



APPENDIX 15-2

TRAFFIC MANAGEMENT PLAN

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TRAFFIC MANAGEMENT PLAN FOR KNOCKSHANVO WIND FARM

REVISION A – June 17th 2024

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CONTENTS

1 INTRODUCTION

1.1 Purpose of note

2 DELIVERY OF ABNORMALLY SIZED LOADS TRANSPORTING TURBINE COMPONENTS

2.1 Proposed delivery route for abnormally sized loads

2.2 Traffic management measures for abnormally sized loads

3 DELIVERY ROUTES FOR GENERAL CONSTRUCTION TRAFFIC

4 TRAFFIC MANAGEMENT MEASURE DURING CONSTRUCTION OF GRID CONNECTION ROUTE

5 GENERAL TRAFFIC MANAGEMENT MEASURES

APPENDICES

Appendix A Figures from the EIAR

Figure 15.1a Site location and turbine delivery routes

Figure 15.1b Turbine delivery route autotrack assessment location plan

Figure 15.2a Site location and delivery routes for general construction traffic

Figure 15.4 Proposed cable grid connection route

Figure 15.5a Diversion route during closure of cable grid connection Section 1

Figure 15.5b Diversion route during closure of cable grid connection Section 2

Figure 15.5c Diversion route during closure of cable grid connection Section 3

Figure 15.5d Diversion route during closure of cable grid connection Section 4

Figure 15.5e Diversion route during closure of cable grid connection Section 5

Figure 15.5f Diversion route during closure of cable grid connection Section 6

1 INTRODUCTION

1.1 Purpose of note

The purpose of this Traffic Management Plan (TMP) is to set out traffic management measures that the Applicant will commit to provide during the construction stage of the proposed Knockshanvo Wind Farm Development (Proposed Development). The successful completion of the Proposed Development will require significant coordination and planning and a comprehensive set of mitigation measures will be put in place before and during the construction stage in order to minimise the effects of the additional traffic generated on the surrounding road network. The measures are discussed under the following headings;

- Section 2 – Delivery of abnormally sized loads transporting turbine components.
- Section 3 – Delivery routes for general construction traffic.
- Section 4 – Traffic management measures during construction of the proposed Grid Connection Route.
- Section 5 – General traffic management measures that will be implemented before, during and on completion of the construction of the Proposed Development.

It is confirmed that details for the TMP for the Proposed Development will be agreed with the Road Section of all relevant Local Authorities prior to construction.

On the occasions where reference is made to figures that are included in the EIAR prepared for the Proposed Development, these figures are included as Appended A.

2 DELIVERY OF ABNORMALLY SIZED LOADS TRANSPORTING TURBINE COMPONENTS

2.1 Proposed delivery route for abnormally sized loads

The proposed port of entry for the large wind turbine components is the Port of Foynes in County Limerick. The proposed Turbine Delivery Route (TDR) from the port to the proposed Wind Farm site is shown in Figure 15-1a. An assessment of the turning requirements of the abnormally large loads transporting the turbine components was undertaken at the various pinch points along the TDR, as identified in Figure 15-1b. The swept path assessment undertaken for these locations is discussed in Section 15.1.8 of the EIAR.

The proposed TDR is as follows;

- From the access road serving Foynes Port the route turns left (south) onto the N69 National Secondary Road at the existing priority junction (Location 1).
- From this point the route heads east on the N69 for approximately 32kms, passing through various bends on the route indicated at Locations 2 to 9.
- At a location on the northern side of N69 just to the east of the village of Kildimo, it is proposed that there will be a TTC constructed, where the turbine blades will be transferred from a standard method of transportation to vehicles with specialised adaptors that lift the blade to 60° in order to minimise the length of the vehicle in plan. This location of the proposed TTC is between Locations 7 and 8 as shown in Figure 15-1b.
- The route then turns right at the N69 / R510 roundabout (Location 10) to head south for approximately 1.1kms, passing through Ard Aulin roundabout (Location 11) to reach the roundabout of the R510 and Father Russell Road (Location 12).
- From here the route turns left heading northeast on Father Russell Road for approximately 1.3kms passing through the Oakfield Roundabout (Location 13) to reach the roundabout that connects with the R526 (Location 14),
- The route continues northeast on the R526 for approximately 1.5 kms passing through the roundabout with Dooradoyle Road (Location 15) to the traffic signals at Ballinacurra Road.
- From this point the route travels northeast through Limerick City Centre for approximately 2.9 kms via O'Connell Avenue, O'Connell Street (contra-flow), Bridge Street and Athlunkard Street (Locations 16 to 17) to the roundabout of R463 Corbally Road / Pa Healy Road (Locations 18 & 19).

- The route then heads north on the R463 for approximately 4.3 kms crossing the River Shannon, which forms the County Limerick and County Clare border, onto the river crossing at Ardnacrusha (Location 20).
- From here the route continues on the R465 for approximately 7.2 kms, passing through various bends on the route (Locations 21 to 27) to the location of the proposed Wind Farm access junction on the R465 (Location 28).

The total length of the Turbine Delivery Route from Foynes Port to the access junction off the R465 is approximately 50 kms. All deliveries of abnormally sized loads will be made using Garda Síochána escorts and local transient traffic management measures put in place by the haulage company.

2.2 Traffic management measures for abnormally sized loads

The transportation of large components is challenging and can only be done following extensive route selection, route proofing and consultation with An Garda Síochána, the relevant local authorities and their road sections and roads authorities. Turbine components are usually transported in convoys of 5 vehicles at night when traffic is lightest. This will be undertaken in consultation with the road authorities, An Garda Síochána Traffic Corp and special permits are generally required.

A swept path analysis was undertaken at all potential pinch points using Autotrack in order to establish the locations where the wind turbine transporter vehicles will be accommodated, and the locations where some form of remedial measure may be required. While transient traffic management measures will be implemented by An Garda Síochána as each convoy travels along the delivery route, it is not anticipated that any sections of the local road network will be closed.

A dry run involving a vehicle adapted to replicate the geometry of the extended transport vehicles will be undertaken over the entire turbine delivery route prior to the delivery of turbine components.

3 DELIVERY ROUTES FOR GENERAL CONSTRUCTION TRAFFIC

In order to facilitate the construction of the Proposed Development, all concrete and road surfacing materials will be sourced from local, appropriately authorised quarries, while rock and hardcore material will be sourced from the onsite borrow pits. The potential routes for general construction materials for the purposes of this assessment, is as per the route considered for the turbine components, with the additional delivery routes from the north and northwest (R465 from Broadford) and from the southeast (via R466 and R465 from Broadford), as shown in Figure 15-2a.

4 TRAFFIC MANAGEMENT MEASURES DURING CONSTRUCTION OF PROPOSED GRID CONNECTION ROUTE

Traffic impacts and diversion routes identified for the proposed Grid Connection Route works are included in Section 15.1.6.7 of the EIAR. Sections along the proposed Grid Connection Route where there will be road and pedestrian footpath closures, diverted traffic, and Stop/Go traffic control are identified.

It is proposed that the 110kV on-site electrical substation in the townland of Drumsillagh is connected by means of an underground 110kV electrical cable to the existing 110kV Ardnacrusha electrical substation located in the townlands of Castlebank and Ballykeelaun, Co. Clare. The proposed underground electrical cabling route is approximately 9.2km in length and is located predominately within the public road corridor.

The extent of the proposed Grid Connection Route that will impact on the public road network is considered in the following 6 sections, as indicated in Figure 15-4 of the EIAR. All EIAR Figures 15-5a to 15-5f, which are referred to in the following text, are also included as Appendix A.

Section 1 – (length 3.5 kms) – The proposed onsite 110kV electrical substation will be situated within the Proposed Development site with the cable route linking into the L-3042. From this point the electrical cabling route will continue south along the L-3042 for approximately 3.5km before joining the R471. For this section of the underground electrical cabling route the carriageway width of the local road is narrow and a local road closure at the location where the section of the underground electrical cabling route is being constructed will be required. Based on an average rate of 150m of cable being constructed in one day, it is estimated that this section of the underground electrical cabling route will take up to 23 days to complete. The location of the construction will be transient in nature with the extent of the section of road closed kept to a minimum. Local diversions will be put in place during the construction of this section with potential detour route indicated in Figure 15-5a. It is estimated that the diversion incurred by local traffic during the construction of this section of the cable route will be a maximum of 8.1 kms.

Section 2 – (length 0.3kms) – The underground electrical cabling route then continues west along the R471 for approximately 0.3 kms. The carriageway is narrow and will require a full road closure during the approximately 2 days required for construction. The potential diversion route shown in Figure 15-5b will result in a diversion of 9.7kms for local trips.

Section 3 – (length 1.2kms) – This section of the route heads south on the L-70661 for 1.2kms to link into the L-70661. The carriageway is narrow and will require a full road closure during the approximately 8 days required for construction. The potential diversion route shown in Figure 15-5c will result in a diversion of 1.4km for local traffic.

Section 4 – (length 2.8kms) – This section of the route continues south on the L-7066 and L-3054 for 2.8kms to link into the L-3056 in Ardnacrusha. A full road closure will be required during the approximately 19 days required for construction. The potential diversion route shown in Figure 15-5d will result in an addition length of up to 1.5kms for local trips.

Section 5 – (length 0.2kms kms) – This section continues west on the L-3056. A full road closure will be required during the construction of this short section of the underground electrical cabling route. The local diversion to local traffic, as shown in Figure 15-5e, will be approximately 0.5 kms.

Section 6 – (0.2km) – The final section of the route heads southwest from the L-3056 on Castlebank Road to the access of the existing 110kV Ardnacrusha Substation. This section of the Castlebank Road is narrow and will require to be closed during the approximate 1 to 2 days required for construction. The potential diversion route is shown in Figure 15-5f which will result in a diversion of approximately 0.4kms to local traffic.

It is estimated that the proposed Grid Connection Route will take approximately 70 days, or approximately 3 months to construct.

With respect to the traffic volumes that will be generated during the construction of the proposed Grid Connection Route, it is estimated that there will be approximately 14 daily return trips made by a truck transporting materials, and 4 made by a car to transport 15 construction staff to and from the site.

5 GENERAL TRAFFIC MANAGEMENT MEASURES

A detailed TMP will be finalised and confirmatory detailed provisions in respect of traffic management agreed with the Roads Authorities and An Garda Síochána prior to construction works commencing on site. The detailed TMP will include the following:

- **Traffic Management Coordinator** – a competent Traffic Management Co-ordinator will be appointed for the duration of the project and this person will be the main point of contact for all matters relating to traffic management.
- **Delivery Programme** – a programme of deliveries will be submitted to the relevant County Councils (Clare and Limerick) in advance of deliveries of turbine components to site. Liaison with the Local Authorities and Transport Infrastructure Ireland (TII) will be carried out where required regarding requirements such as delivery timetabling. The programme will ensure that deliveries are scheduled in order to minimise the demand on the local network and minimise the pressure on the access to the site.
- **Temporary traffic management measures during construction of Wind Farm Site at access junctions during construction** – Temporary measures including signage at access Junctions B at Sallybank, C and D at Snaty.
- **Temporary traffic management measures during construction of Grid Connection** – Including signage and implementation of temporary traffic diversions.
- **Temporary traffic signs and traffic management measures for the construction phase of the proposed temporary transition compound on the N69** – As part of the traffic management measures temporary traffic signs will be put in place at the access points for the transition zone located on the N69. All measures will be in accordance with the “*Traffic Signs Manual, Section 8 – Temporary Traffic Measures and Signs for Road Works*” (DoT now DoTT&S) and “*Guidance for the Control and Management of Traffic at Roadworks*” (DoTT&S). Construction staff (flagman) will be present at key junctions during peak delivery times. This will include a request to TII / LC&CC for a temporary speed reduction for the 85 day construction period.
- **Information to locals** – Locals in the area will be informed of any upcoming traffic related matters e.g. temporary lane/road closures (where required) or delivery of turbine components at night, via letter drops and posters in public places. Information will include the contact details of the Project Co-ordinator, who will be the main point of contact for all queries from the public or local authority during normal working hours. An “out of hours” emergency number will also be provided.
- **A Pre and Post Construction Condition Survey** – Where required by the Local Authorities, a pre-condition survey of roads associated with the Proposed Development will be carried out immediately prior to construction commencement to record an accurate condition of the road at the time. A post construction survey will be carried out

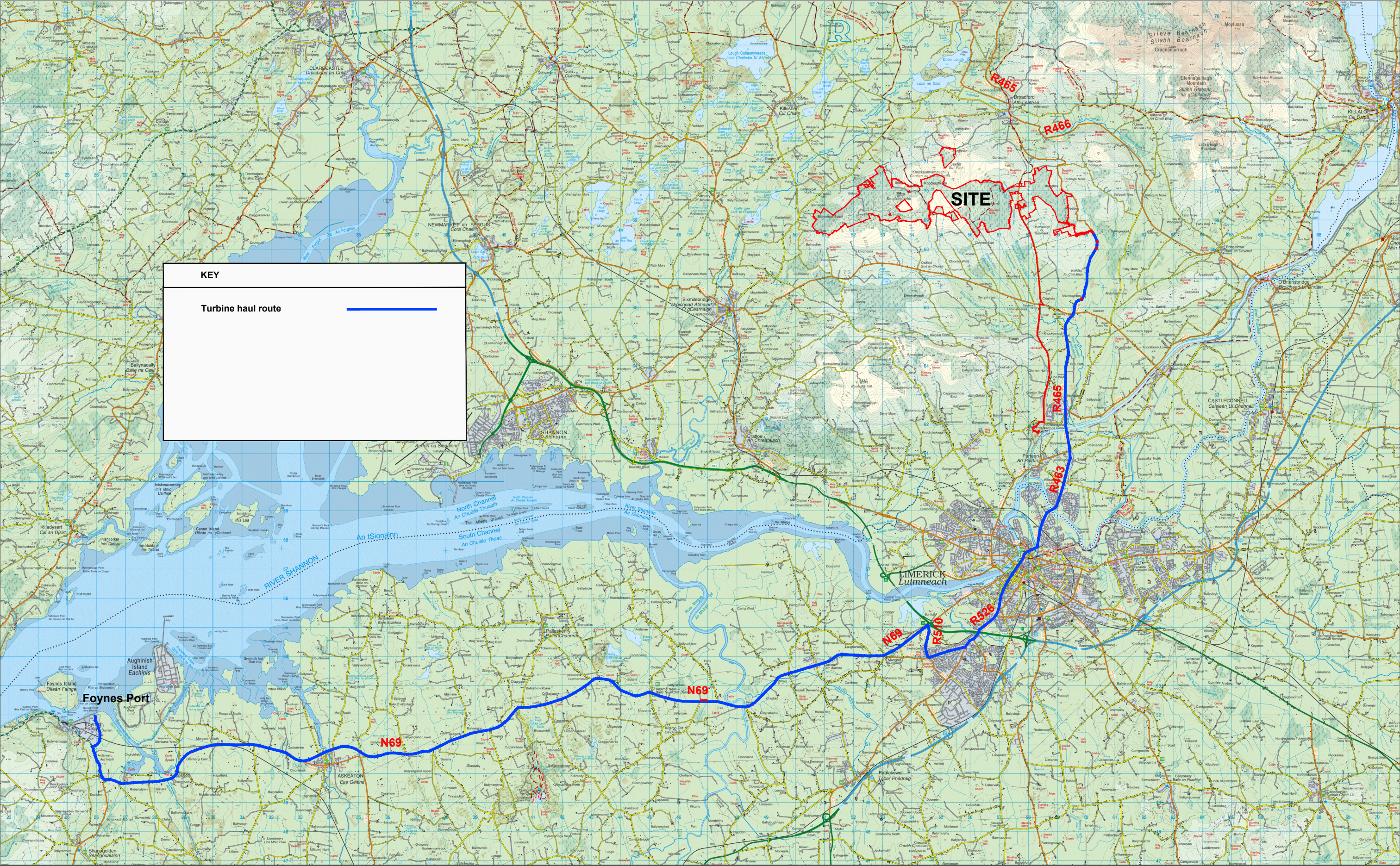
after works are completed to ensure that any remediation works are carried out to a satisfactory standard. The timing of these surveys will be agreed with the local authority. All road surfaces and boundaries will be re-instated to pre-development condition, as agreed with the Local Authority Engineers.

- **Liaison with the relevant local authority** - Liaison with the County Councils and An Garda Síochána will be carried out during the delivery phase of the large turbine vehicles, when an escort for all convoys will be required. Once the surveys have been carried out and “prior to commencement” status of the relevant roads established, (in compliance with the provisions of the CEMP), the relevant Roads Sections will be informed of the names and contact numbers for the Project Developer/Contractor Site Manager as well as the Site Environmental Manager.
- **Implementation of temporary alterations to road network at critical locations** – at locations highlighted in section 15.1.8. In addition, in order to minimise the impact on the existing environment during turbine component deliveries the option of blade adaptor trailers will also be used where deemed practicable.
- **Identification of delivery routes** – These routes will be agreed with the County Councils and adhered to by all contractors.
- **Delivery times of large turbine components** - The management plan will include the option to deliver the large wind turbine plant components at night in order to minimise disruption to general traffic during the construction stage.
- **Travel plan for construction workers** – While the assessment above has assumed the worst case in that construction workers will drive to the site, the construction company will be required to provide a travel plan for construction staff, which will include the identification of routes to / from the site.
- **Additional measures** - Various additional measures will be put in place in order to minimise the effects of the development traffic on the surrounding road network including wheel washing facilities on site and sweeping / cleaning of local roads as required.
- **Re-instatement works** - All road surfaces and boundaries will be re-instated to pre-development condition, as agreed with the local authority engineers.

It is confirmed that details for the Traffic Management Plan for the subject development will be agreed with all relevant Local Authorities prior to construction and contact will be maintained with the Road and Traffic Sections throughout the construction phase.

APPENDIX A FIGURES FROM THE EIAR

Figure 15.1a	Site location and turbine delivery routes
Figure 15.1b	Turbine delivery route autotrack assessment location plan
Figure 15.2a	Site location and delivery routes for general construction traffic
Figure 15.4	Proposed cable grid connection route
Figure 15.5a	Diversion route during closure of cable grid connection Section 1
Figure 15.5b	Diversion route during closure of cable grid connection Section 2
Figure 15.5c	Diversion route during closure of cable grid connection Section 3
Figure 15.5d	Diversion route during closure of cable grid connection Section 4
Figure 15.5e	Diversion route during closure of cable grid connection Section 5
Figure 15.5f	Diversion route during closure of cable grid connection Section 6



NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Base mapping provided by MKO

Figure 15-1a Site location and turbine delivery route

PROJECT: Knockshanvo Wind Farm Development

CLIENT: Futurenergy Ireland

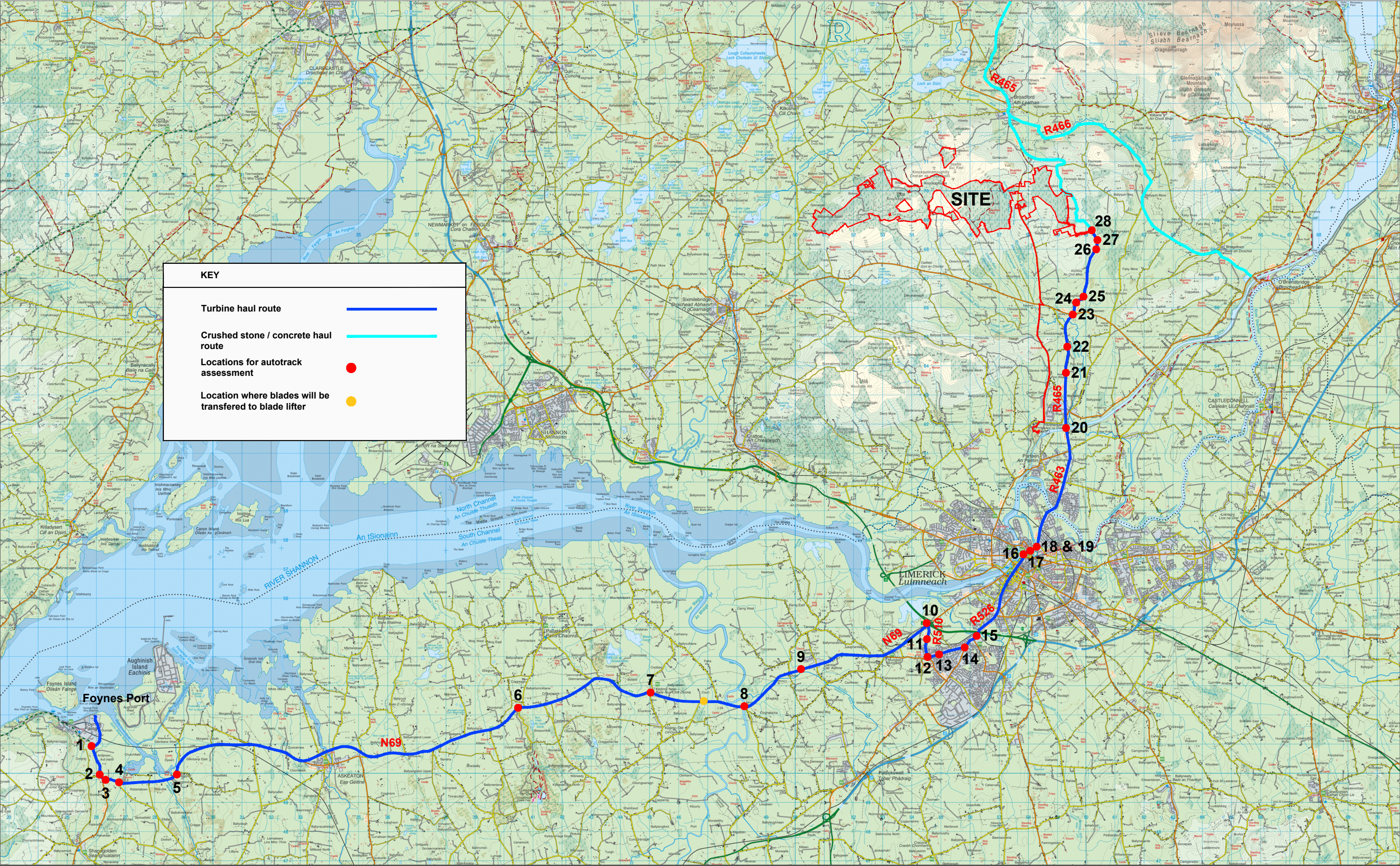
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DATE: 07.08.24

SCALE: NTS

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Base mapping provided by MKO

Figure 15-1b Turbine delivery route autotrack assessment location plan

PROJECT: Knockshanvo Wind Farm Development

CLIENT: Futurenergy Ireland

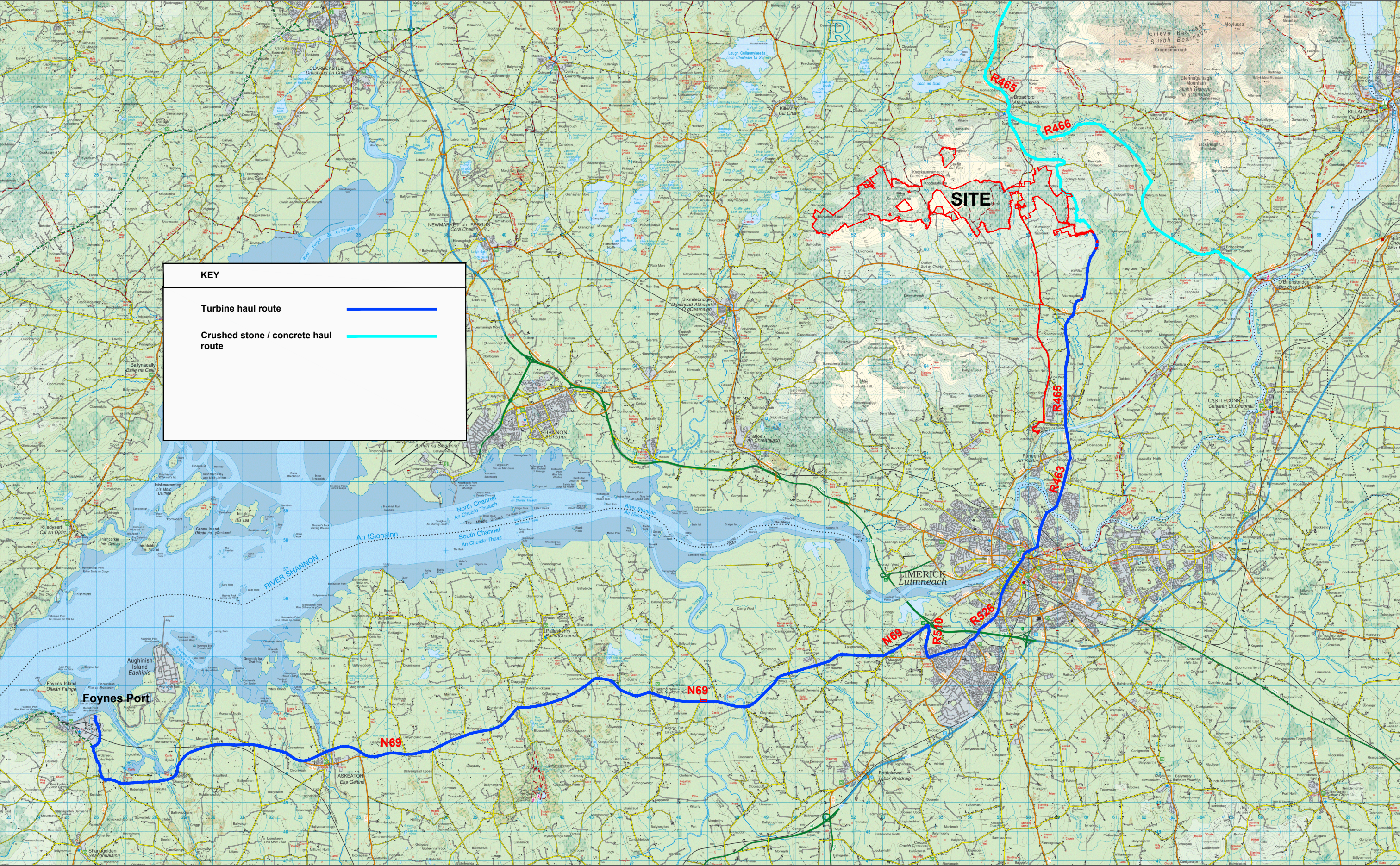
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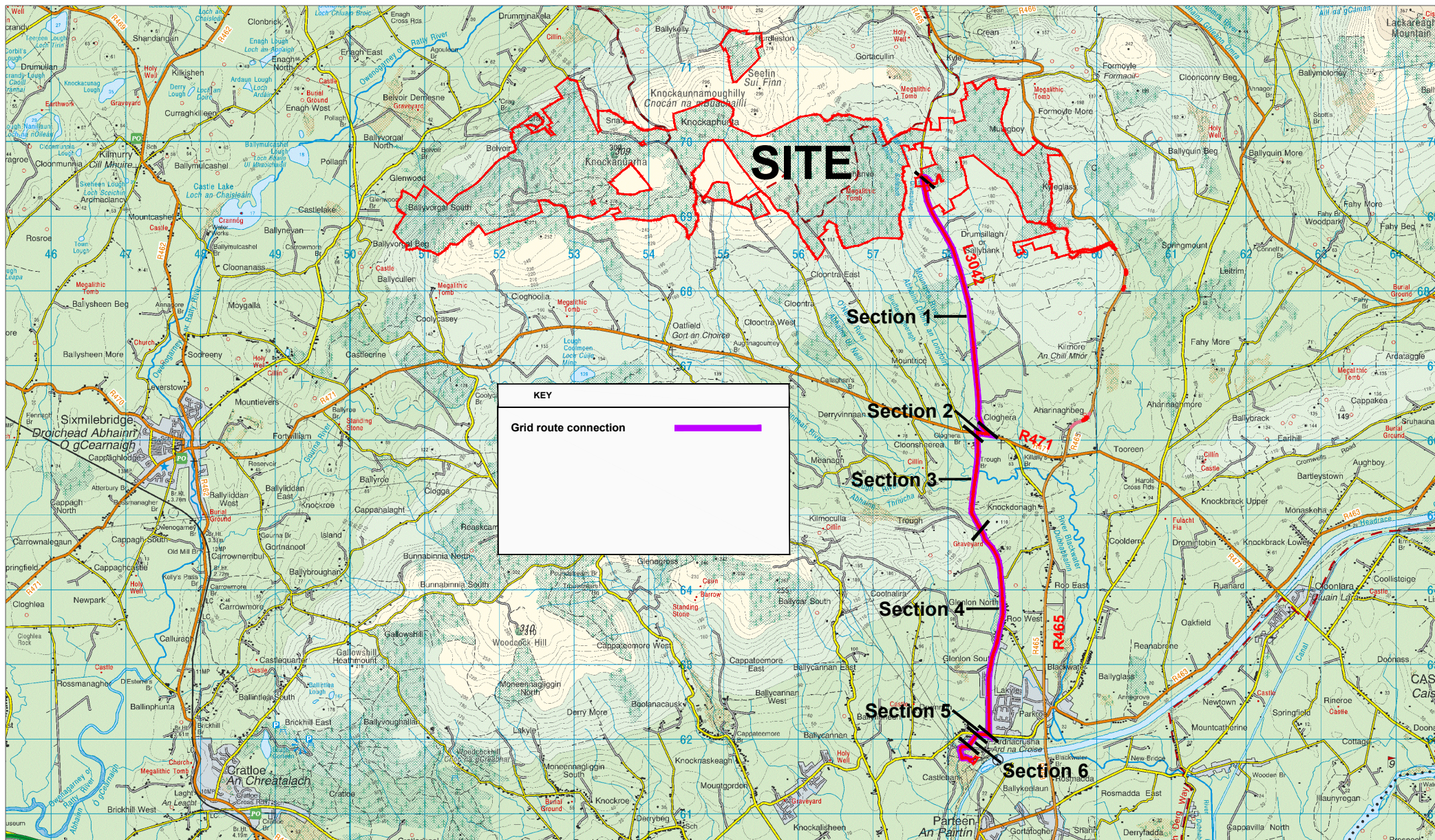
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Base mapping provided by MKO

Figure 15-2a Site location and delivery routes for general construction traffic

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CLIENT: Futurenergy Ireland	SCALE: NTS		
PROJECT NO: 8880	DATE: 07.08.24		
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Base mapping provided by MKO

Figure 15-4 Proposed cable grid connection route

PROJECT: Knockshanvo Wind Farm Development

CLIENT: Futureenergy Ireland

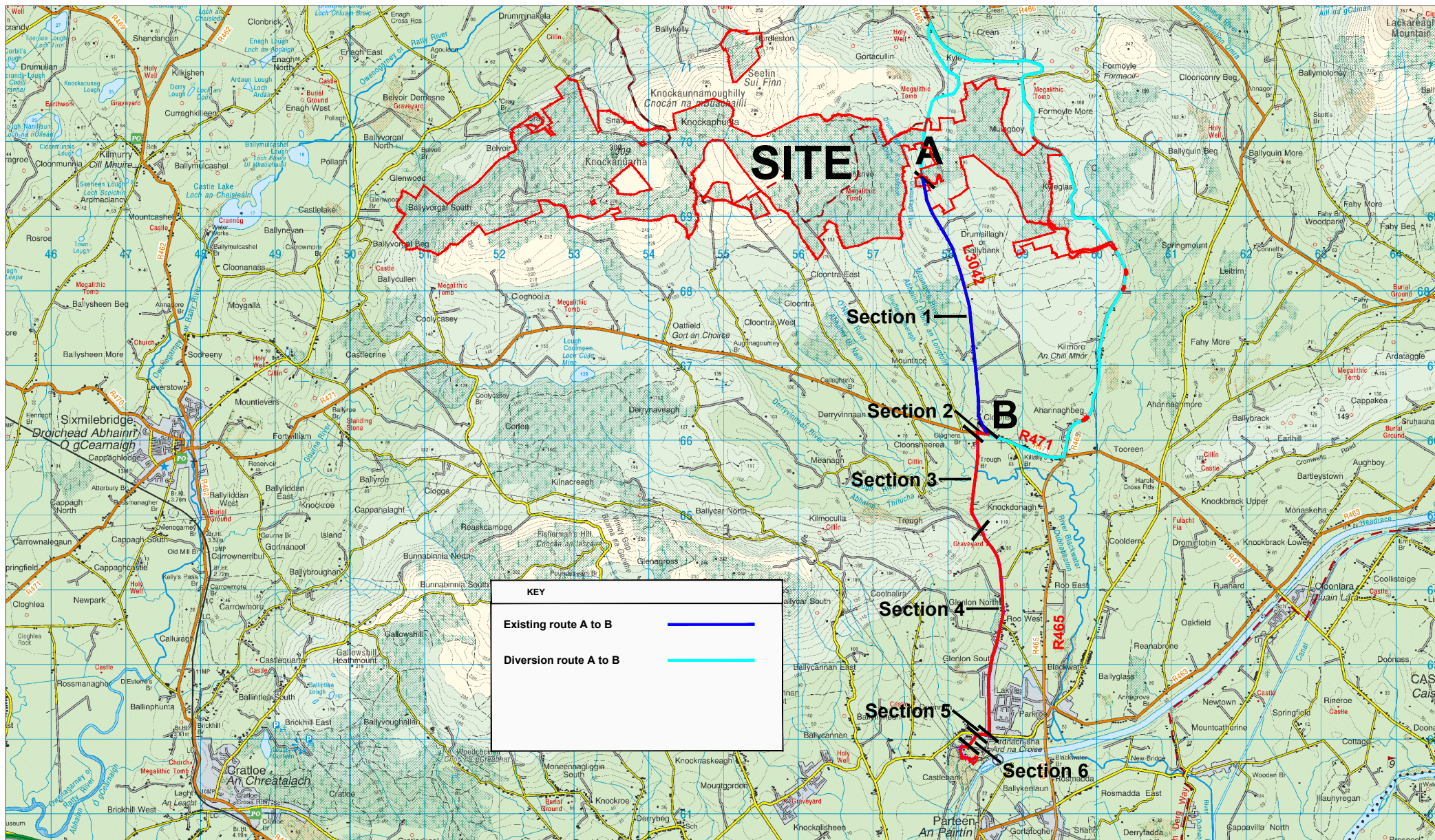
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Figure 15-5a Diversion route during closure of cable grid route Section 1

PROJECT: Knockshanvo Wind Farm Development

CLIENT: Futureenergy Ireland

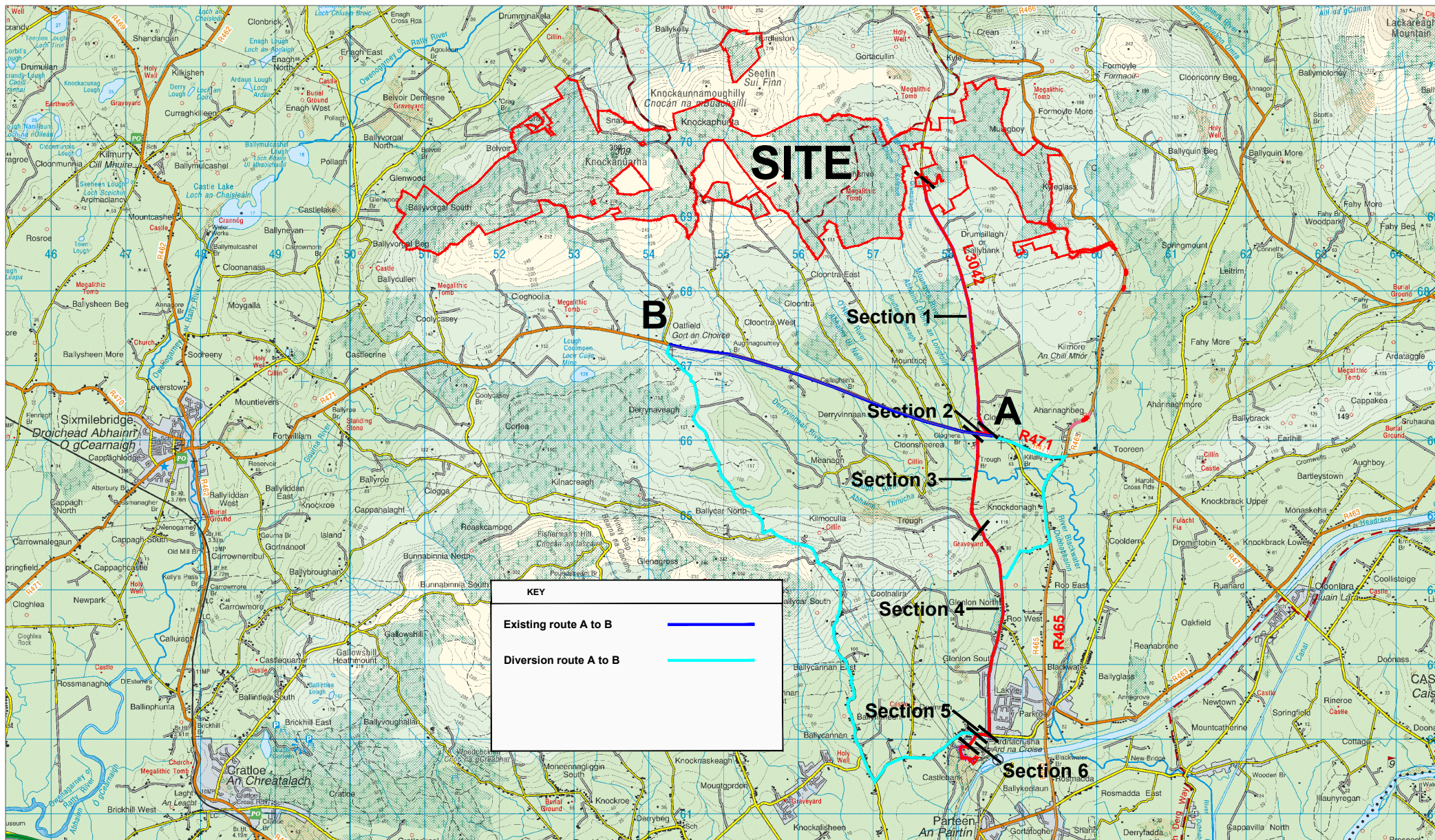
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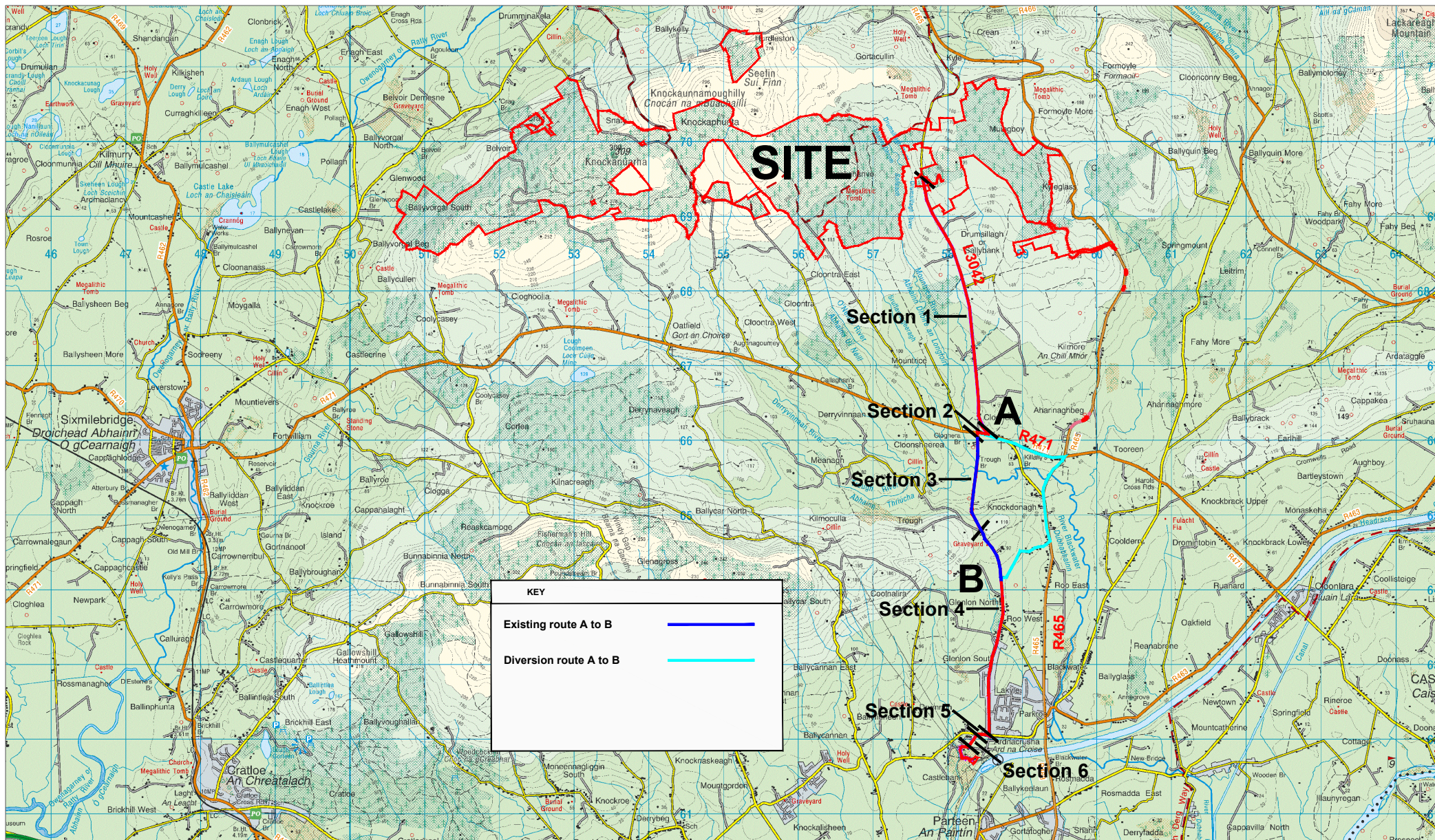
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	CLIENT: Futureenergy Ireland		SCALE: NTS		
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Figure 15-5c Diversion route during closure of cable grid route Section 3

PROJECT: Knockshanvo Wind Farm Development

CLIENT: Futureenergy Ireland

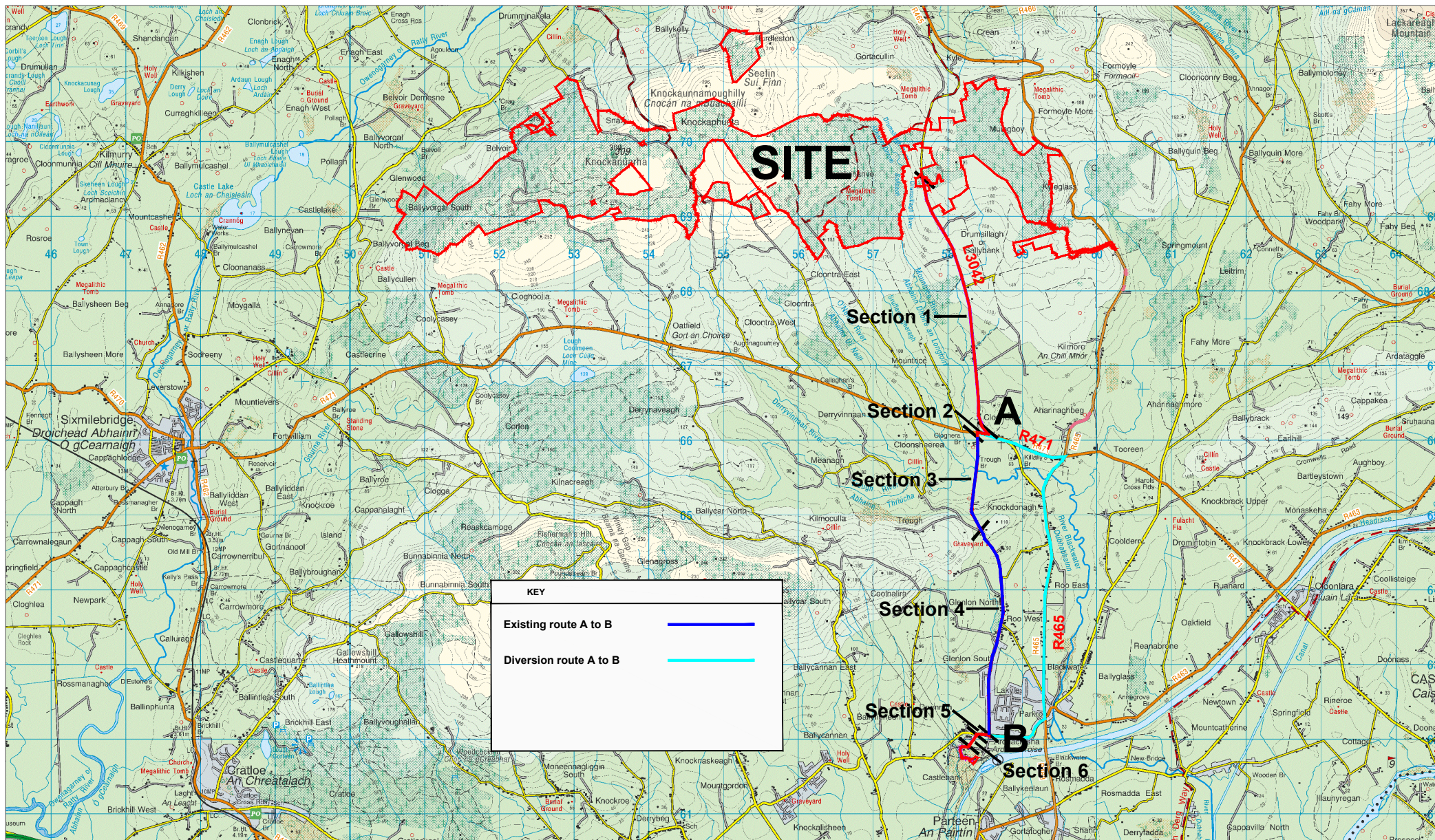
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Figure 15-5d Diversion route during closure of cable grid route Section 4

PROJECT: Knockshanvo Wind Farm Development

CLIENT: Futureenergy Ireland

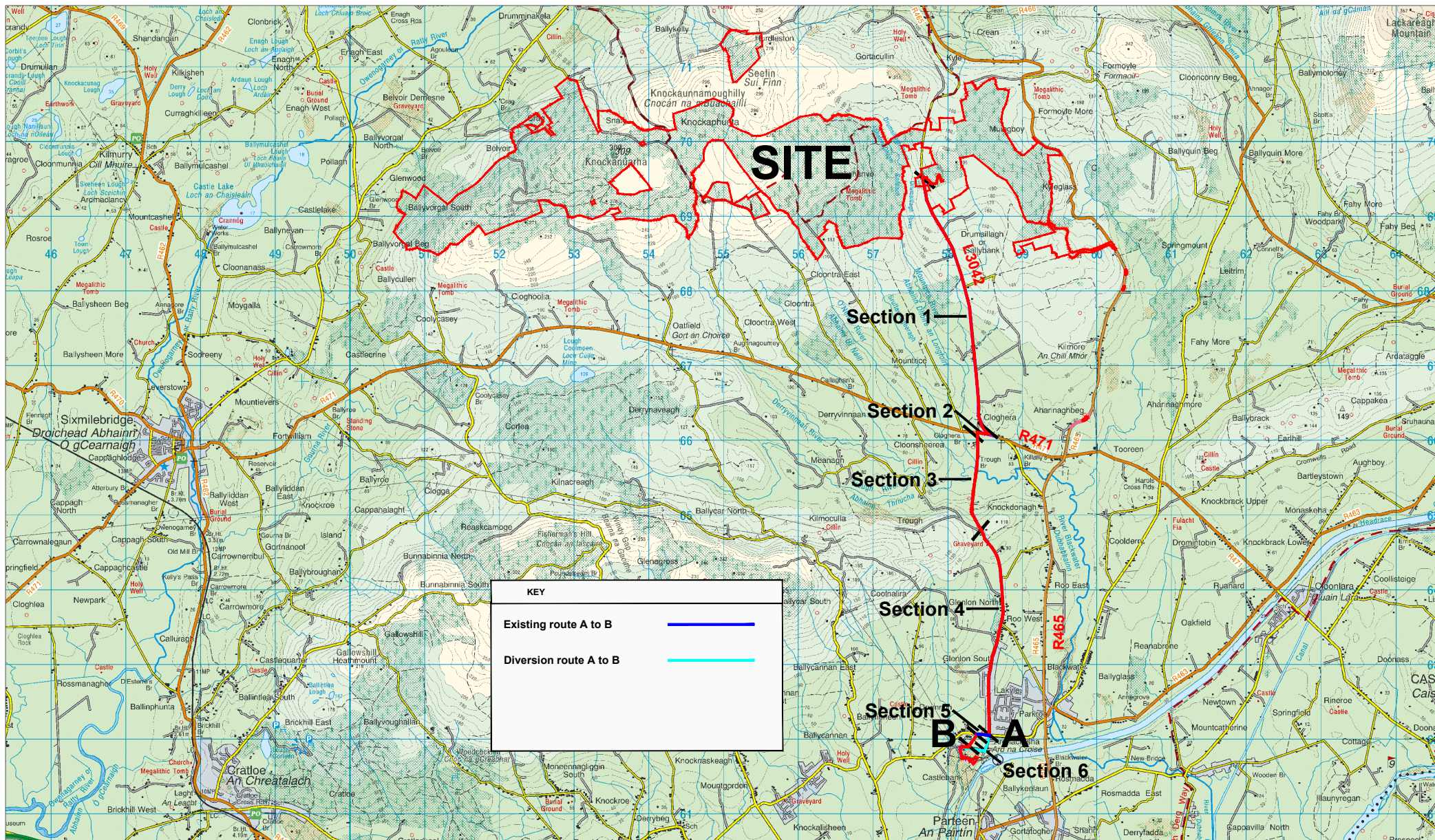
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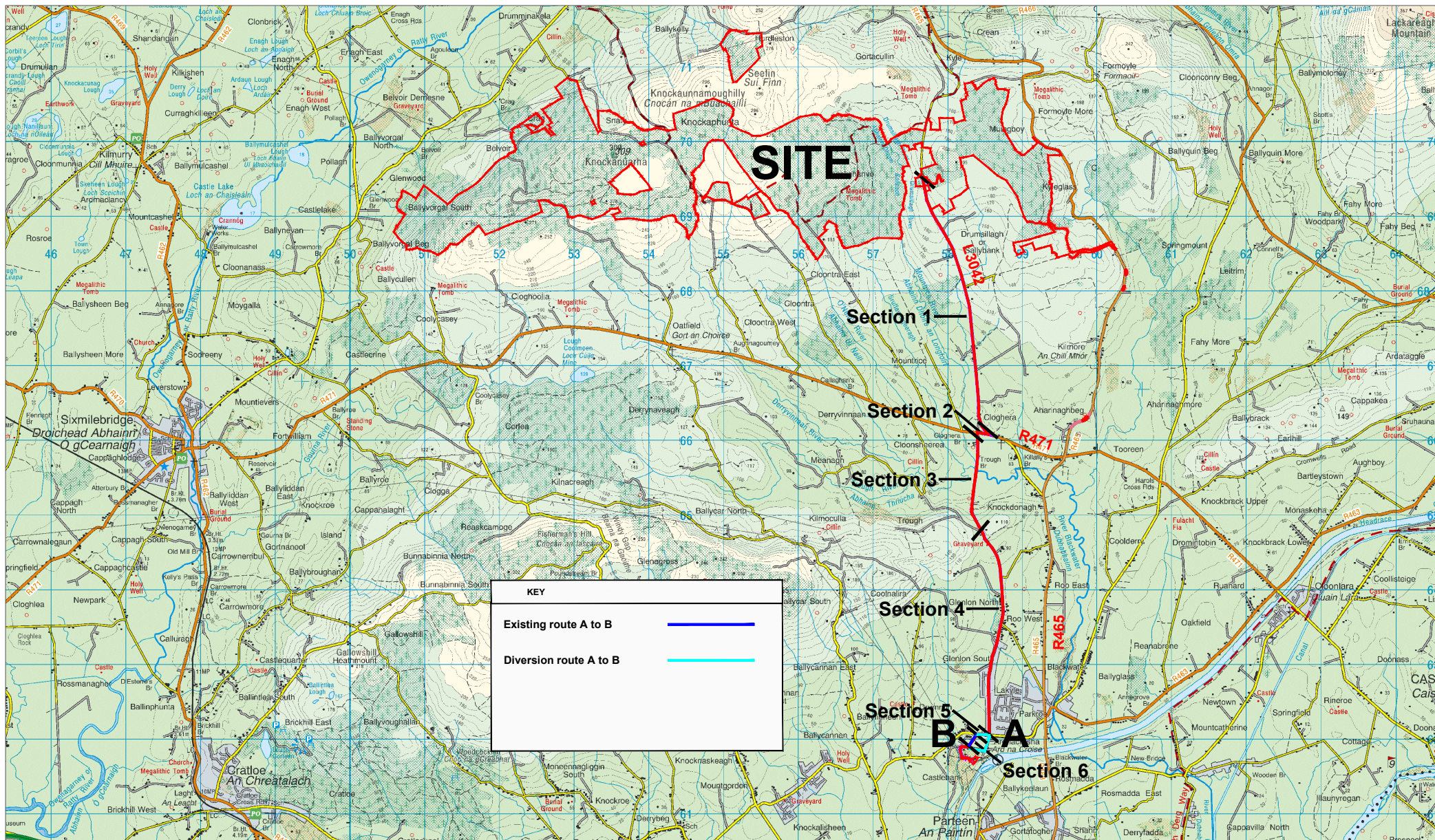
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	CLIENT: Futureenergy Ireland		SCALE: NTS		
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