

BALLINREA 110KV SUBSTATION AND GRID CONNECTION

BALLINREA, CARRIGALINE, COUNTY CORK

Traffic and Transport Assessment

ADDENDUM

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1 Traffic and Transport Assessment

1.1 Introduction

A Traffic and Transport Assessment (TTA) was prepared in July 2023 (27/07/23) by Alan Lipscombe Traffic and Transport Consultants Ltd in order to assess the traffic related impacts that would be incurred during the construction of the Ballinrea 110kV Substation and 110kV Underground Cable Grid Route (UCGR), subject of a Strategic Infrastructure Development (SID) Application to An Comisiún Pleanála (ACP)(Case Number ACP-317706-23). The substation and UCGR were subsequently granted planning consent in April 2024.

This Addendum report has been prepared by Alan Lipscombe Traffic and Transport Consultants Ltd. It is proposed to amend the permitted SID scheme under the provisions of Section 146B of the Planning and Development Act 2000, as amended. In summary the proposed amendment comprises the realignment of c. 370m of the permitted 110kV grid connection from the public road (L2473 Shannonpark Road) to adjacent consented third-party lands.

The permitted SID comprises the following;

- *The construction of a permanent 110 kV electrical substation in the townland of Ballinrea at the site of the permitted Ballinrea Solar Farm (PI Ref. 17/6784, ABP Ref. PL04.303013). The proposed 110kV electrical substation includes 2 no. single storey control buildings with welfare facilities, associated electrical plant and apparatus, security fencing, entrance gate, fire wall, 4 no. lighting columns, 1 no. telecoms pole (c. 20.7m above ground), 7 no. lightning masts (c. 18m above ground), underground cabling, wastewater holding tank, watermains connection, site drainage; and all ancillary works;*
- *1 no temporary construction compound with temporary site offices and staff facilities, in the townland of Ballinrea;*
- *Realignment of the permitted internal access track permitted under PI Ref. 17/6784, ABP Ref. PL04.303013 and the provision of a new internal cable maintenance track;*
- *Temporary alterations to the site entrance for construction phase and reinstatement of same post-construction;*
- *110kV tail fed underground electricity interconnection cables c. 6.25km in length and associated fibre cable connecting the proposed 110kV Substation at Ballinrea to the existing 220kV Raffeen Substation with underground ducting, 9 no. joint bays, communication chambers and associated site development and reinstatement works;*
- *A new 110kV cable bay, electrical equipment, the provision of a new cable maintenance track and ancillary works at the existing 220kV Raffeen Substation compound;*
- *All associated site development works, landscaping and apparatus.*

The 110kV substation and grid connection to Raffeen 220kV substation facilitate the connection of two permitted solar farms in the local area to the national grid;

- Ballinrea Solar Farm – Planning Ref. No. 17/6784 & ABP-303013-18, as subsequently modified by Planning Ref. No. 23/4563 & ABP-318915-24;
- Ballinvuskig Solar Farm – Planning Ref. No. 19/5371 & ABP-305186-19, as modified by Planning Ref. No. 23/41837 & ABP-318925-24.

Ballinrea solar farm is over midway through construction with civil works and piling for solar PV arrays nearing completion, Mechanical assembly and cable installations are also ongoing across the site. Civil works are ongoing on Ballinvuskig Solar Farm and ramming works commenced in January 2026 with completion forecast for early April 2026. All major solar farm deliveries including, PV modules, support structures, inverters and transformer centres were complete as of early January 2026.

Regarding the Grid and the civil installation for the 33kV cable connection between the Ballinrea and Ballinvuskig sites is complete and the IPP substation and 110kV substation works are significantly advanced with buildings substantially complete from a civils perspective and electrical fit-out ongoing. The grid transformer was delivered to site in late January.

1.2 Background and description of the proposed alteration to permitted development

The alteration to the scheme is being requested to avoid interacting with Uisce Éireann (UÉ) infrastructure, namely 2 no. existing high-pressure asbestos services which are located within the Shannonpark Road (the public road L2473) section of the grid route.

The UÉ pipes would need to be replaced with ductile iron or HDPE materials to allow safe installation of the 110kV grid cable in closer proximity to the existing services. The replacement is necessary due to the risk of rupture of the existing UÉ services within the roadway which are asbestos material which suffers from embrittlement with age.

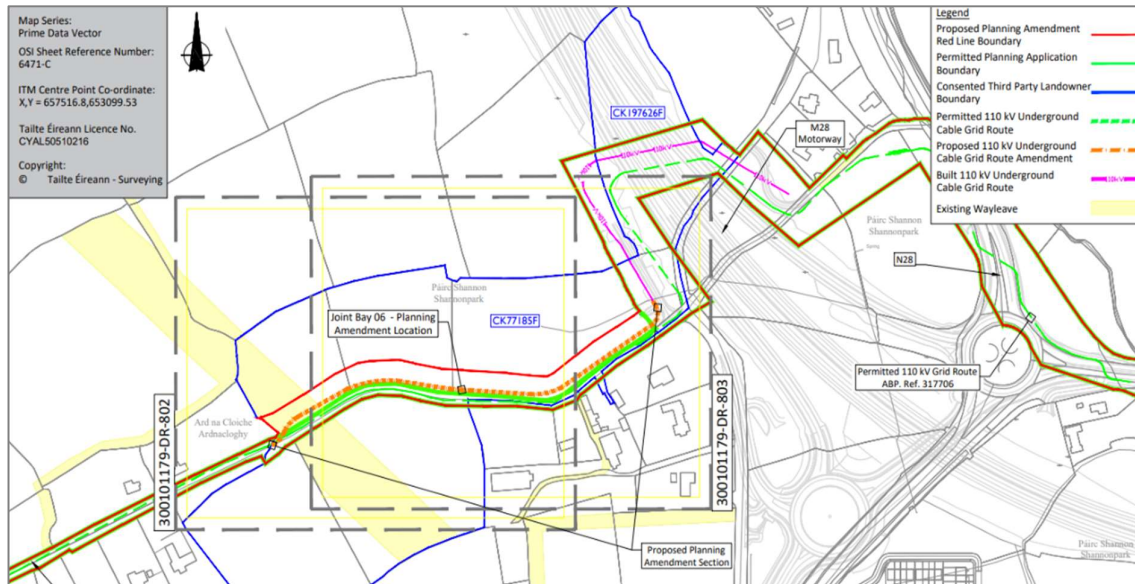
The proposed amendment would remove approximately 370m of the 110kV cable route from the roadway where UÉ services are currently located removing the need for pipe replacement works in this area.

The proposed alteration to the scheme includes the following:

- The underground cable will leave the Shannonpark road, passing through an existing entrance onto consented third-party lands (Folio no. CK77185F) for approximately 370m before joining existing ducting at the M28 crossing in the east (as per the permitted SID route). The proposed works include the relocation of one joint bay (Joint Bay 06) to the consented third-party lands.
- A corridor of c. 5-10m in width will be required to accommodate the cable trenching works and installation of the joint bay. The underground cable works will consist of the installation of 6 No. ducts in an excavated trench to accommodate 3 No. power cables, 2 No. fibre communications cables and 1 No. earth continuity conductor. The altered grid route will be mainly through agricultural lands, and will require removal of c. 100m of scrub in proximity to the M28 crossing.
- Once the cable trenching is complete the ground will be reinstated with an access track c. 3m in width. This is required as per Eirgrid specifications to permit future access to the joint bay (bay (refer to drawing no. 300101179-DR-807)

Details with regards to the method of construction for the permitted cable grid route and substation were provided in the Construction Methodology, prepared by the TLI Group (Report ref 05887-R04-01, June 2023). TLI have prepared an addendum report to accompany this alteration application. Note that there will be no changes to the methodology for constructing the cable or joint bay in the proposed offroad sections.

Fig 1 Extract from Sheet Number 300101179-DR-801B, TLI Group, 02.03.2026



1.3 Changes to traffic related impacts due to the alteration to proposed Underground Cable Grid Route

The traffic related impacts that will be incurred during the construction of the permitted UCG, as set out in the original TTA as referenced above, relate to the following;

- Impacts due to increased traffic generated on the local road network during the construction of the UCG Route** – With respect to the volumes of traffic that will be generated during the construction of the 0.38 km section of the UCGR, it is considered that they will be similar for both the proposed off road and permitted on road(i.e. remaining in the L2473) scenarios. For this criteria it is therefore concluded that the additional traffic that will be generated during the construction of the UCGR will be as presented in the TTA dated at 27/07/23 and submitted under Case Number ABP-317706-23.
- Increased journey times and distances incurred by general traffic as a result of road closures required during the construction of sections of the UCGR** – For this criteria it is clear the impacts to background traffic will be reduced as a result of relocating a c. 0.37km section of the proposed UCGR from the public L2473 road into third party consented land. As part of the TTA it was estimated that the UCGR will be constructed at the rate of 0.1km per day and that on this section of the route 4,650 trips per day would incur a detour resulting in an increased journey distance of 1.8km.

It is therefore estimated that the relocation of this section off the local road onto private lands will reduce the duration of the road closure required by almost 4 days, relieving the need for a total of 18,600 trips to undertake a detour of +1.8km.

1.4 Mitigation

There are no changes to the mitigation measures set out in the TTA submitted for the permitted scheme. These included;

- **Traffic Management Coordinator:** A designated coordinator will oversee all traffic management issues throughout the project.
- **Delivery Programme:** Delivery schedules will be submitted to Cork County Council ahead of material transport. Coordination with local authorities and TII will occur as needed for timing requirements.
- **Information to Locals:** Residents will receive updates about traffic changes (such as temporary closures) through letters and posters. Contact details for the project coordinator and an emergency out-of-hours number will be provided. Access to properties along the cable route will remain open.
- **Pre and Post Construction Condition Survey:** Road conditions will be assessed before and after construction, ensuring any necessary remediation is completed to local authority standards.
- **Liaison with Local Authority:** Ongoing communication with Cork County Council's roads department will continue; contact details for the Project Supervisor and Site Environmental Manager will be supplied.
- **Identification of Delivery Routes:** All contractors must use agreed delivery routes.
- **Travel Plan for Construction Workers:** The company will develop a travel plan outlining worker routes and parking arrangements at the construction compound.
- **Temporary Traffic Signs:** Temporary signs will be placed where works and diversions occur, following relevant DoTT&S guidelines. Staff flagmen will be present at each site location.
- **Additional Measures:** Mitigation steps include wheel washing and road cleaning as needed.
- **Reinstatement Works:** Roads and boundaries will be restored to pre-development condition and verified by surveys before and after construction.
- **Road Opening Licence:** Grid connection-related road works will comply with the road opening licence from Cork County Council.
- **Diversions and Road Closures:** Access to homes, farms, and businesses will be maintained during road closures, with diversion plans coordinated with the roads authority.
- **Trench Reinstatement:** Road trenches will be backfilled and reinstated according to roads authority standards, confirmed by surveys before and after construction.

1.5 Conclusion

The TTA submitted for the permitted SID concluded that

“In terms of impacts to local traffic it is estimated that the maximum diversion that will be experienced will be on the 13 days when the grid connection is constructed on the Local Raffeen Road (Link 9) when a total of 1,109 trips per day will require to travel an additional 1.95 kms adding an additional 2.34 minutes to each journey. During the entire construction period of the cable grid route of 135 working days it is estimated that a total of 430,638 trips on the local road network will experience an impact, with an average of 1minute 36 seconds and 1.35kms added to each

journey. During the construction of the Proposed Development, it is considered that the traffic related impacts will be temporary and slight.”

It is estimated that the relocation of c.0.37km of the grid connection route off the local road onto private lands will reduce the duration of the road closure required by almost 4 days, relieving the need for a total of 18,600 trips to undertake a detour of +1.8km.

It is concluded that the proposed amendment to the permitted UCGR will result in a reduction in the overall traffic impacts that will be incurred by general traffic during the construction phase of the Proposed Development.