary Traffic Measures and Signs for Roadworks* .

In summary, the Contractor will ensure that the following elements are implemented:

- Consultation with the relevant authorities for the purpose of identifying and agreeing signage requirements;
- Provision of temporary signage indicating site access route and locations for contractors and associated suppliers; and
- Provision of general information signage to inform road users and local communities of the nature and locations of the works, including project contact details.

3.3 Timings of Material Deliveries to Site

In order to reduce impacts on local communities and residents adjacent to the proposed sites:

- The Contractor will liaise with the management of other construction projects in the area and the local authorities to co-ordinate deliveries;
- The Contractor will schedule deliveries in such a way that construction activities and deliveries activities do not run concurrently, where practicable, e.g. avoiding pouring of concrete on the same day as material deliveries in order to reduce the possibility of numbers of construction delivery vehicles arriving at each site/works area location simultaneously, resulting in build-up of traffic on road network;
- The Contractor will schedule deliveries to and from any proposed temporary construction materials storage yards or compounds such that traffic volumes on the surrounding road network are kept to a minimum;
- A construction phase programme of works will be developed by the Contractor in liaison with Wicklow County Council, specifically taking into account potential road repair works that are included in the agreed local authority's road works schedule;
- HGV deliveries to specific areas of the site will be suspended on the days of any major local events, etc. that have the potential to cause larger than normal traffic volumes in the overlap areas;
- The Contractor will liaise with members of the local community to ensure that construction-related traffic will not conflict with sensitive events such as funerals and to notify of potential delays, e.g. road closures and diversions;
- Specific construction moratoria (for example, certain busy periods) as indicated by Wicklow County Council will be respected and incorporated into the construction phasing programme;
- HGV deliveries will avoid passing schools at opening and closing times where it is reasonably practicable; and

- Construction activities will normally be undertaken during daylight hours for all construction stages. It is expected that the HDD works will operate 24 hours per day, seven days per week. Commissioning and pre-commissioning may also take place 24 hours per day, seven days per week. Any works on public roads outside normal working hours will be subject to consultation with Wicklow County Council and An Garda Síochána.

3.4 Traffic Management Speed Limits

Adherence to posted / legal speed limits will be emphasised to all staff and suppliers and contractors during induction training. Drivers of construction vehicles and HGVs will be advised that vehicular speeds in sensitive locations, such as local community areas, will be restricted to appropriate levels.

Special speed limits will be implemented for construction traffic in sensitive areas such as school locations. Such recommended speed limits will only apply to construction traffic and not to general traffic.

3.5 Road Cleaning

It will be a requirement of the works contract that the Contractor carry out periodic road sweeping/cleaning operations to remove any scheme related dirt and material deposited on the road network by construction / delivery vehicles. Road sweepers will dispose of material following sweeping of road network, to a licensed waste facility.

3.6 Vehicle Cleaning

It will be a requirement of the works contract that the Contractor will provide dry or wet wheel washing facilities where appropriate, and any other necessary measures to remove mud and organic material from vehicles exiting sites or works areas.

3.7 Road Condition

The Contractor will ensure that:

- Prior to mobilisation, a pre-commencement pavement condition survey is carried out along each of the local and regional roads forming part of the access/delivery routes, and a copy of the condition survey report is submitted to Wicklow County Council as a record of the baseline condition of each road.
- Throughout the course of the construction of the proposed scheme, on-going visual inspections and monitoring of the access/delivery routes will be undertaken - to ensure any damage caused by construction traffic is minimised and repaired in a timely manner to minimise disruption to other road users.
- Loads of materials leaving each site will be evaluated, covered and appropriately secured if considered necessary to minimise potential dust impacts during transportation.

- The hauliers will take all reasonable measures while transporting waste or any other materials likely to cause fugitive losses from a vehicle during transportation to and from site, including but not limited to:
 - Covering of all waste or material with suitably secured tarpaulin/ covers to prevent loss; and
 - Utilisation of enclosed units to prevent loss.
- The roads forming part of the delivery routes will be monitored visually throughout the construction period and a truck mounted vacuum mechanical sweeper will be assigned to roads along the delivery routes as required.
- In addition, the Contractor will, in conjunction and through agreement with Wicklow County Council:
 - Undertake additional inspections and reviews of the roads forming the delivery routes prior to the construction phase to record the condition of these roads at that particular time; and
 - Such surveys will comprise, any recording or documentation processes as determined necessary by Wicklow County Council.
- Upon completion of the construction of the proposed scheme, the surveys carried out at pre-construction phase will be repeated and a comparison of the pre and post construction surveys carried out, with the Developer undertaking to make good any damage incurred as a result of the construction works.
- The necessary permit(s) and/or licence(s) will be obtained and in consultation with Wicklow County Council, road damage attributable to works will be rectified, to an appropriate standard.

3.8 Road Closures

3.8.1 During Road Crossings

The construction of the cable route requires the construction of a number of road crossings.

The crossings of the M11, R772 Dublin Road and the R750 Sea / Coast Road will be via HDD methods (although there is an open cut option through an existing underpass for the M11 crossing). As a result, these crossings will not impact on the traffic flows.

However, for the minor roads some road / lane closures will be required. Traffic will be managed at these locations using either stop/ go control (single lane closure) or temporary parallel lanes or localised diversion (full closure). Each of the lane closures will be short in duration. The open cut road crossings will take place at:

- L95115,
- L6179 Kilbride Road, and
- L2180 Beach Road.

To undertake the crossing of a public road, a local temporary traffic management plan will be produced, agreed with the road authority and implemented by the Contractor.

3.8.2 During cable construction along the road

The cable will also run within the following roads for short stretches:

1. Forest Road (if the M11 is crossed via the existing underpass instead of HDD)
2. L6179 Kilbride Road
3. Avoca River Business Park access road

Traffic will be managed at these locations using either stop / go (single lane closure). Localised diversion (full closure) is not recommended in these cases.

3.9 Enforcement of Traffic Management Plan

All project staff and material suppliers will be required to adhere to the CTMP. The Contractor will agree and implement monitoring measures to confirm the effectiveness of the CTMP and compliance will be monitored by the supervising Employer's Representative. Regular inspections / spot checks will also be carried out to ensure that all project staff, material suppliers and hauliers follow the measures specified in the CTMP.

3.10 Emergency Procedures During Construction

The Contractor will ensure that unobstructed access is provided for all emergency vehicles along all routes and site accesses.

The Contractor will provide to Wicklow County Council and the emergency services, the contact details of the Contractor's personnel responsible for construction traffic management.

In the case of an emergency which occurs off site all construction traffic will be notified of the incident and location.

3.11 Communication

The Contractor will ensure that close communication with Wicklow County Council and the emergency services is maintained throughout the construction phase. Such communications will include:

- Submissions of proposed detailed traffic management measures for comment and approval,
- Ongoing reporting relating to the condition of the road network and updates to construction programming,
- Information relating to local and community events that could conflict with proposed traffic management measures and construction traffic in order to implement alternative measures to avoid such conflicts.

The Contractor will also ensure that the local community is informed of proposed traffic management measures in advance of their implementation and in accordance with the Community Liaison Plan (included in the CEMP). Such information will be disseminated by posting advertisements in local newspapers and delivering leaflets to houses in the affected areas. Such information will contain the Contractor's contact information for members of the public to obtain additional information and to provide additional knowledge such as local events, sports fixtures etc. which may conflict with proposed traffic management measures.

4 Conclusions

This CTMP will form part of the construction contract and is designed to reduce possible impacts which may occur during the construction of the proposed development.

The Contractor will update the CTMP prior to commencement of construction, will keep the CTMP updated throughout, will agree the CTMP with Wicklow County Council and An Garda Síochána and will fully implement the CTMP.

The Employer's Representative will be responsible for ensuring that the Contractor manages the construction activities in accordance with this CTMP and will ensure that any conditions of planning are incorporated into the site specific CTMP.

4.1 Monitoring

The implementation of the CTMP will be monitored by the Contractor and Employer's Representative. Regular inspections / spot checks will be carried out to ensure that all project staff, material suppliers and hauliers follow the measures specified in the CTMP.