# 29. TRAFFIC AND TRANSPORTATION

## 29.1 Introduction

### 29.1.1 Background and Objectives

This chapter of the Environmental Impact Assessment Report (EIAR) presents the likely significant effects on traffic and transport due to the traffic movements that will be generated during the construction, operational and maintenance, and decommissioning phases of the Onshore Site.

The Onshore Site comprises the following:

- The Onshore Landfall Location (OLL) and associated infrastructure in the townland of Killard, Co Clare;
- The Onshore Grid Connection (OGC), including the installation of underground cables, from the Transition Joint Bay (TJB) at the OLL to the Onshore Compensation Compound, with a route length of approximately 19.3km, and from the OCC to the Moneypoint 220kV Substation located at Moneypoint Power Station, with a route length of approximately 3km; and,
- The proposed 220kV Onshore Compensation Compound (OCC) located in the townland of Ballymacrinan.

A full description of the Onshore Site, including construction phasing details, is provided Chapter 5: Project Description of this EIAR.

In addition, this chapter considers the likely significant effects on traffic and transport of the traffic movements that will be generated during the operation and maintenance phase (O&M) at the O&M port facility. Although the final location of the O&M port facility is still under consideration, the current assumption is that the O&M base will be located in the townland of Rossaveel, Co. Galway, however this is subject to a separate planning application process.

For developments of this nature, the construction phase is the critical period with respect to the traffic effects experienced on the surrounding road network resulting from the additional traffic volumes that will be generated. The requirements and potential disruption of the additional traffic volumes generated during the construction stage were assessed on both the external highway network and at the proposed junction that will provide access to the OCC.

The magnitude of the increase in traffic volumes experienced on the surrounding network is identified during the construction of the Onshore Site. A Traffic Management Plan (TMP) is provided in Appendix 29-2, and which outlines the measures that will be taken to minimise the traffic impact on the local highway network.

### 29.1.2 Statement of Authority

This section of the EIAR has been prepared by Alan Lipscombe of Alan Lipscombe Traffic and Transport Consultants Ltd. Alan is a competent expert in traffic and transport assessments. In 2007 Alan set up a traffic and transportation consultancy providing advice for a range of clients in the private and public sectors. Prior to this Alan was a founding member of Colin Buchanan's (CBP) Galway office having moved there as the senior transportation engineer for the Galway Land Use and Transportation Study. Since the completion of that study in 1999, Alan has worked throughout Ireland on a range of projects including: major development schemes, the Galway City Outer Bypass, Limerick Planning Land-Use and Transportation Study, Limerick Southern Ring Road Phase II, cost benefit analyses (COBA) and various studies for the University of Galway. Before moving to Galway in 1997, Alan was

involved in a wide variety of traffic and transport studies for CBP throughout the UK, Malta and Indonesia. He has particular expertise in the assessment of development related traffic, including the preparation of Traffic and Transport chapters of EIARs for many wind farm developments including the following: Ardderroo, Derrinlough, Knocknamork, Shehy More, Cloncreen, Derrykillew, Ballyhorgan, Lettergull, Barnadivane, Cleanrath, Knockalough, Sheskin South and Borrisbeg.

Alan has a BEng (hons) Degree in Transportation Engineering (Napier University, Edinburgh, 1989), is a member of Engineers Ireland and of the Institute of Highways and Transportation and is a TII accredited Road Safety Audit Team Member.

Traffic counts were undertaken by Traffinomics Ltd, which is an Irish traffic survey company with a comprehensive knowledge of traffic data collection methods. The company, established in 2014, is headed by Simon Wheeler, who has been in the traffic survey data collection business for 35 years. Previously Simon worked with Count On Us Ltd., followed by Abacus Transportation Surveys Ltd., Ireland's first lens-based traffic data collection business. Clients of Traffinomics Ltd. include TII, Local Authorities and many leading retailers.

## 29.1.2.1 Guidance on Assessment of Effects

This section of the EIAR has been completed in accordance with the EIAR guidance and legislation set out in Chapter 1: Introduction. The assessment uses standard terminology to describe the likely significant effects associated with the Onshore Site. Further information on the classification of effects used in this assessment is presented in Section 1.8.2 of this EIAR. In addition, this chapter adopts the guidance for such assessments set out by Transport Infrastructure Ireland (TII), in the document number PE-PDV-02045 '*Guidelines for Traffic and Transport Assessments, May 2014'* (hereafter referred to as the TII Guidelines).

## 29.1.2.2 Scoping and Consultation

The scoping and consultation process with statutory and non-statutory consultees is part of the EIAR process and has been used to inform the Traffic and Transport assessment undertaken. Following the issuing of the Scoping Report in September 2023, Fuinneamh Sceirde Teoranta (FST) (the Applicant) and the EIAR project team participated in meetings with Clare County Council and Transport Infrastructure Ireland (TII). A meeting was held with Clare County Council in their Kilrush office on the 22nd of February 2024, and a subsequent meeting was held with Clare County Council and TII in the County Buildings, Ennis (with some participants attending virtually) on 31st May 2024.

Table 29-1 below provides a summary of the comments raised by the consultees and the measures taken to address these within the EIAR.

### Transport Infrastructure Ireland (TII)

Transport Infrastructure Ireland (TII) responded to scoping via a letter dated 28th September 2023, within which it provided a list of recommendations to be followed when preparing the EIAR. All relevant TII Guidelines and policies have been adopted in the preparation of this assessment, including the following:

- PE-PDV-02045, Transport Assessment Guidelines, Transport Infrastructure Ireland, May 2014
- PE-PAG-02017, Project Appraisal Guidelines, Unit 5.3, Travel Demand Projections, Transport Infrastructure Ireland, October 2021
- DN-GEO-03060, Geometric Design of junctions, Transport Infrastructure Ireland, May 2023.

Specific feedback provided by TII in relation to the Onshore Site are set out in Table 29-1.

*Table 29-1 Feedback provided by TII in relation to the Onshore Site and Responses*

| ID | Comment/Recommendation | Response |
|---|---|---|
| 1 | The onshore elements of the Proposed Development could comprise of:<br>› One onshore export cable corridor and onshore substation (from landfall to Cashla grid connection);<br>› One onshore export cable corridor and onshore substation (from landfall to Moneypoint grid connection).<br><br>It is noted that the landfall location(s) and onward connections will be determined following further studies and consultation, but potential options are initially identified in both Counties Clare and Galway. It appears that it is intended that the onshore cable routes will follow the local and national road system. For national roads, it is observed that it is proposed to use the N67, and also a crossing of the M6. It is also noted that it is anticipated that open-cut trenching for cables laid in ducts will be the primary installation method and that this grid connection cabling will be located within the road infrastructure. | Since the initial scoping consultation, the location of the OLL in the townland of Killard, and the route of the OGC have been identified. The roads that will be impacted during the construction of the Onshore Site are set out is Table 29-19 and the estimated traffic related impacts set out in Section 29.5 of the EIAR. |
| 2 | TII advises that grid connection and cable routing proposals should be developed to safeguard proposed road schemes (minor, major or for maintenance) as TII will not be responsible for costs associated with future relocation of cable routing where proposals are catered for in an area of a proposed national road scheme. In that regard, consideration should be given to routing options, use of existing crossings, depth of cable laying, etc. Consultations should be had with the relevant Local Authority/National Roads Design Office with regard to locations of existing and future national road schemes. | With respect to the Onshore Site the proposed route of the OGC impacts on the national road network at the following locations only;<br>› A Horizontal Directional Drilling (HDD) crossing of the N67 south of the OLL in the townland of Doonmore<br>› An HDD crossing of the N68 to the east of the existing access to Kilrush Golf Club,<br>› For a section of the N67 approaching the existing Moneypoint 220kV Substation, the cable will be installed parallel to the national road. Approximately 0.7km in the road verge and approximately 0.4km will be off road before crossing under the N67 (via HDD trenchless technology) and entering into the ESB Moneypoint Power Station.<br><br>The construction details for the OGC are provided in Section 5.6.2.2 of Chapter 5 and Appendix 5-17 of the |

| ID | Comment/Recommendation | Response |
|---|---|---|
| | | EIAR, while the estimated traffic related impacts are provided in Section 29.5 |
| 3 | In the context of the existing national roads network, in accordance with the National Planning Framework National Strategic Outcome no. 2 'Enhanced Regional Accessibility', there is a requirement to maintain the strategic capacity and safety of the network. This requirement is further reflected in the National Development Plan, the National Investment Framework for Transport in Ireland and also the existing Statutory Section 28 Spatial Planning and National Roads Guidelines for Planning Authorities. | These guidelines are noted and were a key consideration in selecting the proposed OGC route as discussed in Chapter 3 Site Selection and Alternatives of the EIAR. |
| 4 | There is around 99,000km of roads in Ireland, the national road network which caters for strategic inter-urban travel consists of only approx. 5.4% of this. There is a critical requirement to ensure the strategic capacity and safety of this national road network is maintained and significant Government investment already made in the national road network is safeguarded. | This has been considered during the preparation of this chapter. |
| 5 | TII notes the proposed grid connection routing options include a proposed routing along the national roads. The provision of cabling along the national road network represents a number of significant implications for TII and road authorities in the management and maintenance of the strategic national road network and TII is of the opinion that grid connection cable routing should reflect the foregoing provisions of official policy. Therefore, TII advises that grid connection cable routing should seek to utilise available alternatives, as opposed to being placed along the strategic national road network contrary to the provisions of official policy. | These guidelines are noted and considered in the selection of the proposed OGC route as discussed in Section Chapter 3 of the EIAR. |
| 6 | Other consents or licences may be required from the road authority for any trenching or cabling proposals crossing the national road. The Authority requests referral of all proposals agreed and licensed between the road authority and the applicant which affect the national road network. | The Applicant will liaise with Clare County Council during the preparation of consents and road opening licences well in advance of the construction of the Onshore Site. |
| 7 | In the interests of maintaining the safety and standard of the national road network, methods/techniques proposed for any works traversing/in proximity to the national road network should be identified. | The proposed construction methodology for the crossing of the N68, and the N67 (at two locations), using trenchless HDD methods, along with the section of the OGC that will be constructed along the N67 verge is provided in 5.6.2.2 of |

| ID | Comment/Recommendation | Response |
|---|---|---|
| | TII recommends that that applicant/developer should clearly identify haul routes proposed and fully assess the network to be traversed. Where abnormal 'weight' loads are proposed, separate structure approvals/permits, and other licences may be required in connection with the proposed haul route. All structures on the haul route through all the relevant County Council administrative areas should be checked by the applicant/developer to confirm their capacity to accommodate any abnormal 'weight' load proposed.<br><br>In addition, the haul route should be assessed to confirm capacity to accommodate abnormal 'length' loads and any temporary works required. | Chapter 5 and in Appendix 5-17 of the EIAR.<br><br>It is noted that the Onshore Site does not involve the transportation of any turbine components. The largest vehicle will be a heavy transport truck and trailer which will have axle loadings within accepted limits and will transport the transformer to the OCC. The transformer will be delivered by an abnormal load specialist contractor. |
| 8 | The national road network is managed by a combination of PPP Concessions, Motorway Maintenance and Renewal Contracts (MMaRC) and local road authorities in association with TII.<br><br>The applicant/developer should also consult with all PPP Companies, MMaRC Contractors and road authorities over which the haul route traverses to ascertain any operational requirements, including delivery timetabling, etc. to ensure that the strategic function of the national road network is safeguarded. | It is noted that the construction of the Onshore Site will not have any direct impact on the Motorway Network. |
| 9 | Additionally, any damage caused to the pavement on the existing national road arising from any temporary works due to the turning movement of abnormal loads (e.g., tearing of the surface course, etc.) shall be rectified in accordance with TII Pavement Standards and details in this regard shall be agreed with the Road Authority prior to the commencement of any development on site. | As set out in Section 29.5.5.2 of the EIAR 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 network 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. |
| 10 | Where grid connection involves proposals to cross a motorway Works Specific Deeds of Indemnities, arrangements for third party access or consent from TII in accordance with Section 53 of the Roads Act, 1993, is required. | It is noted that the construction of the Onshore Site will not have any impact on the existing motorway network. At the locations where the proposed OGC will have an impact on the national road |

| ID | Comment/Recommendation | Response |
|---|---|---|
| | Arrangements for third party access are also likely to be required. Contact should be made to 'thirdpartyworks@tii.ie' to progress this element when proposals for the crossings have been developed.<br><br>› General requirements for directional drilling under a motorway include;<br>› The launch and reception pits for the crossing are located outside the Motorway boundary,<br>› The cabling will be installed at such depth so as not to conflict with the drainage for the Motorway,<br>› Neither the Works nor the cable crossing will damage or interfere with the Motorway,<br>› Any maintenance and/or future planned upgrades of the cabling at the crossing location can be carried out without access to the motorway boundary,<br>› There are no bolted joints in that part of the crossing within the motorway fence-line,<br>› A pre and post construction survey shall be required along the length of the crossing over the extents of the motorway boundary,<br>› Specific requirements may also arise for these proposed works.<br><br>Cable routing should avoid all impacts to existing TII infrastructure such as traffic counters, weather stations, etc. and works required to such infrastructure shall only be undertaken in consultation with and subject to the agreement of TII, any costs attributable shall be borne by the applicant/developer. The developer should also be aware that separate approvals may be required for works traversing the national road network. | network, i.e. the HDD crossings under the N68 and the N67 and the section of the N67 where the OGC will be constructed within the carriageway verge, all works will be undertaken in consultation and with the agreement of Clare County Council and TII. |
| 11 | The developer, in preparing EIAR, should have regard to TII Publications. | All TII publications were adhered to in the preparation of this assessment as set out in above. |
| 12 | It would be important that, where appropriate, subject to meeting the appropriate thresholds and criteria and having regard to best practice, a Traffic and Transport Assessment be carried out in accordance with relevant guidelines, noting traffic volumes attending the site and traffic routes to/from the site with reference to impacts on the national road network and junctions of lower category roads with national roads. In relation to national roads, the Authority's Traffic and Transport Assessment Guidelines (2014) | It is confirmed that the Traffic and Transport assessment presented in this section of the EIAR is undertaken in accordance with the TII Guidelines. |

| ID | Comment/Recommendation | Response |
|---|---|---|
| | should be referred to in relation to proposed development with potential impacts on the national road network. The scheme promoter is also advised to have regard to Section 2.2 of the NRA/TII TTA Guidelines which addresses requirements for sub-threshold TTA. Any improvements required to facilitate development should be identified. It will be the responsibility of the developer to pay for the costs of any improvements to national roads to facilitate the private development proposed as TII will not be responsible for such costs. | |
| 13 | The designers are asked to consult TII Publications to determine whether a Road Safety Audit is required. | A Road Safety Audit has not been undertaken at this stage as there are no permanent new junctions or alteration proposed on the regional or national road network. A Stage 1 Road Safety Audit will be undertaken for the proposed construction and operational access on the L6150 local road prior to construction. |

### Department of Transport

No scoping response was received from the Department of Transport pertaining to the Onshore Site.

### Clare County Council

A scoping response was received from Clare County Council on 19th October 2023. The feedback provided in relation to traffic and transport are set out in Table 29-2 below, along with a summary of how these comments have been addressed.

*Table 29-2 Issues raised by Clare County Council in relation to Onshore Site and Responses*

| ID | Comment/Recommendation | Response |
|---|---|---|
| 1 | It is noted that there is reference to cable routes so an Outline TMP will be needed, and any road openings/ Trenches will need to be agreed with the Area Engineer in terms of trench location and reinstatement. | An assessment of the traffic related impacts during the construction stage is presented in Section 29.5 of the EIAR while an outline TMP is provided in Appendix 29-2<br><br>All road surfaces and boundaries will be re-instated to pre-development condition, as agreed with the local authority engineers. |
| 2 | In the case of haulage routes, this will need to be outlined in your planning application with | It is noted that the Onshore Site does not involve the transportation of any turbine components. The largest vehicle |

| ID | Comment/Recommendation | Response |
|---|---|---|
| | autotracking if necessary if turbines are being transported on the roads in Clare. | will be a heavy transport truck and trailer which will have axle loadings within accepted limits and will transport the transformer to the OCC. The transformer will be delivered by an abnormal load specialist contractor. |

A meeting was held between the Applicant, the design team and Clare County Council in the townhall in Kilrush on the 22nd of February 2024 where the OGC layout was discussed. A subsequent meeting was held with the Applicant, the EIAR Planning and Environmental and Design teams, Clare County Council and TII on the 31st of May 2024 in the Clare County Council offices in Ennis, with attendees participating both in-person and virtually. In line with discussions during this meeting, relating to the position of the OGC in the national and local road network, an adjustment was made to the OGC. This adjustment reduced the impact on the national road by removing approximately 500m of OGC within the N68, and approximately 700m of OGC from the L2510 Monvana Road and placing it in private lands for this section. Liaison will continue with Clare County Council will continue and all mitigation measures included in Section 29.5.5.2.3 below will be agreed and updated (if necessary) with Clare County Council prior to construction.

## 29.1.3 Method of Assessment

As mentioned above, this chapter adopts the guidance for such assessments set out by Transport Infrastructure Ireland (TII), in the document number PE-PDV-02045 '*Guidelines for Traffic and Transport Assessments, May 2014'*. The assessment of the traffic impacts that will be incurred during the construction of the OGC and OCC was completed under the following headings in line with the TII Guidelines, the '*Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*' published by the EPA in May 2022, and professional judgement:

- Receiving environment – A review of the route of the OGC from the TJB located in the townland of Killard, Co. Clare to the OCC located in the townland of Ballymacrinan, with a route length of 19.3km, and from the OCC to the Moneypoint 220kV Substation located at the Moneypoint Power Station, with a route length of 3km. The delivery routes used to deliver materials to the Onshore Site are also discussed.
- The assessment uses traffic counts observed at various points along the OGC and delivery route, and the estimation of traffic forecasts for the estimated latest potential construction year of 2030.
- Construction, operation and maintenance, and decommissioning phase traffic – an estimation of the additional traffic that will be generated during these phases of the Onshore Site.
- Assessment of the Likely and Significant Effects and Associated Mitigation Measures during the construction, operation and maintenance, and decommissioning phases.
- Provision of sustainable modes of travel.

The main effects to existing traffic due to the construction of the Onshore Site will take the form of:

- Impacts due to increased traffic generated on the local road network during the construction phase;
- At locations where the OGC is proposed within the public road network, all trench excavation and the setting of the OGC cabling itself, will take place within the curtilage of the public road, which will require temporary road closures at some locations. An assessment of the increased journey distances and times resulting from local road diversions during the construction of the OGC cable route is undertaken.

An assessment of the effects of the OGC during the operation and maintenance phase is also addressed. Details on the methods of construction for the OGC cable route are provided in Section 5.6.2.2 of Chapter 5 and in Appendix 5-17 of this EIAR.

# 29.2 Receiving Environment

## 29.2.1 Site Location

The Onshore Site includes the OLL, the OGC and the OCC. As mentioned previously, the current consideration is to locate the O&M Port Facility in Rossaveel, Co. Galway. Although the O&M facility is considered in this chapter, it does not form part of the Onshore Site and is subject to a separate planning application. The Offshore Export Cable runs to the west and south of the Aran Islands and makes landfall in the townland of Killard, approximately 3.5km northwest of Doonbeg, Co. Clare. Once ashore, it is proposed that the OGC will run underground, mostly in the existing road network but also through some private lands, and connect to the OCC at Ballymacrinnan, near Moneypoint. The OGC will continue from the OCC to connect to the national grid at the existing Moneypoint 220kV Substation, Co. Clare. The townlands associated with the Onshore Site are listed in Table 1-1 of Chapter 1.

## 29.2.2 Road Network for the Onshore Site

### Onshore Grid Connection

The proposed OGC route assessed in this chapter is shown in Figure 29-1a, and is comprised of the following two sections:

- From the TJB at the OLL located in in the townland of Killard, Co Clare to the proposed OCC located in the townland of Ballymacrinan, with a route length of approximately 19.3km; and,
- From the proposed OCC to the existing Moneypoint 220kV Substation in the townland of Carrowdotia South, with a route length of approximately 3km.

For the purpose of the assessment presented in this section of the EIAR, the OGC route is considered in 22 Sections, as shown in Figure 29-1b and summarised in Tables 29-3 and 29-4. The OGC is 22.30km in length, with 16.2km travelling along the public road network (approximately 0.7km of this is in the road verge), and 6.1km being off-road. Of the 16.2km of the route that travels along the public road network, 15.3km is on the local road network, 0.2km travels along regional roads while 0.7km of the route is in the verge of the national road network.

*Table 29-3 Summary of OGC route - OLL to OCC, OCC to Moneypoint, Off-road / On-road*

| Grid route section | Roads on route | Length of grid section (km) |
|---|---|---|
| OLL to OCC | Off-road | 4.5 |
| | On-road | 14.8 |
| | Sub-total | 19.3 |
| OCC to Moneypoint | Off-road | 1.6 |
| | On-road | 1.4 |
| | Sub-total | 3.0 |

| | | |
|---|---|---|
| All OGC | Off-road | 6.1 |
| | On-road | 16.2 |
| | Sub-total | 22.3 |

*Table 29-4 Summary of onshore grid connection route by section and length*

| Grid route section number | Roads on route | Length of grid section (km) |
|---|---|---|
| 1 | Off-road | 0.7 |
| 2 | L-2026 | 0.2 |
| 3 | Off-road | 1.2 |
| 4 | L-6072 | 0.1 |
| 5 | L-6074 | 1.1 |
| 6 | L-20301 | 1.8 |
| 7 | L-2030 | 0.5 |
| 8 | L2034 | 6.8 |
| 9 | L-20343 | 1.1 |
| 10 | Off-road | 0.4 |
| 11 | R483 | 0.1 |
| 12 | Off-road | 1.4 |
| 13 | Off-road | 0.6 |
| 14 | R473 | 0.1 |
| 15 | L-2058 / L-6150 | 3.0 |
| 16 | Off -road | 0.2 |
| 17 | Off-road | 0.3 |
| 18 | L-6150 | 0.7 |
| 19 | N67 verge | 0.7 |
| 20 | Off-road | 0.3 |
| 21 | Off-road | 0.4 |
| 22 | Off-road | 0.6 |

### Delivery Route to the OGC and OCC

All materials required for the construction of the Onshore Site will be delivered to the appropriate temporary construction compound via a combination of the following routes, as shown in Figure 29-1c;

- For cable and other specialist materials and plant required for the construction of the OCC, deliveries will be made via the N68, followed by the N67 and L-6150 to the OCC.
- All stone and cement will be delivered from local quarries via the N68 and the roads on the OGC route.
- All spoil material excavated from the OGC trench will be removed off-site by a licenced haulier and brought to a nearby licenced facility for disposal and/or managed within the Onshore Site. All tar excavated from the OGC trench will be transferred to an authorised waste facility by a waste collector with the appropriate collection permit.

### Temporary Construction Compounds

There are three Temporary Construction Compounds (TCCs) proposed as part of the Onshore Site, as outlined within the Chapter 5: Project Description of the EIAR. These are located at the OLL, within Kilrush Golf Club along the OGC route, and adjacent to the OCC.

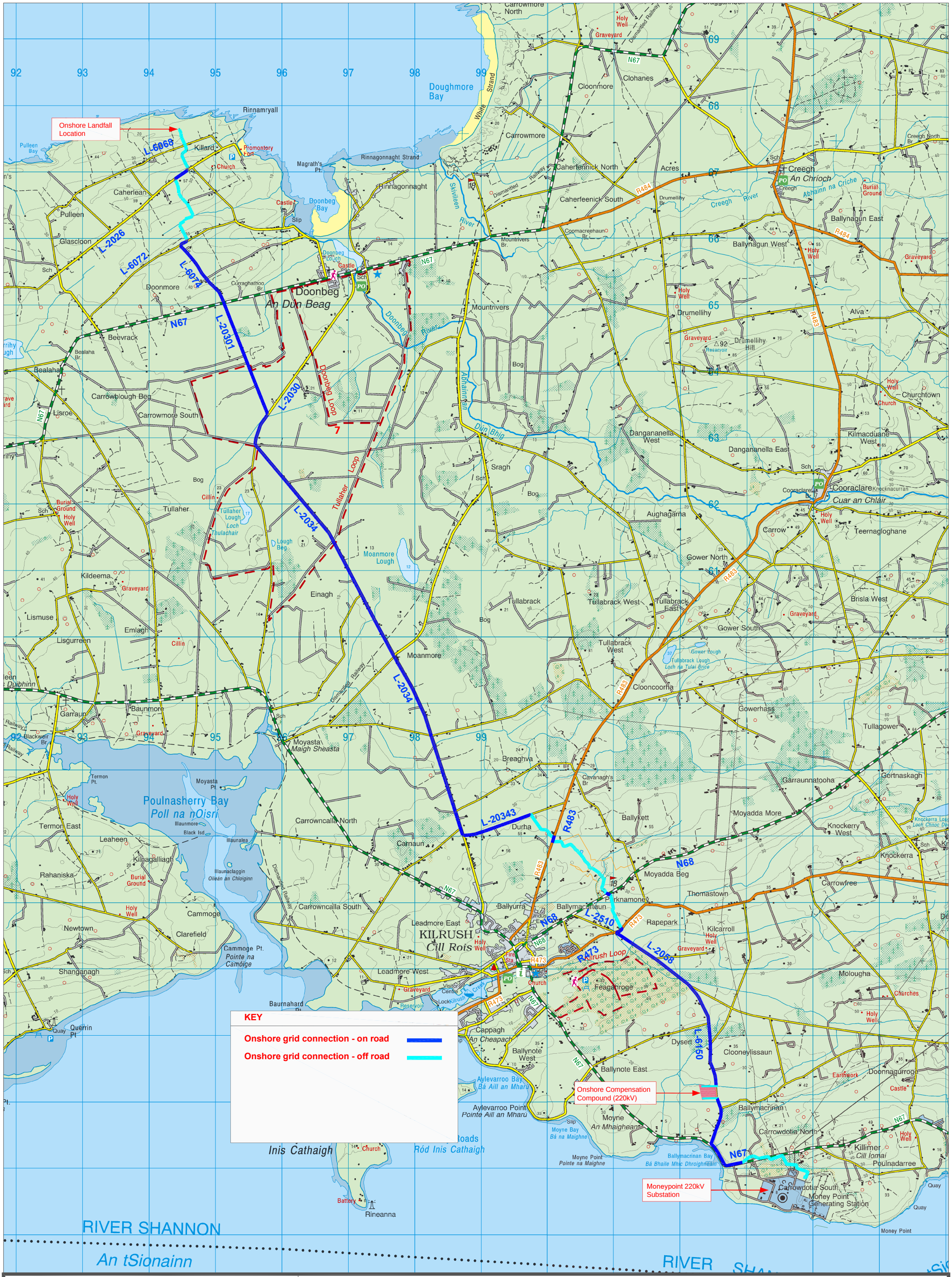
- TCC1 measures approximately 76m*62m in area will be located at the OLL. This compound is accessed via the existing access track which will also provide access to the OLL off the L6068.
- TCC2 measures approximately 25m*32.5m in area will be located within Kilrush Golf Club. This compound is accessed via the existing entrance to Kilrush Golf Club off the N68.
- TCC3 measures approximately 105m*52m in area will be located adjacent to the OCC. This compound is accessed via the proposed access to the OCC off the L-6150.

### Crossing points of OGC on Public Road Network and access to TCCs

At locations where the OGC crosses the public road network, and at locations where off-road sections of the OGC are accessed via the public road network, temporary construction accesses will be managed by means of temporary traffic management. The measures put in place will be in accordance with the '*Traffic Signs Manual, Section 8 – Temporary Traffic Measures and Signs for Road Works*' (DoT, 2019) and '*Guidance for the Control and Management of Traffic at Roadworks*' (DoT). A member of construction staff (flagman) will be present at each construction location along the route. On the completion of the construction of the Onshore Site, all temporary access points will be closed, and boundaries reinstated to pre-construction state.

## 29.2.3 Existing and Future Traffic Volumes

Traffic volumes are discussed in terms of either vehicle numbers, or Passenger Car equivalent Units (PCUs), where each vehicle is expressed in terms of its demand on the network relative to the equivalent number of cars. For example, an articulated HGV is given a factor of 2.4 passenger car units (as per TII Project Appraisal Guidelines for National Roads Unit 5.2).



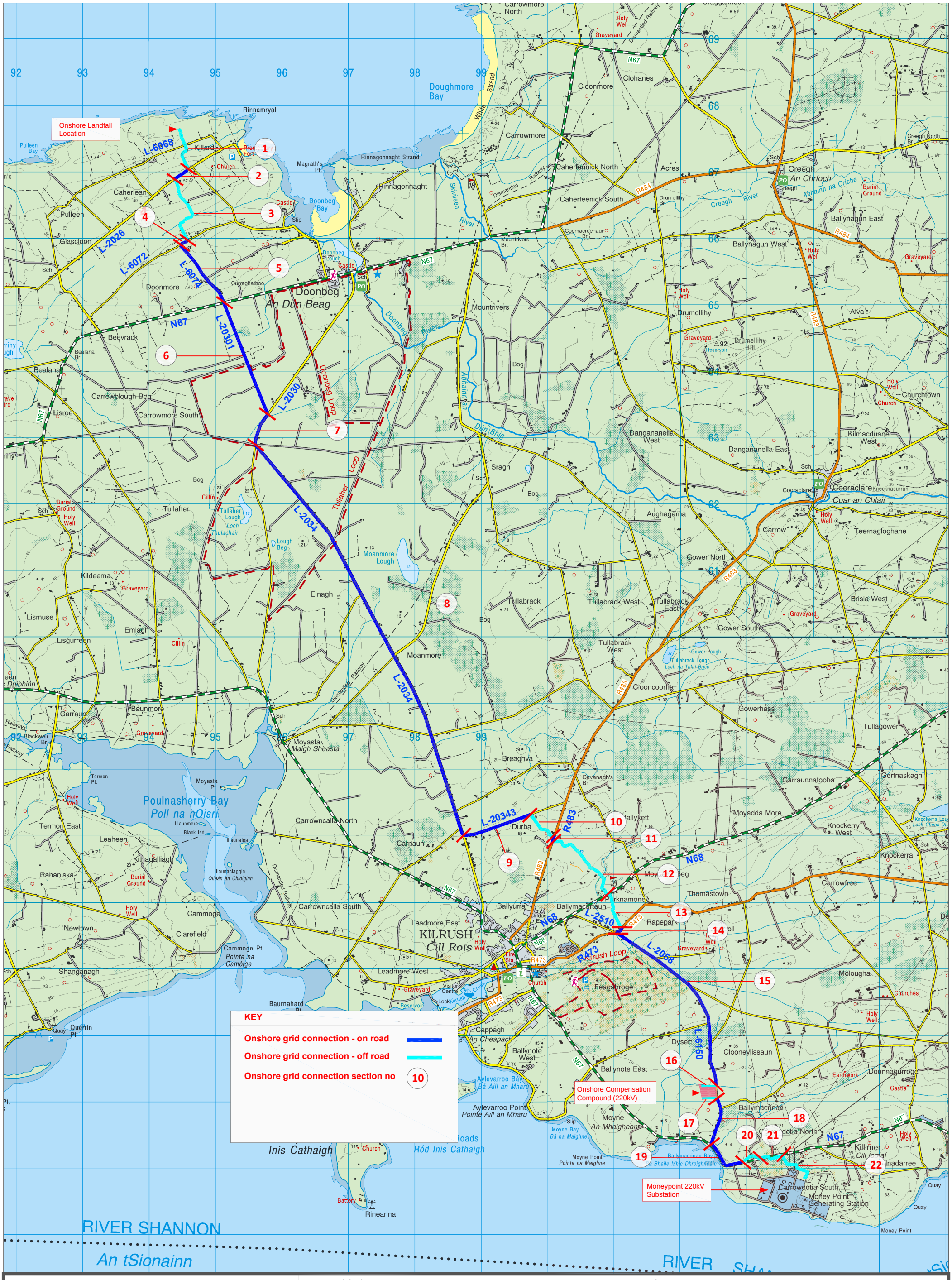

NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 29-1a Proposed onshore grid connection route

| | | | |
|---|---|---|---|
| PROJECT: | Sceirde Rocks Offshore Wind Farm - Onshore Elements | | |
| CLIENT: | Fuinneamh Sceirde Teoranta | SCALE: | NTS |
| PROJECT NO: 10950 | DATE: 31.10.24 | DRAWN BY: | AL |

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS




NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 29-1b Proposed onshore grid connection route - sections for assessment

| | | | |
|---|---|---|---|
| PROJECT: | Sceirde Rocks Offshore Wind Farm - Onshore Elements | | |
| CLIENT: | Fuinneamh Sceirde Teoranta | SCALE: | NTS |
| PROJECT NO: 10950 | DATE: 31.10.24 | DRAWN BY: | AL |

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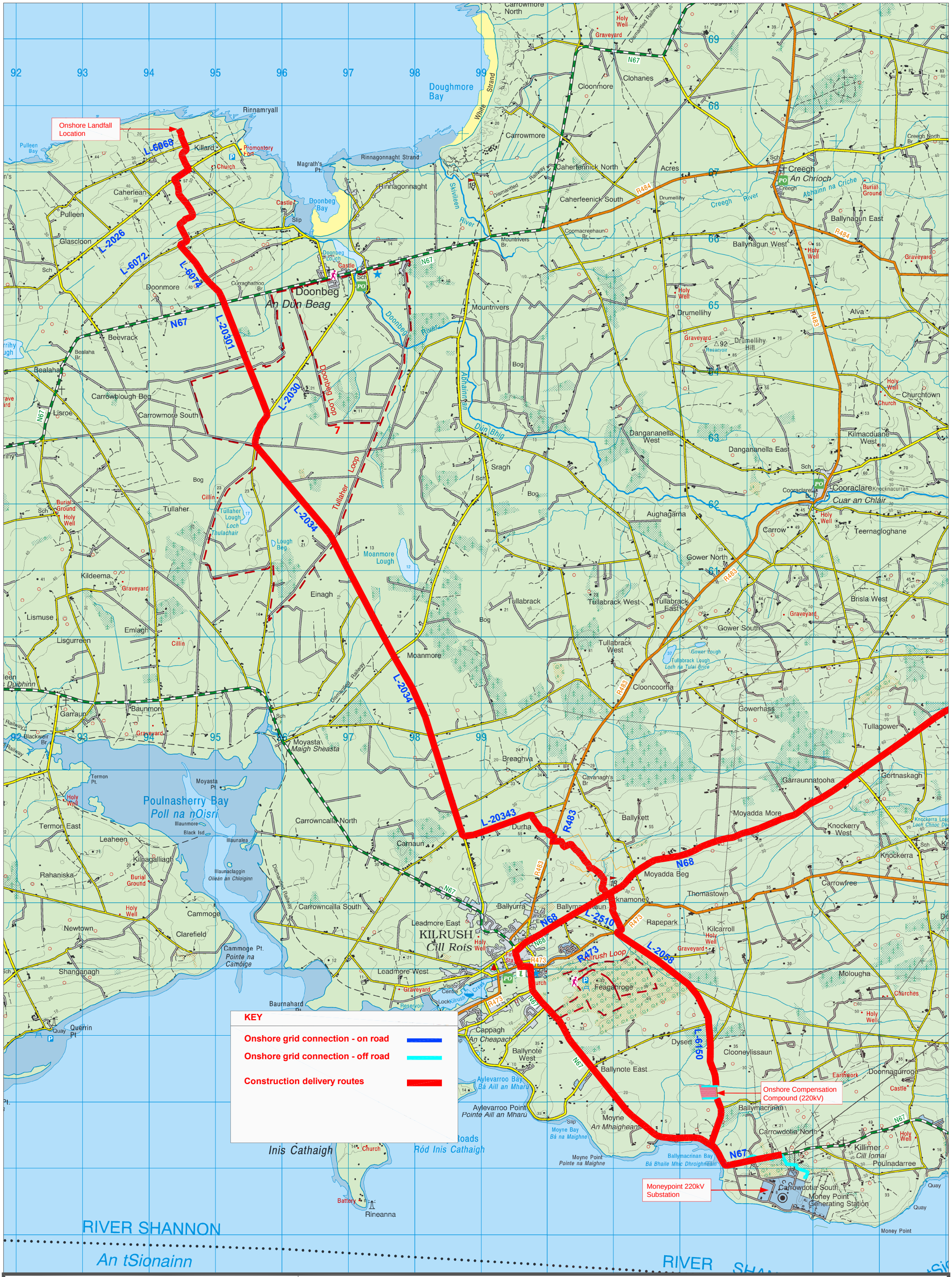
TRAFFIC & TRANSPORT CONSULTANTS




NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 29-1c Proposed construction delivery routes

| | | | |
|---|---|---|---|
| PROJECT: | Sceirde Rocks Offshore Wind Farm - Onshore Elements | | |
| CLIENT: | Fuinneamh Sceirde Teoranta | SCALE: | NTS |
| PROJECT NO: 10950 | DATE: 04.12.24 | DRAWN BY: | AL |

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS

## 29.2.4 Base Year 2024 Traffic Flows

The traffic counts used for the traffic assessment undertaken for the OGC route were collated from a combination of traffic surveys undertaken for this EIAR, and count data available from automatic traffic count sites maintained by TII. Traffic counts observed for a particular class of road were then adopted for similar types of roads along the OGC. The location of the traffic count sites included in the dataset for this EIAR are shown in Figure 29-2a and are as follows:

- Peak period (07:00 to 10:00 and 16:00 to 19:00) – N67 / L-6074 / L-20301 junction – Tuesday 5th March 2024 (Traffinomics Ltd),
- Automatic traffic count on L-2034 north of Monmore Cross – 24 hours – Tuesday 5th March 2024 (Traffinomics Ltd),
- Peak period (07:00 to 10:00 and 16:00 to 19:00) – N68 / L-2510 junction – Tuesday 5th March 2024 (Traffinomics Ltd),
- Automatic traffic count and speed survey on L-6150 adjacent to OCC access – 7 days commencing Friday 19th July 2024 (Traffinomics Ltd),
- Continuous automatic traffic count site on the N67 approximately 2km southeast of Kilrush town centre – year 2023 (Transport Infrastructure Ireland).

As the traffic assessment presented in this section of the EIAR is based on all day traffic flows, the 6-hour peak period (07:00 to 10:00 and 16:00 to 19:00) traffic counts were expanded to 24 hours using expansion factors derived from the 24-hour traffic data available for the L-2034 and the N67.

A full listing of the traffic count data and the expansion factors used to determine 24 hr traffic volumes are included as Appendix 29-1.

Traffic flows are also shown in terms of passenger car equivalent units, or PCUs, where all vehicles are given a weighting by type to reflect their size compared to a private car, as per the TII Guidelines.

The all-day base traffic flows on the various sections of the OGC are set out in Table 29-5 for the observed year 2024. The observed base year 2024 traffic flows are summarised as follows:

- Traffic flows observed on the local road network, which comprises 92% of the on-road component of the OGC route, range from a minimum of 127 PCUs to 638 PCUs per day.
- A daily flow of 109 PCUs was observed on the L-6150 adjacent to the OCC.
- A maximum daily flow of 1,880 PCUs was observed on the N68, which is the busiest route radiating from Kilrush and will be used as a key delivery route. This was also adopted as the background traffic flow for the R483 and R473.

Link capacities for various road types and widths are set out in the TII Standards document DN-GEO-03031 Road Link Design, Table 6/1. The minimum standard of road included in the document is a Type 3 Single Carriageway 6m wide. For this type of road, a daily capacity of 5,000 vehicles per day is recommended. There are no available capacity estimates for the narrow sections of the local roads on the OGC route, which will be less than 5,000 vehicles per day, and for the purpose of this assessment is assumed to be 3,000 vehicles per day.

While the capacity of the highway network impacted by the proposed OGC route and the impacts that will be incurred during its construction are considered further in Section 29.5, it is concluded that the existing traffic flows on the full length of the OGC are relatively low.

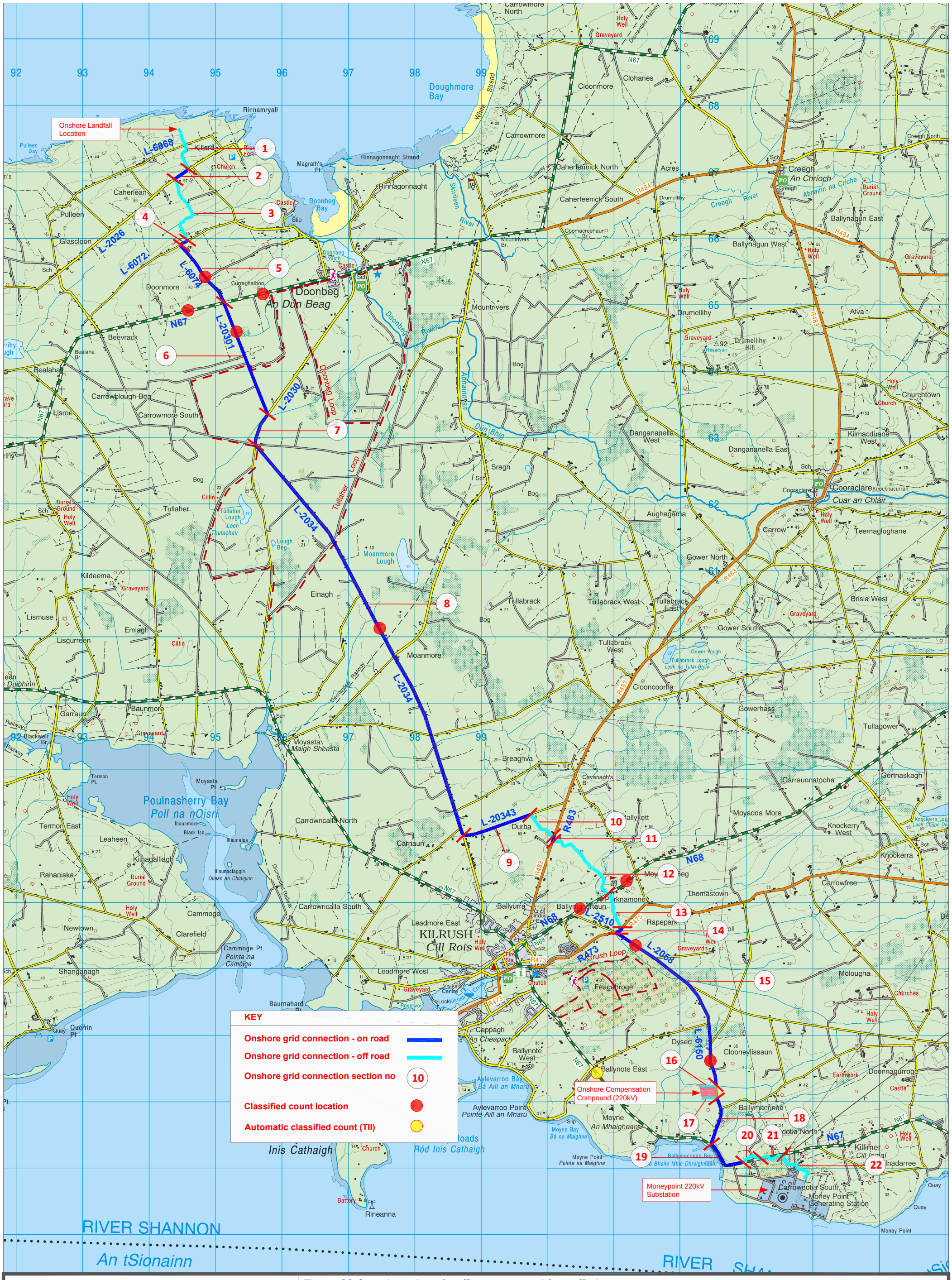



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Figure 29-2a Location of traffic counts used for traffic impact assessment

| | | | |
|---|---|---|---|
| PROJECT: | Sceirde Rocks Offshore Wind Farm - Onshore Elements | | |
| CLIENT: | Fuinneamh Sceirde Teoranta | SCALE: | NTS |
| PROJECT NO: 10950 | DATE: 30.11.24 | DRAWN BY: | AL |

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*Table 29-5 Observed and estimated base traffic flows along on-shore grid connection – 2024 traffic flows - all day (PCUs)*

| Grid route section number | Roads on route | Year 2024 |
|---|---|---|
| 2 (*) | L-2026 | 127 |
| 4 (*) | L-6072 | 127 |
| 5 | L-6074 | 127 |
| 6 | L-20301 | 133 |
| 7 | L-2030 | 638 |
| 8 | L2034 | 638 |
| 9 (*) | L-20343 | 133 |
| 11 (*) | R483 | 1,880 |
| 14 (*) | R473 | 1,880 |
| 15 | L-2058 / L-6150 | 576 |
| 18 | L-6150 | 109 |

*Note: * Counts for these locations are estimated from counts obtained at other locations on the OGC*

## 29.2.5 Background Traffic Volumes for the Assumed Construction Year 2030

The impacts of the construction of the OGC and the OCC are assessed for the construction year when background traffic levels will be highest. For the case when construction period of 2026 to 2030 is forecast, an assessment is based on year 2030 background traffic levels.

Revised guidelines for forecasting annual growth in traffic volumes were produced by TII in October 2021[1]. The annual growth rates for light vehicles for Co. Clare, and factors for the years relevant to this study are shown in Tables 29-6 and 29-7, with traffic volumes forecast to increase during the period from 2023 to 2026 by 11.4% (shown as 1.114 in Table 29-6), and by 9.7% (shown as 1.097 in Table 29-6) during the period 2024 to 2030, assuming a medium growth scenario. All day traffic flows on the study area network for the base year 2024 and as projected for 2030, are compared in terms of PCUs in Table 29-7. Compared to the 2024 base year 2024 traffic volumes, the increase in volumes along the proposed OGC by 2030 is forecast to be as shown below and further detailed in Table 29-8.

- By 2030 traffic flows on the local road network is forecast to range from 140 PCUs to 699 PCUs, which is an increase from 127 to 638 PCUs for the base year 2024.
- The daily flow on the L-6150 adjacent to the OCC is forecast to increase from 109 PCUs to 119 PCUs.
- The daily flow on the N68 is forecast to increase from 1,880 PCUs to 2,062 PCUs.
- The daily flow on the N67 to the west of Moneypoint is forecast to increase from 1,069 PCUs to 1,191 PCUs.

[1] *PE-PAG-02017 Project Appraisal Guidelines for National Roads Unit 5.3- Travel Demand Projections, TII, October 2021*

Again, while the capacity of the highway network impacted by the OGC route is assessed further in Section 29.5, it is concluded that the construction year 2030 traffic flows on the full length of the OGC will remain relatively low.

It is noted that while the assumed construction year of 2030 may vary slightly, this will not alter the forecast outcomes and effects presented in this section of the EIAR. This is due to the annual growth rate for background traffic after the year 2030 being just 0.38% (as shown in Table 29-6 as 1.0038) and the traffic volumes generated by the Onshore Site will remain unchanged regardless of construction year.

*Table 29-6 TII Traffic growth rates, light vehicles (Co. Clare)*

| Year | Lights - Annual factor | | | Lights - Cumulative index | | |
|---|---|---|---|---|---|---|
| | Low | Medium | High | Low | Medium | High |
| 2023 | 1.0139 | 1.0156 | 1.0191 | 1.000 | 1.000 | 1.000 |
| 2024 | 1.0139 | 1.0156 | 1.0191 | 1.014 | 1.016 | 1.019 |
| 2025 | 1.0139 | 1.0156 | 1.0191 | 1.028 | 1.031 | 1.039 |
| 2026 | 1.0139 | 1.0156 | 1.0191 | 1.042 | 1.048 | 1.058 |
| 2027 | 1.0139 | 1.0156 | 1.0191 | 1.057 | 1.064 | 1.079 |
| 2028 | 1.0139 | 1.0156 | 1.0191 | 1.071 | 1.080 | 1.099 |
| 2029 | 1.0139 | 1.0156 | 1.0191 | 1.086 | 1.097 | 1.120 |
| 2030 | 1.0139 | 1.0156 | 1.0191 | 1.101 | 1.114 | 1.142 |
| 2031 | 1.0019 | 1.0038 | 1.0075 | 1.104 | 1.119 | 1.150 |
| 2032 | 1.0019 | 1.0038 | 1.0075 | 1.106 | 1.123 | 1.159 |

*Note: Light = cars and LGVs*

*Table 29-7 TII derived growth rates.*

| Period | Factor | | |
|---|---|---|---|
| | Low | Medium | High |
| 2023- 2030 | 1.101 | 1.114 | 1.142 |
| 2024- 2030 | 1.086 | 1.097 | 1.120 |

*Table 29-8 Base year 2024 traffic flows and forecast construction year 2030 background traffic flows - all day (PCUs)*

| Grid route section number | Roads on route | Year 2024 | Construction Year 2030 |
|---|---|---|---|
| 2 | L-2026 | 127 | 140 |
| 4 | L-6072 | 127 | 140 |

| | | | |
|---|---|---|---|
| 5 | L-6074 | 127 | 140 |
| 6 | L-20301 | 133 | 145 |
| 7 | L-2030 | 638 | 699 |
| 8 | L2034 | 638 | 699 |
| 9 | L-20343 | 133 | 145 |
| 11 | R483 | 1,880 | 2,062 |
| 14 | R473 | 1,880 | 2,062 |
| 15 | L-2058 / L-6150 | 576 | 632 |
| 18 | L-6150 | 109 | 119 |

# 29.3 Proposed Permanent Changes to Road Infrastructure

## 29.3.1 Proposed access junction off L-6150 for OCC

It is proposed to upgrade the existing agricultural entrance to accommodate a new access junction off the western side of the L-6150 local road to provide access to the OCC during the construction phase and to maintain an access junction here for the operation and maintenance phase. The proposed junction layout is shown in Figure A29-2-1 of Appendix 29-2. Junction radii of 9m are proposed to provide for standard HGVs, in accordance with TII guidelines Geometric Design of Junctions (DN-GEO-03060).

A speed survey was undertaken on the L-6150 at the location of the proposed access by Traffinomics Ltd for one week commencing on Friday 19th July 2024. The survey results established 85th percentile observed speeds of 47.86 kph northbound and 49.47 kph southbound on the L-6150. In accordance with TII guidelines Geometric Design of Junctions (DN-GEO-03060) the visibility splay requirements for a design speed of 50 kph is 70m. Visibility splays of 70m taken from a setback of 2.4m that will be kept clear during the construction and operational stages of the Onshore Site are shown in Figure A29-2-2 while the forward visibility along the L6150 is also shown on the same figure.

The autotrack assessment shown in Figure A29-4-4 demonstrates that the proposed junction off the L-6150 will accommodate the turning requirements of a standard large articulated HGV.

It is also noted that the turning requirements of an abnormal load with a length of 46.2m required to deliver the largest components of the OCC was tested as part of the design process. It is confirmed that this vehicle is accommodated in the temporary envelope of the junction that will be in place during the construction phase.

## 29.3.2 Proposed passing bays on L-6150

It is proposed to construct 3 no. permanent passing bays each 50m in length on the approximately 0.74km section of the L-6150 between the N67 to the south of the OCC and the OCC access junction. Along the same road section, it is also proposed to provide road widening to accommodate the larger deliveries to the OCC during the construction phase. A drawing that details the proposed passing bays

is included in Appendix 5-1 of the EIAR (Drawing reference IRE1-HMV-ONC-EL-PD-1007). The purpose of these passing bays is to provide passing opportunities for construction and local traffic during the construction phase of the OCC and also to provide a permanent improvement for local traffic in terms of capacity and safety.

## 29.4 Construction and Operation and Maintenance Phase Traffic

It is estimated that the construction of the Onshore Site will take a total of 743 working days (3 years) to construct if all elements were to be constructed consecutively. The assessment presented in this EIAR is based on this scenario. However, construction of more than one element of the Onshore Site (i.e. the OGC and OCC) will be undertaken simultaneously. It is also possible that construction of the OGC could commence simultaneously at two or more locations along the route. As set out in the traffic management measures proposed in Section 29.5.5.2.3, the scheduling of work will be agreed with Clare County Council to ensure that traffic related impacts are minimised.

### 29.4.1 Construction Phase Traffic Generation - OGC

A description of the construction methodology for the OGC is provided in Chapter 5 of this EIAR. With respect to determining the traffic impacts during the construction of the Onshore Site, the following points are noted:

- Additional traffic will be generated during the construction of the Onshore Site, by both staff travelling to / from the location of the construction, and by materials being transported to / from the point of construction along the OGC.
- Construction of the OGC will require a rolling construction site with work being undertaken at discrete locations along the route. This could typically be at one or two locations at any particular time as required to reduce the construction duration. For the purpose of the traffic assessment presented in this EIAR the construction duration is based on construction taking place at one location only.

The trip generation and subsequent traffic assessment associated with the construction of the Onshore Site is considered under the following 3 stages:

- General construction of the OGC;
- The cable installation along the OGC; and,
- The construction of the OCC and associated road improvements.

#### Construction duration and trip generation during general construction of OGC (319 days)

During this period of construction, the main construction works may be considered under the following 2 headings, which are summarised in terms of duration for each of the 22 OGC sections in Table 29-9.

*Table 29-9 Summary of OGC route by section - duration of construction period by section*

| Grid route section number | Roads on route | Length of grid section (km) | Duration for general construction (120m / day) | Water crossings | | | | Duration for all construction (days) |
|---|---|---|---|---|---|---|---|---|
| | | | | Minor crossing - 3 days (No.) | Major crossing / bridge - 7 days (No.) | HDD crossing through peat - 14 days (No.) | Time to construct all water crossings (days) | |
| 1 | Off-road | 0.7 | 6 | 1 | 0 | 0 | 3 | 9 |
| 2 | L-2026 | 0.2 | 2 | 0 | 0 | 0 | 0 | 2 |
| 3 | Off-road | 1.2 | 10 | 2 | 0 | 0 | 6 | 16 |
| 4 | L-6072 | 0.1 | 1 | 0 | 0 | 0 | 0 | 1 |
| 5 | L-6074 | 1.1 | 9 | 3 | 1 | 0 | 16 | 25 |
| 6 | L-20301 | 1.8 | 15 | 0 | 0 | 1 | 14 | 29 |
| 7 | L-2030 | 0.5 | 4 | 1 | 0 | 0 | 3 | 7 |
| 8 | L2034 | 6.8 | 57 | 9 | 1 | 0 | 45 | 91 |
| 9 | L-20343 | 1.1 | 9 | 4 | 0 | 0 | 12 | 21 |
| 10 | Off-road | 0.4 | 3 | 0 | 0 | 0 | 0 | 3 |
| 11 | R483 | 0.1 | 1 | 0 | 0 | 0 | 0 | 1 |
| 12 | Off-road | 1.4 | 12 | 3 | 1 | 0 | 16 | 28 |
| 13 | Off-road | 0.6 | 5 | 0 | 0 | 0 | 0 | 5 |
| 14 | R473 | 0.1 | 1 | 0 | 0 | 0 | 0 | 1 |
| 15 | L-2058 / L-6150 | 3.0 | 25 | 2 | 1 | 0 | 13 | 38 |
| 16 | Off - road | 0.2 | 2 | 0 | 0 | 0 | 0 | 2 |
| 17 | Off-road | 0.3 | 3 | 0 | 0 | 0 | 0 | 3 |
| 18 | L-6150 | 0.7 | 6 | 0 | 0 | 0 | 0 | 6 |
| 19 | Off-road (N67 verge) | 0.7 | 6 | 2 | 0 | 0 | 6 | 12 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 20 | Off-road | 0.3 | 3 | 0 | 0 | 0 | 0 | 3 |
| 21 | Off-road | 0.4 | 3 | 0 | 1 | 0 | 7 | 10 |
| 22 | Off-road | 0.6 | 5 | 1 | 0 | 0 | 3 | 8 |
| OLL to OCC | | 19.254 | 161 | 25 | 4 | 1 | 117 | 278 |
| OCC to Moneypoint | | 2.946 | 25 | 3 | 1 | 0 | 16 | 41 |
| Total | | 22.200 | 186 | 28 | 5 | 1 | 133 | 319 |

**General construction of the OGC** – Including the trench excavation, the construction of the OGC cable route, the construction of the 43 cable joint bays at the locations shown in Figure 29-2b, trench re-instatement and the reinstatement of the existing road, pavement and boundaries. It is estimated that this work will be undertaken at the rate of 120m per day, or 186 days for the OGC, with a total length of 22.3km.

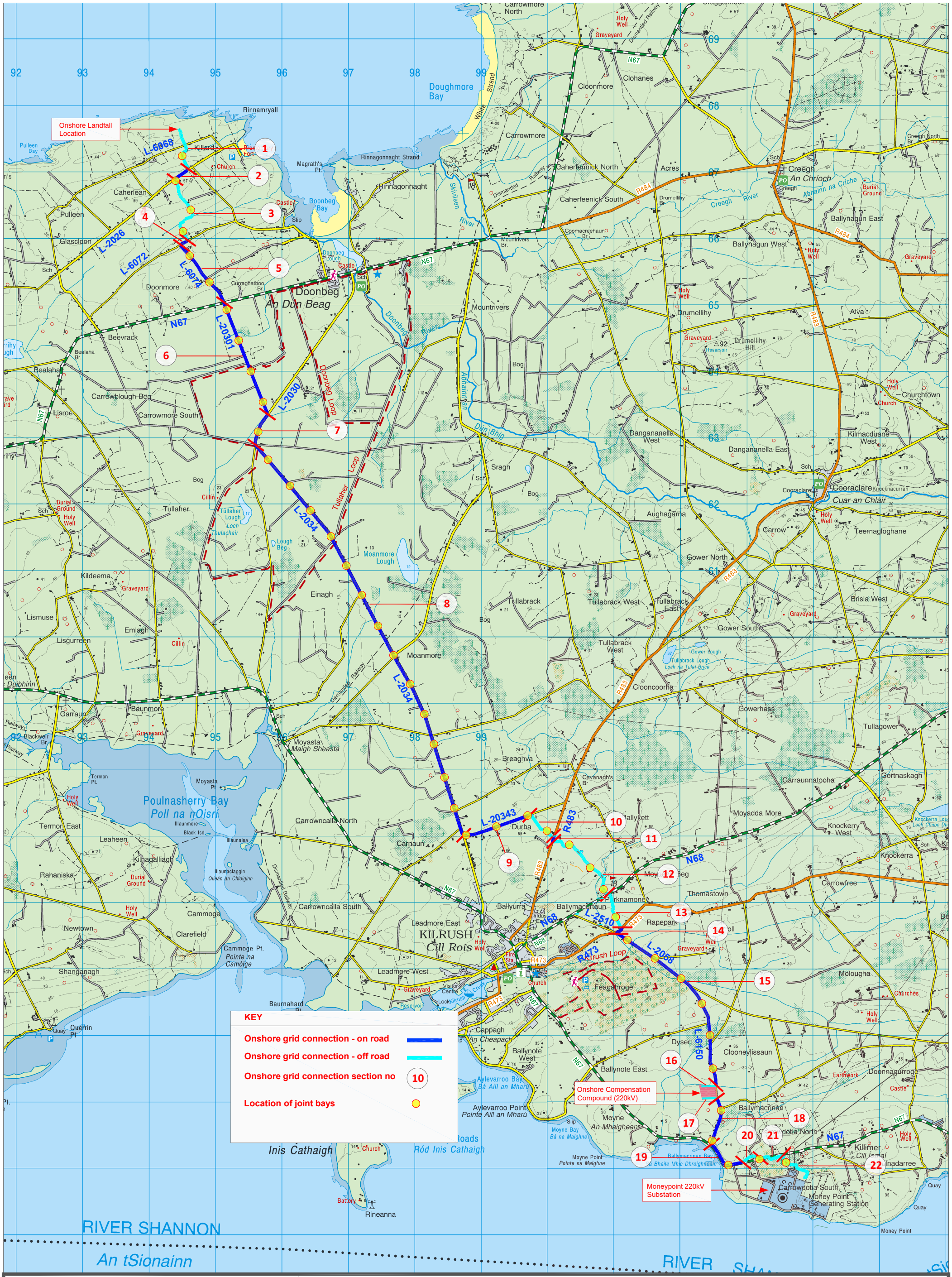
**Construction at crossing locations** – There are a total of 34 crossings on the OGC, the locations of which are shown in Figure 29-2c. There are 3 types of crossing as follows:

- Minor crossing or small culvert crossing – There are 28 minor crossings on the OGC route, and it is estimated that each crossing of this type will take approximately 3 working days to construct. Of these, 13 crossings will be achieved using HDD, while 15 of these crossings will be constructed using other suitable methods. This is further described in Appendix 5-17: Onshore Grid Construction Methodology.
- Major crossing or bridge crossing – There are 5 such crossings on the OGC, which are estimated to take 7 working days to construct. Of these, 2 crossings are across masonry arch stone bridges, and 3 crossings are under sections of national road. These crossings will be constructed using HDD.
- HDD through peat – There is 1 no. location where this process will be required to traverse areas of peat, which is estimated to take 14 working days.

It is estimated that the construction works required at all crossings will take 133 working days, with the total construction duration for the OGC estimated to be 319 working days, as set out in Table 29-9 above.

A summary of the total HGV movements that will be generated during this period is set out in Tables 29-10 and 29-11, with the key points to note as follows:

- It is estimated that there will be a total of 6,580 HGV trips to / from the construction locations along the OGC, resulting in 13,160 movements. With a 15% allowance made for miscellaneous trips, this equates to a total of 15,134 truck movements, or 36,322 PCUs (based on an HGV PCU factor of 2.4).
- On a daily basis it is estimated that there will be 21 HGV trips (42 movements) and 4 minibus trips (8 movements) transporting staff to and from the point of construction,
- In total, this will result in an additional 129 PCUs travelling on the road network each day.




NOTES:

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Figure 29-2b Proposed onshore grid connection route - location of joint bays

| | | | |
|---|---|---|---|
| PROJECT: | Sceirde Rocks Offshore Wind Farm - Onshore Elements | | |
| CLIENT: | Fuinneamh Sceirde Teoranta | SCALE: | NTS |
| PROJECT NO: 10950 | DATE: 09.01.25 | DRAWN BY: | AL |

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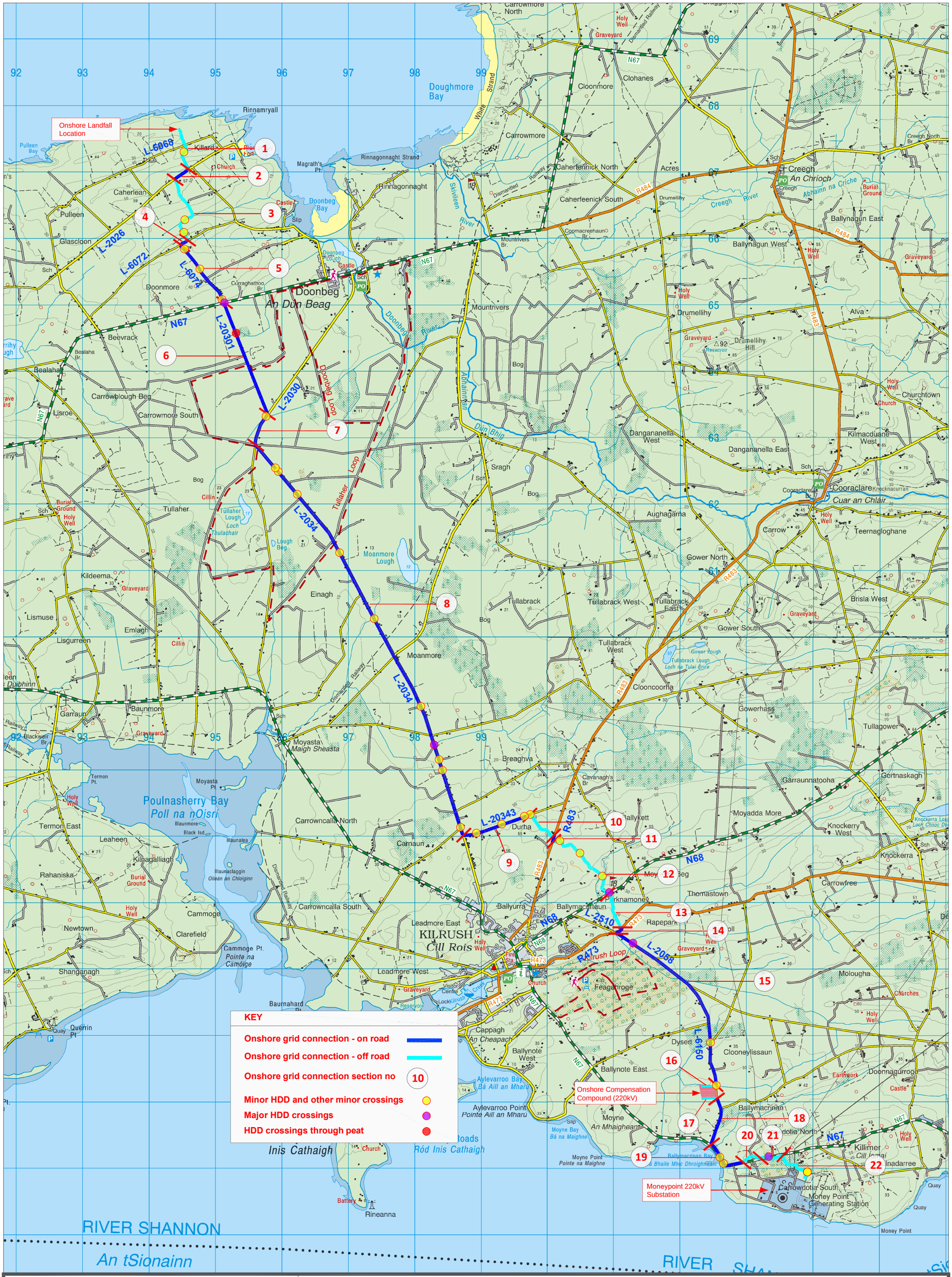


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Figure 29-2c Proposed onshore grid connection route - location of water crossings

| | | | |
|---|---|---|---|
| PROJECT: | Sceirde Rocks Offshore Wind Farm - Onshore Elements | | |
| CLIENT: | Fuinneamh Sceirde Teoranta | SCALE: | NTS |
| PROJECT NO: 10950 | DATE: 09.01.25 | DRAWN BY: | AL |

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*Table 29-10 Trip generation during construction of onshore grid connection - all truck movements*

| Item | Total loads | Total truck movements | +15% miscellaneous | PCUs (x2.4) |
|---|---|---|---|---|
| 1 Removal of waste material from trench | 3,123 | 6,246 | 7,183 | 17,239 |
| 2 CBGM (Cement Grouted Bituminous Mix) | 1,279 | 2,558 | 2,942 | 7,060 |
| 3 UGMB (Unbound Granular Material Type B) | 1,290 | 2,580 | 2,967 | 7,121 |
| 4 Asphalt | 207 | 414 | 476 | 1,143 |
| 5 Topsoil | 73 | 146 | 168 | 403 |
| 6 Joint Bay construction | 258 | 516 | 593 | 1,424 |
| 7 HDD | 350 | 700 | 805 | 1,932 |
| 8 All works | 6,580 | 13,160 | 15,134 | 36,322 |

*Table 29-11 Total daily trip generation during construction of onshore grid connection route (319 days)*

| Item | Total loads | Total truck movements | +15% miscellaneous | PCUs value | PCUs value |
|---|---|---|---|---|---|
| Construction HGV movements / day | 21 | 42 | 47 | 2.4 | 114 |
| Construction staff trips by minibus | 4 | 8 | NA | 1.9 | 15 |
| All traffic | 25 | 50 | | NA | 129 |

## Construction duration and trip generation during OGC cable installation (180 days)

Once the OGC is constructed the cables will be installed on the 45 sections of the route. It is estimated that the cable installation works will take 4 days per section, or a total of 180 days to complete.

A summary of the total truck and HGV movements that will be generated during this period is set out in Tables 29-12 and 29-13. The key points to note are:

- It is estimated that there will be a total of 766 HGV movements to / from the construction locations along the OGC, resulting in 1,532 movements. With a 15% allowance made for miscellaneous trips this equates to a total of 1,762 truck movements, or 4,228 PCUs.
- On a daily basis it is estimated that there will be 4 HGV trips (8 movements) and 6 minibus trips (12 movements) transporting staff to and from the point of the cable installation, resulting in an additional 48 PCUs travelling on the road network each day.

*Table 29-12 Trip generation during cable installation - all truck movements*

| Item | Total loads | Total truck movements | +15% miscellaneous | PCUs (x2.4) |
|---|---|---|---|---|
| All deliveries for cable installation | 766 | 1,552 | 1,785 | 4,284 |

*Table 29-13 Total daily trip generation during cable installation (180 days)*

| Item | Total loads | Total truck movements | +15% miscellaneous | PCUs factor | PCUs value |
|---|---|---|---|---|---|
| Construction HGV movements / day | 4 | 8 | 10 | 2.4 | 24 |
| Construction staff trips | 6 | 12 | NA | 1.9 | 23 |
| All traffic | 10 | 20 | | NA | 47 |

## 29.4.2 Construction Phase Traffic Generation – OCC

### Construction duration and trip generation during construction of OCC (244 days)

A summary of the total HGV movements that will be generated during the construction of the OCC is set out in Tables 29-14 and 29-15. The key points to note are:

- It is estimated that the construction period for the OCC will take 244 working days.
- It is estimated that there will be a total of 680 HGV movements to / from the point of construction on the OCC, resulting in 1,360 movements. With a 15% allowance made for miscellaneous trips this equates to a total of 1,564 truck movements, or 3,754 PCUs.
- On a daily basis, it is estimated that there will be 3 HGV trips (6 movements) and 6 minibus trips (12 movements) transporting staff to and from the point of the cable installation, resulting in an additional 39 PCUs travelling on the road network each day.

*Table 29-14 Trip generation during construction of OCC - all truck movements*

| Item | Total loads | Total truck movements | +15% miscellaneous | PCUs (x2.4) |
|---|---|---|---|---|
| All deliveries for compensation compound | 680 | 1,360 | 1,564 | 3,754 |

*Table 29-15 Total daily trip generation during construction of OCC (232 days)*

| Item | Total loads | Total truck movements | +15% miscellaneous | PCUs value | PCUs value |
|---|---|---|---|---|---|
| Construction HGV movements / day | 3 | 6 | 7 | 2.4 | 16 |
| Construction staff trips | 6 | 12 | NA | 1.9 | 23 |
| All traffic | 9 | 18 | | NA | 39 |

A summary of the additional daily trips that will be generated by the Onshore Site during the 743 day construction period is set out in Table 29-16.

*Table 29-16 Summary of daily trip generation and construction period duration*

| Item | Additional 2-way PCUs | No days |
|---|---|---|
| Construction of OGC | 129 | 319 |
| Cable installation | 47 | 180 |
| Construction of OCC | 39 | 244 |
| Total | | 743 |

### 29.4.3 Operation and Maintenance Phase Traffic

Once the construction of the OGC is complete, there will be a minimal number of traffic movements generated by maintenance staff. It is anticipated that requirements for maintenance/repairs along the route OGC will be infrequent.

Once operational, 1 maintenance staff will visit the Onshore Site once a week, resulting in 1 trip or 2 movements generated on these days.

### 29.4.4 Trip Generation During Decommissioning Phase

Traffic generated by the Onshore Site during decommissioning will be significantly less than the trip generation estimates for the construction phase presented above.

At the OLL, the TJB infrastructure will be left in situ, the cable will be cut at the TJB to allow for removal of the OGC cable. All of the above ground OCC buildings and associated electrical infrastructure will be removed. For the OGC cable connecting the TJB to the OCC, and the OCC to Moneypoint, the cable ducts and joint bay infrastructure will be left in situ. All cables will be pulled through the ducts and removed from the Onshore Site.

A Rehabilitation Schedule is included as Appendix 5-18 and includes further information relating to the decommissioning phase of the Onshore Site.

# 29.5 Local Traffic Impacts during OGC Construction

## 29.5.1 Road Widths and Proposed Traffic Management Measures

Based on observations and a sample of road widths measured along the OGC, an estimate of the likely traffic management measures required for each section of the OGC that will be constructed along the public road network was made, as summarised in Table 29-17. With the exception of Sections 19 and 21 on the N67, for all other sections of the OGC proposed on the public road network, based on a precautionary approach, it is assumed that localised temporary closures of each section of public road will be required during the construction of the OGC and the subsequent installation of the OGC cables. For Sections 19 and 21 which are located on the N67 on the approach to the Moneypoint 220kV Substation, it is proposed that the OGC construction works will take place in the verge. Although the verge and the existing N67 carriageway are wide, some limited Stop & Go traffic control systems may be required, and on these sections one live traffic lane will be retained.

*Table 29-17 Summary of onshore grid connection route by section, sample width and traffic management measure*

| Grid route section number | Roads on route | Length of grid section (km) | Sample road width (m) | Traffic management measure |
|---|---|---|---|---|
| 2 | L-2026 | 0.2 | 3.0 | Road closure |
| 4 | L-6072 | 0.1 | 3.0 | Road closure |
| 5 | L-6074 | 1.1 | 3.0 | Road closure |
| 6 | L-20301 | 1.8 | 3.4 | Road closure |
| 7 | L-2030 | 0.5 | 5.5 | Road closure |
| 8 | L2034 | 6.8 | 5.5 to 6.0 | Road closure |
| 9 | L-20343 | 1.1 | 3.0 | Road closure |
| 11 | R483 | 0.1 | 5.0 | Road closure |
| 14 | R473 | 0.1 | 5.0 | Road closure |
| 15 | L-2058 / L-6150 | 3.0 | 3.0 to 4.8 | Road closure |
| 18 | L-6150 | 0.7 | 3.6 | Road closure |

### Traffic impacts on sections requiring a temporary road closure during OGC construction

A diversion route for background traffic to utilise has been identified for each section of road requiring a temporary road closure. The sections of the road that are included in the diversion routes are summarised in Table 29-18, with the proposed diversions routes for each on-road section of the OGC shown in the following figures:

- Figure 29-3 Diversion route for OGC Section 2
- Figure 29-4 Diversion route for OGC Section 4
- Figure 29-5 Diversion route for OGC Section 5

The detours shown in Figure 29-3 to Figure 29-13 are based on the shortest feasible route using a similar road type. While these routes are adopted for the purpose of the traffic impact assessment, it is noted that they may vary slightly as part of the development of the detailed traffic management measures that will be agreed with Clare County Council prior to construction.

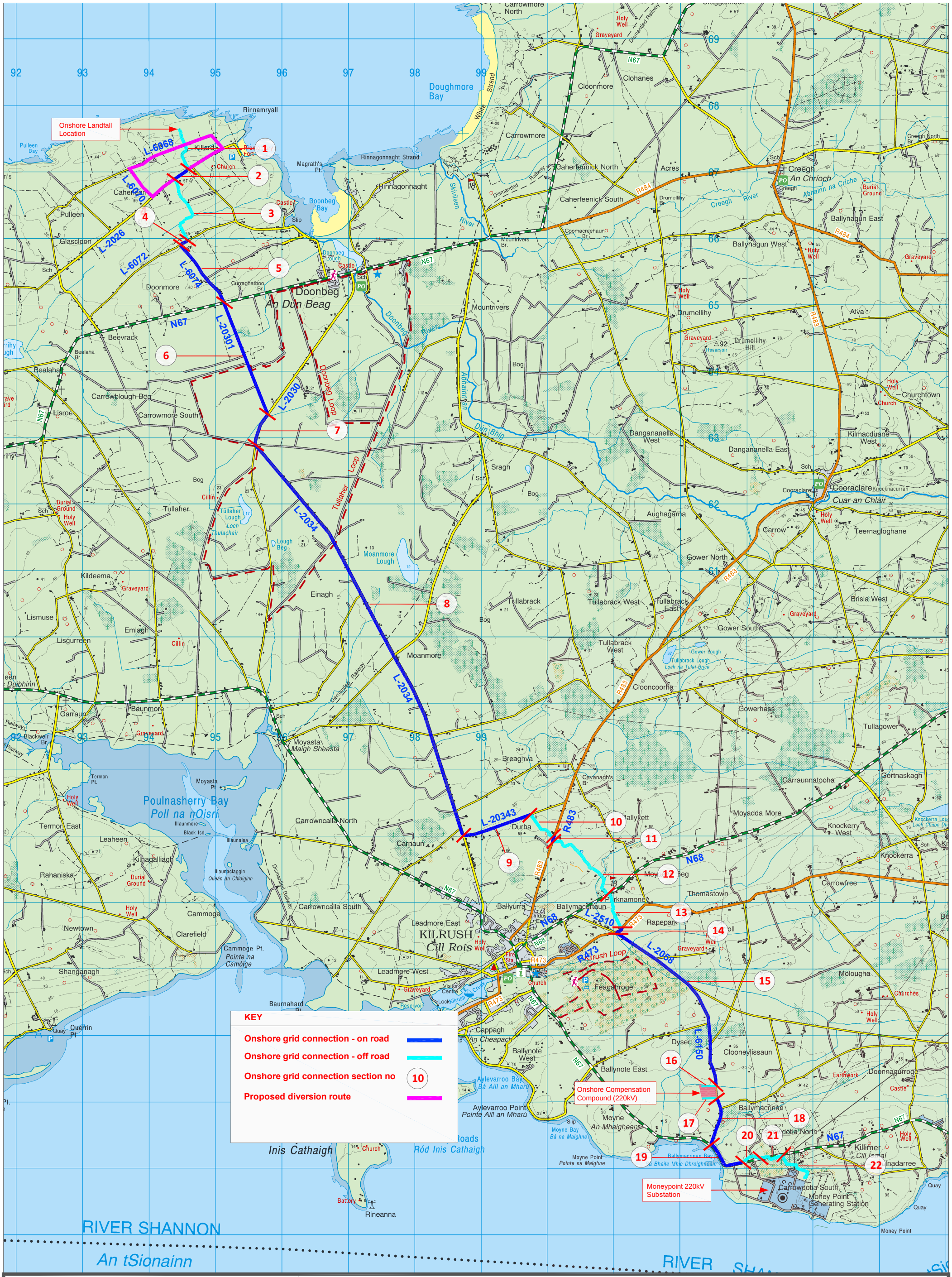


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Figure 29-3 Proposed onshore grid connection - Diversion route for section 2

| | | | |
|---|---|---|---|
| PROJECT: | Sceirde Rocks Offshore Wind Farm - Onshore Elements | | |
| CLIENT: | Fuinneamh Sceirde Teoranta | SCALE: | NTS |
| PROJECT NO: 10950 | DATE: 31.10.24 | DRAWN BY: | AL |

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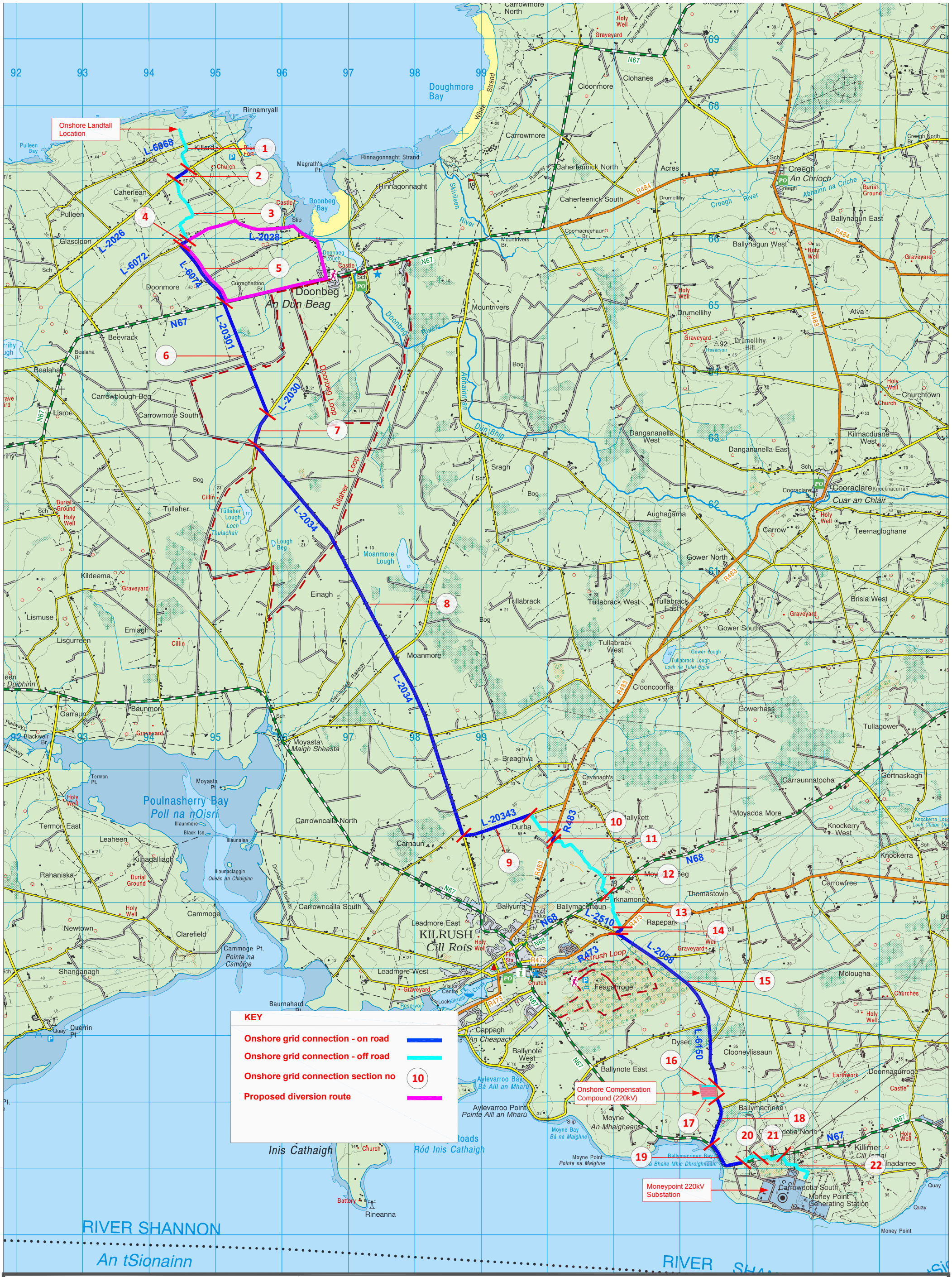


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Figure 29-4 Proposed onshore grid connection - Diversion route for section 4

| | | | |
|---|---|---|---|
| PROJECT: | Sceirde Rocks Offshore Wind Farm - Onshore Elements | | |
| CLIENT: | Fuinneamh Sceirde Teoranta | SCALE: | NTS |
| PROJECT NO: 10950 | DATE: 31.10.24 | DRAWN BY: | AL |

ALAN LIPSCOMBE
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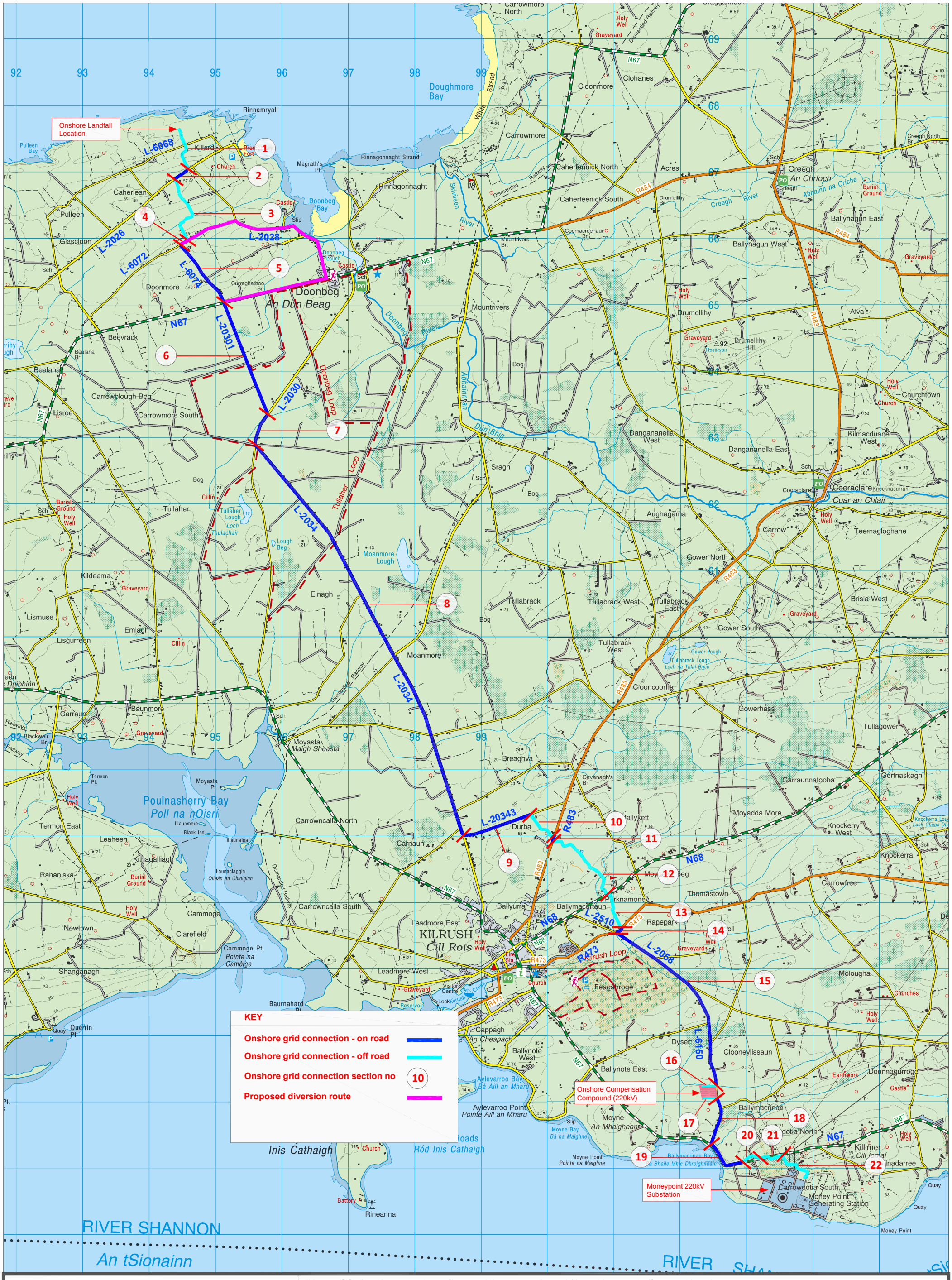


NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 29-5 Proposed onshore grid connection - Diversion route for section 5

| | | | |
|---|---|---|---|
| PROJECT: | Sceirde Rocks Offshore Wind Farm - Onshore Elements | | |
| CLIENT: | Fuinneamh Sceirde Teoranta | SCALE: | NTS |
| PROJECT NO: 10950 | DATE: 31.10.24 | DRAWN BY: | AL |

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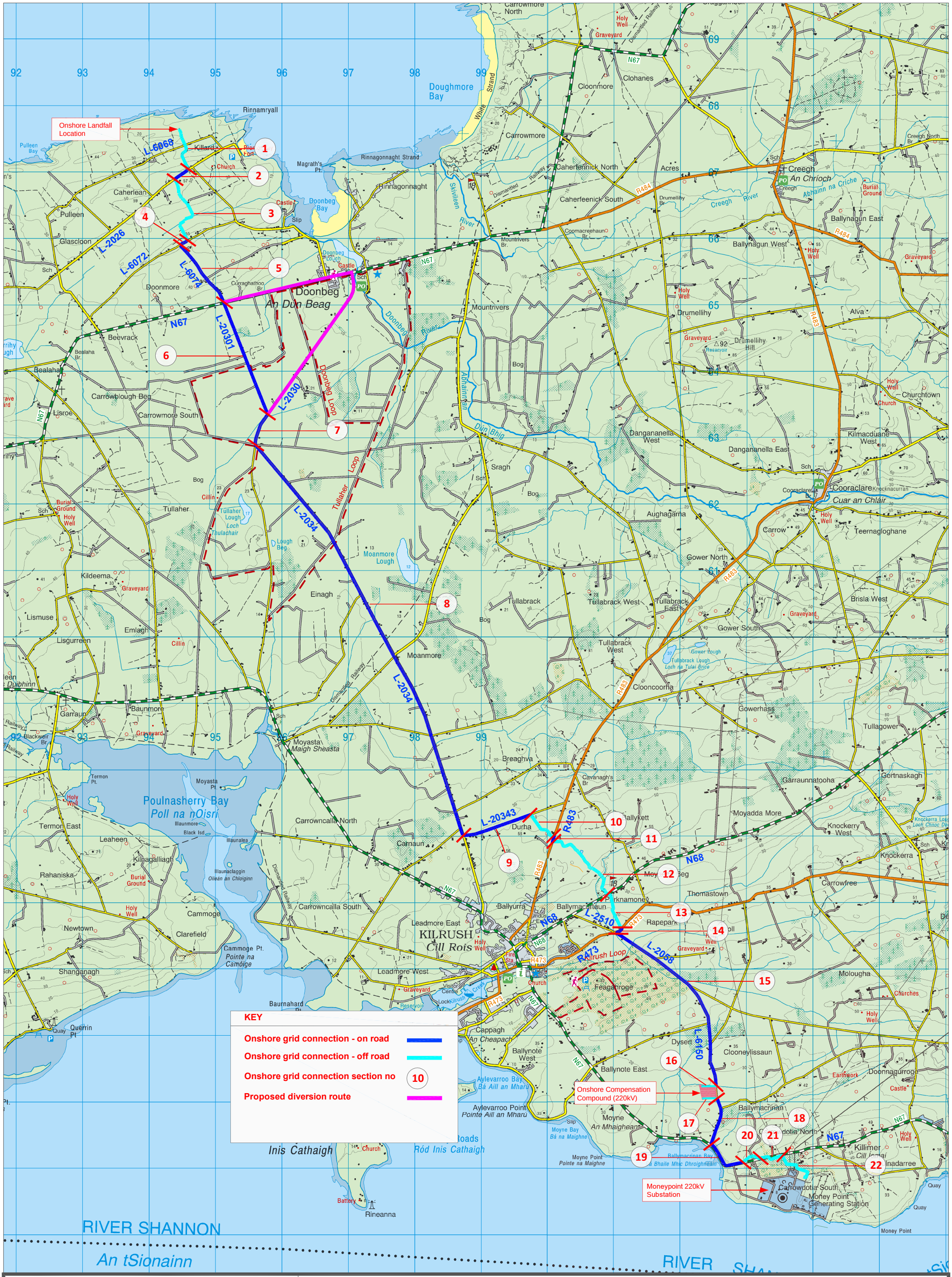
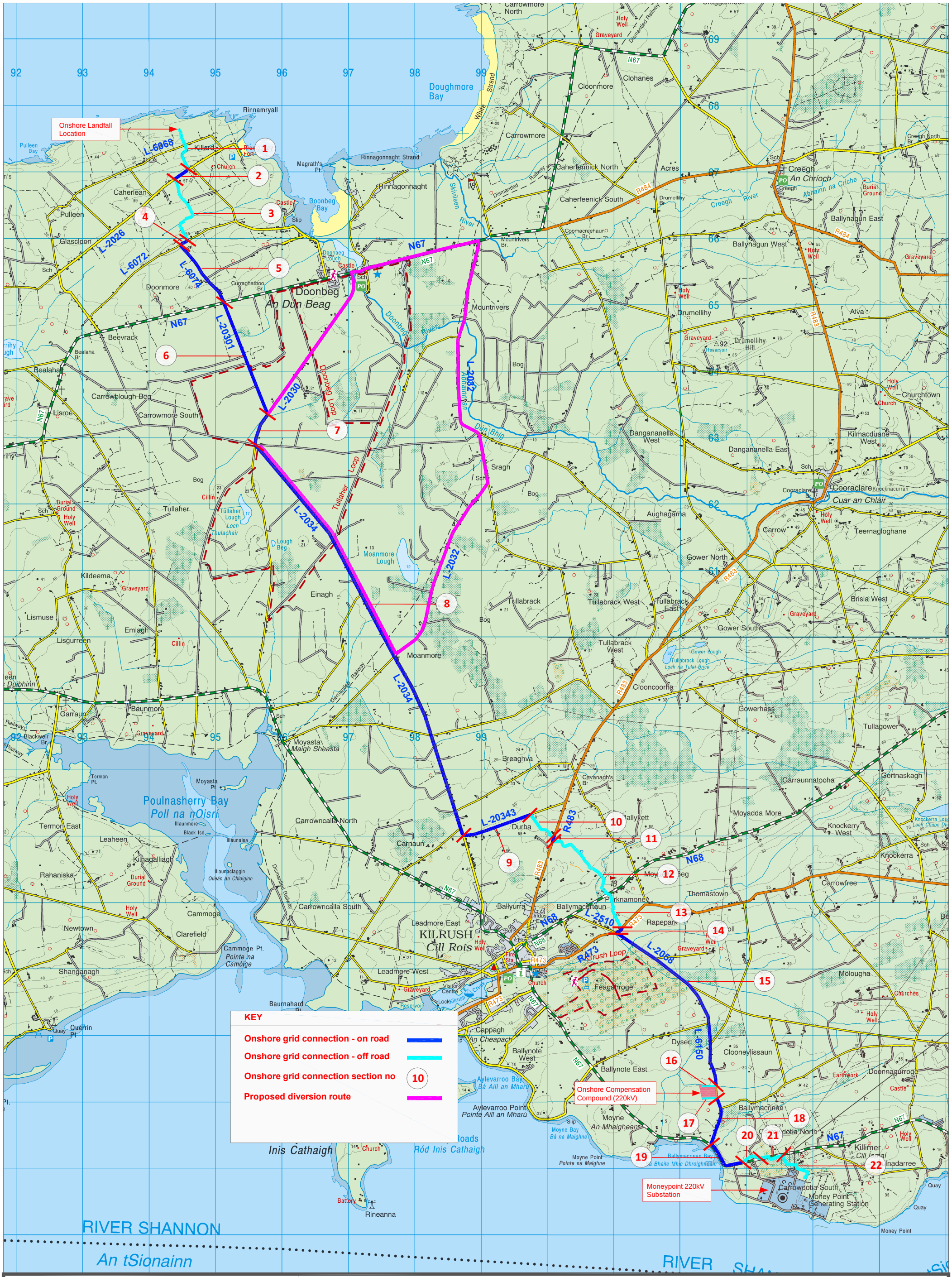

Onshore Landfall Location
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
KEY
Onshore grid connection - on road
Onshore grid connection - off road
Onshore grid connection section no
10
Proposed diversion route
Onshore Compensation Compound (220kV)
Moneypoint 220kV Substation
Doughmore Bay
Doonbeg
An Dún Beag
Poulnasherry Bay
Poll na nOisrí
KILRUSH
Cill Rois
Moyasta
Maigh Sheasta
Inis Cathaigh
RIVER SHANNON
An tSionainn
L-6068
L-2026
L-6072
L-6074
L-20301
L-2030
L-2034
L-20343
L-2510
L-2053
L-6150
N67
N68
R483
R484
R473
Doonbeg Loop
Tullaher Loop
Kilrush Loop
Figure 29-6 Proposed onshore grid connection - Diversion route for section 6
NOTES:
PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES
PROJECT: Sceirde Rocks Offshore Wind Farm - Onshore Elements
CLIENT: Fuinneamh Sceirde Teoranta
SCALE: NTS
PROJECT NO: 10950
DATE: 31.10.24
DRAWN BY: AL
ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS




NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 29-7 Proposed onshore grid connection - Diversion route for section 7

| | | | |
|---|---|---|---|
| PROJECT: | Sceirde Rocks Offshore Wind Farm - Onshore Elements | | |
| CLIENT: | Fuinneamh Sceirde Teoranta | SCALE: | NTS |
| PROJECT NO: 10950 | DATE: 30.10.24 | DRAWN BY: | AL |

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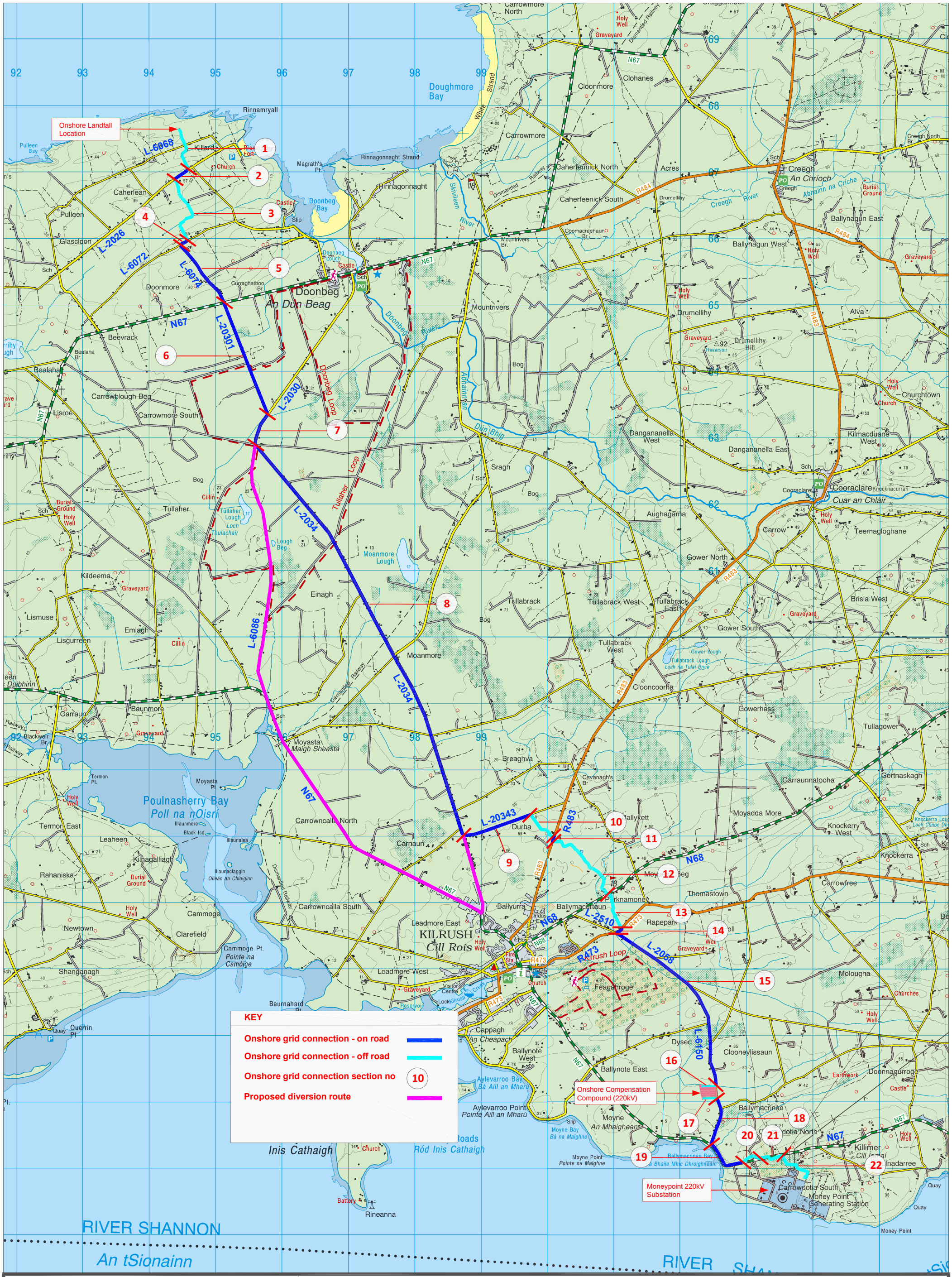


NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 29-8 Proposed onshore grid connection - Diversion route for section 8

| | | | |
|---|---|---|---|
| PROJECT: | Sceirde Rocks Offshore Wind Farm - Onshore Elements | | |
| CLIENT: | Fuinneamh Sceirde Teoranta | SCALE: | NTS |
| PROJECT NO: 10950 | DATE: 30.10.24 | DRAWN BY: | AL |

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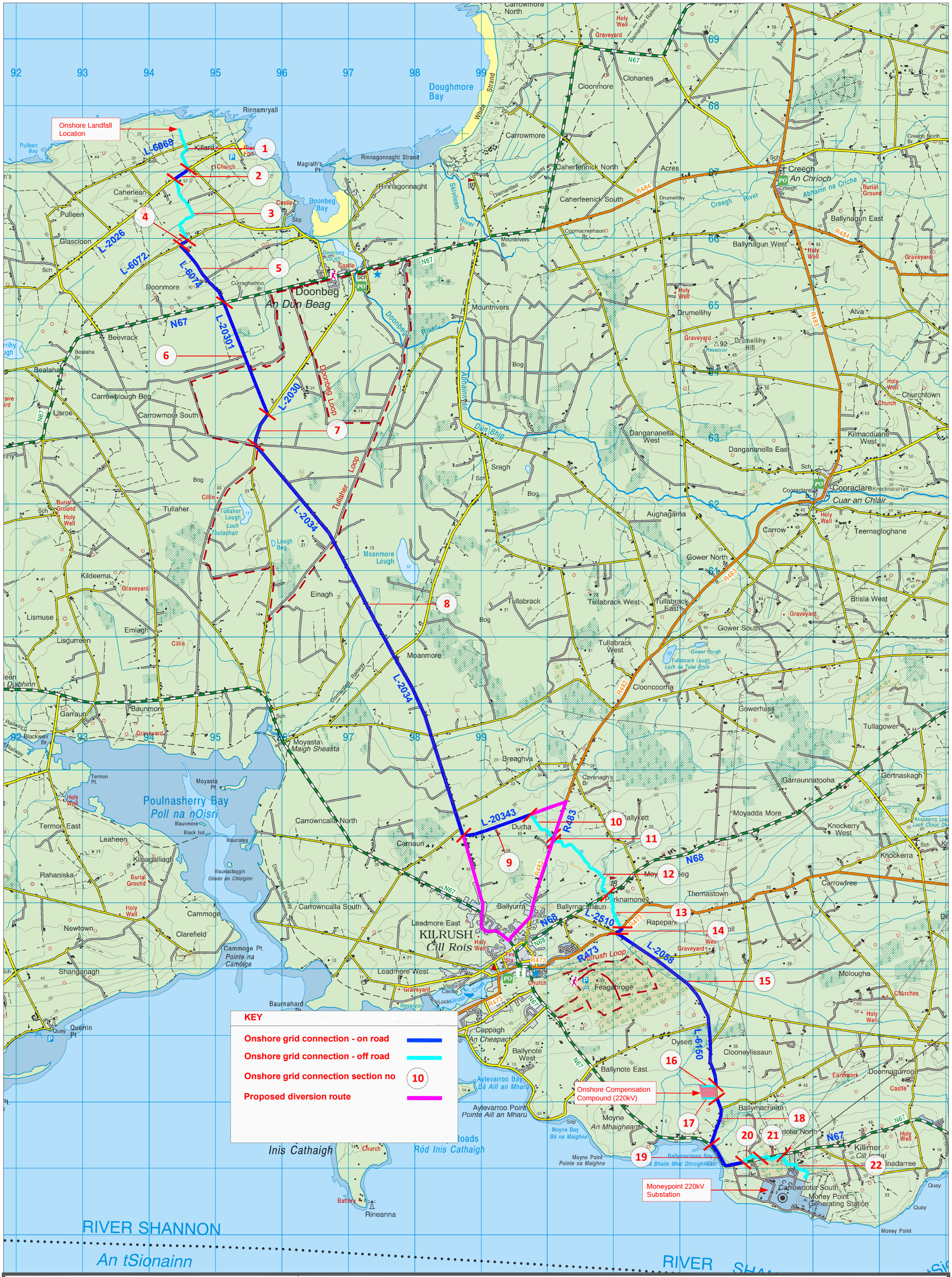


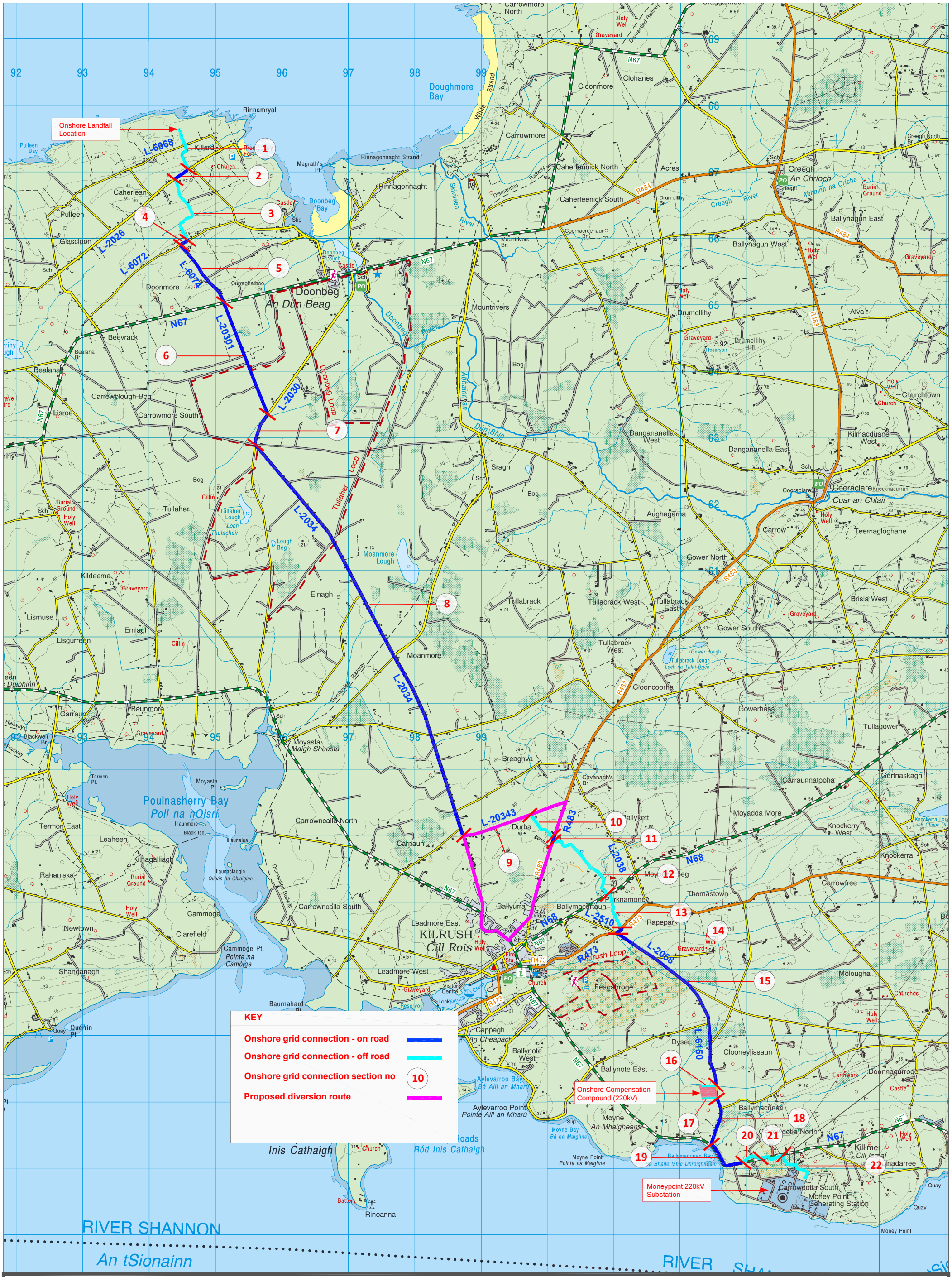

NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 29-9 Proposed onshore grid connection - Diversion route for section 9

| | | | |
|---|---|---|---|
| PROJECT: | Sceirde Rocks Offshore Wind Farm - Onshore Elements | | |
| CLIENT: | Fuinneamh Sceirde Teoranta | SCALE: | NTS |
| PROJECT NO: 10950 | DATE: 30.10.24 | DRAWN BY: | AL |

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS




NOTES:

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Figure 29-10 Proposed onshore grid connection - Diversion route for section 11

| | | | |
|---|---|---|---|
| PROJECT: | Sceirde Rocks Offshore Wind Farm - Onshore Elements | | |
| CLIENT: | Fuinneamh Sceirde Teoranta | SCALE: | NTS |
| PROJECT NO: 10950 | DATE: 30.10.24 | DRAWN BY: | AL |

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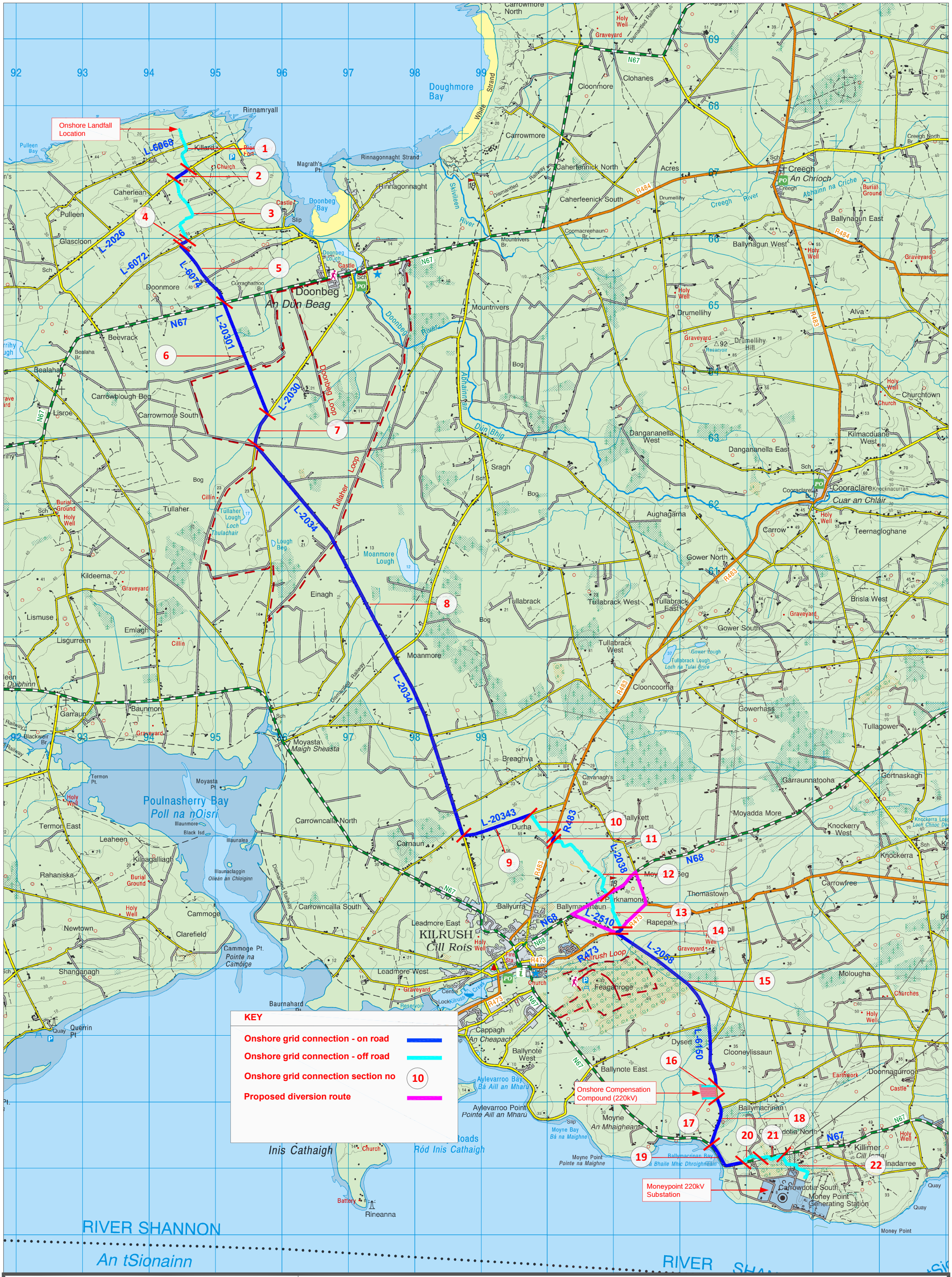
TRAFFIC & TRANSPORT CONSULTANTS



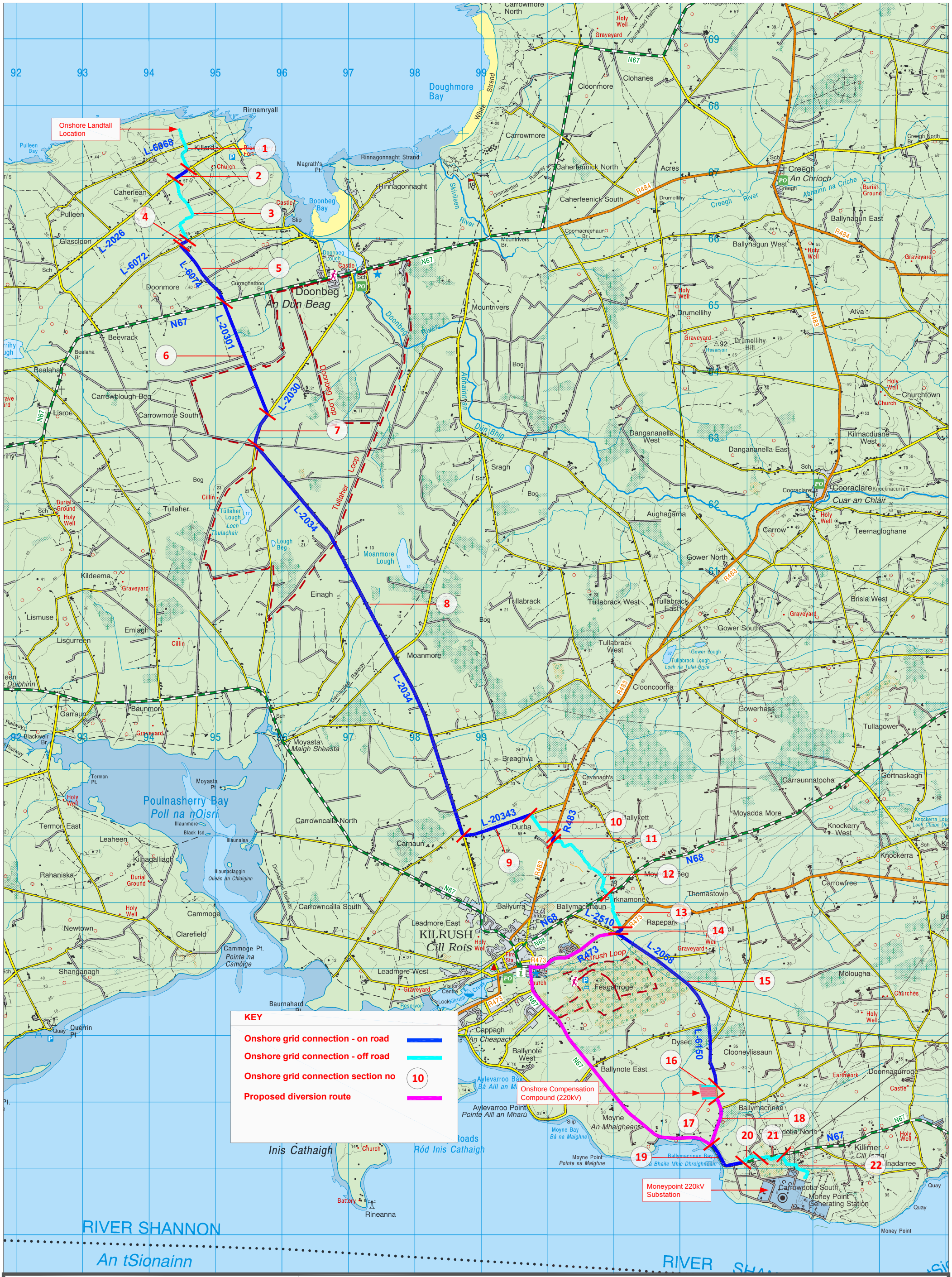

NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 29-11 Proposed onshore grid connection - Diversion route for section 14

| | | | |
|---|---|---|---|
| PROJECT: | Sceirde Rocks Offshore Wind Farm - Onshore Elements | | |
| CLIENT: | Fuinneamh Sceirde Teoranta | SCALE: | NTS |
| PROJECT NO: 10950 | DATE: 30.10.24 | DRAWN BY: | AL |

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS



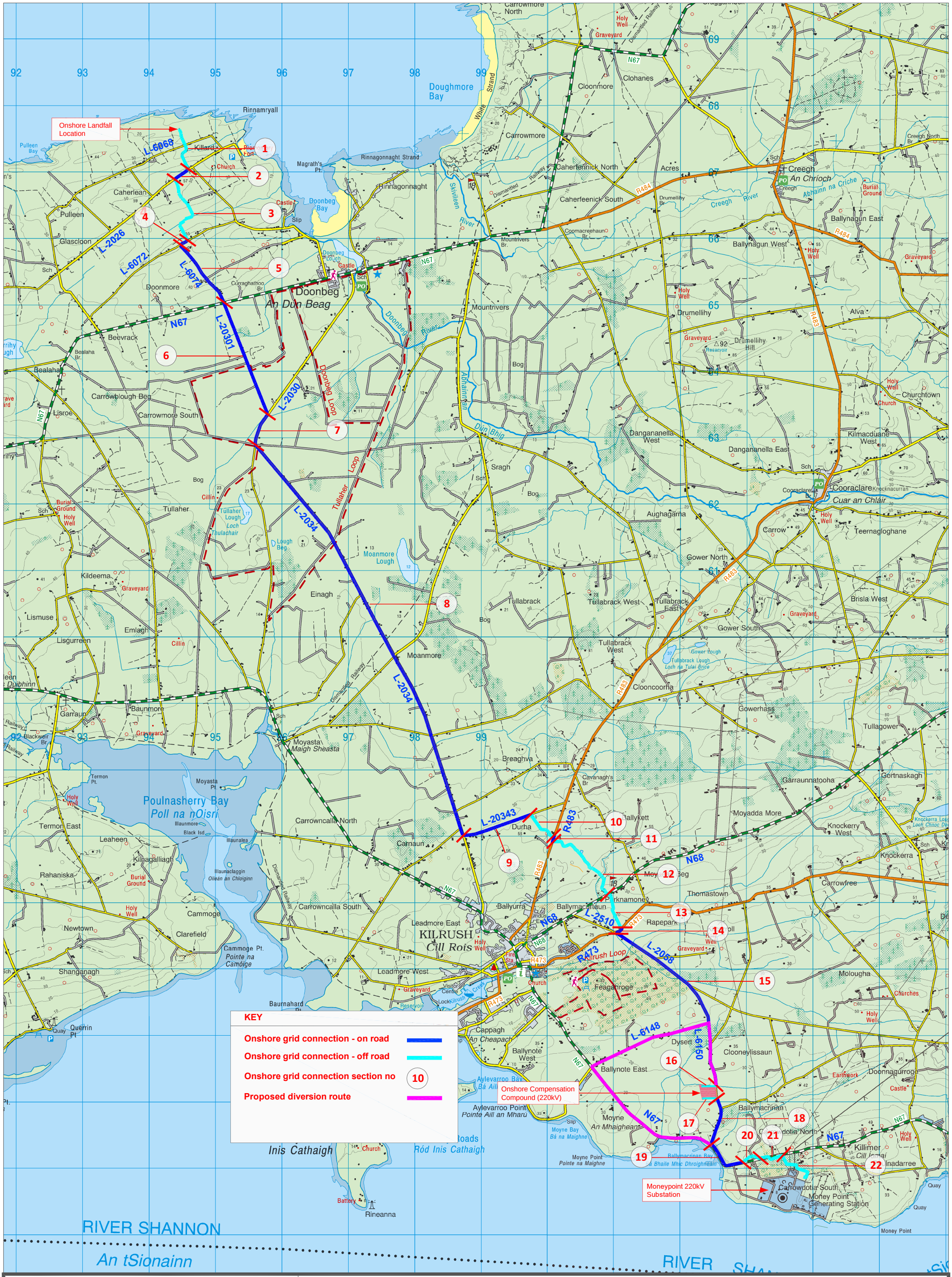

NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 29-12 Proposed onshore grid connection - Diversion route for section 15

| | | | |
|---|---|---|---|
| PROJECT: | Sceirde Rocks Offshore Wind Farm - Onshore Elements | | |
| CLIENT: | Fuinneamh Sceirde Teoranta | SCALE: | NTS |
| PROJECT NO: 10950 | DATE: 30.10.24 | DRAWN BY: | AL |

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS




NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 29-13 Proposed onshore grid connection - Diversion route for section 18

| | | | |
|---|---|---|---|
| PROJECT: | Sceirde Rocks Offshore Wind Farm - Onshore Elements | | |
| CLIENT: | Fuinneamh Sceirde Teoranta | SCALE: | NTS |
| PROJECT NO: 10950 | DATE: 30.10.24 | DRAWN BY: | AL |

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS

*Table 29-18 Summary of onshore grid connection by route section - roads on diversion route*

| Grid route section number | Roads on route | Roads on diversion route |
|---|---|---|
| 2 | L-2026 | L-2026, L-6068, L-6070 |
| 4 | L-6072 | L-6072, L-2028, N67, L-6074 |
| 5 | L-6074 | L-6072, L-2028, N67 |
| 6 | L-20301 | N67, L-2030 |
| 7 | L-2030 | N67, L-2032, L-2034 |
| 8 | L-2034 | L-6086, N67, L-2034 |
| 9 | L-20343 | L-2034, N67, R483, L-20343 |
| 11 | R483 | R483, L-20343, L-2034, N67 |
| 14 | R473 | L-2510, N68, L-2038, R473 |
| 15 | L-2058 / L-6150 | R473, N67, L-6150 |
| 18 | L-6150 | L-6150, L-6148, N67 |

While the assessment is based on work being undertaken at one location on the OGC at any one time, in practice work may be undertaken simultaneously at more than one location. In both cases, the impacts on local traffic would be the same in terms of the extent of the impact and the number of vehicles impacted, but for the latter the overall construction period would be shorter.

It is noted that the assessment is based on a precautionary robust case as follows:

- For each diversion, it is assumed that each trip starts and ends at either end of the road closure and incurs the full impact of the diversion. However, in many cases the increase in trip length will be significantly less as trips divert onto other routes or incur on a less than maximum diversion. This is particularly the case for the diversion for Section 7 on the L-2030 as shown in Figure 29-7, where only a very occasional trip will incur the full diversion.
- The are locations on the sections of the route that are assumed for closure, where there will be sufficient width to operate one-way “stop and go” traffic management. This will particularly apply to sections of the L-2034 on Section 8 of the OGC.

The existing lengths of each on-road OGC section, together with the length of the proposed diversion, and the resulting increase in trip length that will be incurred by background traffic, are shown in Table 29-19. The figures show that the temporary increase in trip length that will be incurred during the construction of the OGC will range from a minimum of 2.7km to a maximum of 14.6km.

*Table 29-19 Summary of onshore grid connection by route section - length of grid section and diversion route*

| Grid route section number | Roads on route | Length of grid section (km) | Length of diversion route (km) | Increase in trip length (km) |
|---|---|---|---|---|
| 2 | L-2026 | 0.2 | 3.2 | 3.0 |
| 4 | L-6072 | 0.1 | 5.4 | 5.3 |
| 5 | L-6074 | 1.1 | 4.4 | 3.3 |
| 6 | L-20301 | 1.8 | 4.5 | 2.7 |
| 7 | L-2030 | 0.5 | 15.1 | 14.6 |
| 8 | L2034 | 6.8 | 9.9 | 3.1 |
| 9 | L-20343 | 1.1 | 4.8 | 3.7 |
| 11 | R483 | 0.1 | 5.7 | 5.6 |
| 14 | R473 | 0.1 | 2.9 | 2.8 |
| 15 | L-2058 / L-6150 | 3.0 | 6.2 | 3.2 |
| 18 | L-6150 | 0.7 | 5.1 | 4.4 |

The length of the diversion that will be incurred on each section of the OGC is applied to the total number of trips that will incur the increased trip length, as shown in Table 29-20, with similar information shown for increased journey times based on a 50kph average speed shown in Table 29-21.

*Table 29-20 Traffic impacts to background traffic during construction of onshore grid connection due to traffic diversions - additional PCU kilometres*

| Grid route section number | Roads on route | Daily traffic flows impacted year 2030, 2-way (PCUs) | Duration of impact (days) | Total trips impacted, 2-way (PCUs) | Additional length of diversion (km) | Total detour vehicle kms |
|---|---|---|---|---|---|---|
| 2 | L-2026 | 140 | 2 | 279 | 3.0 | 837 |
| 4 | L-6072 | 140 | 1 | 140 | 5.3 | 740 |
| 5 | L-6074 | 140 | 25 | 3,488 | 3.3 | 11,512 |
| 6 | L-20301 | 145 | 29 | 4,215 | 2.7 | 11,381 |
| 7 | L-2030 | 699 | 7 | 4,896 | 14.6 | 71,478 |
| 8 | L2034 | 699 | 91 | 63,645 | 3.1 | 197,299 |
| 9 | L-20343 | 145 | 21 | 3,052 | 3.7 | 11,294 |
| 11 | R483 | 2,062 | 1 | 2,062 | 5.6 | 11,549 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 14 | R473 | 2,062 | 1 | 2,062 | 2.8 | 5,775 |
| 15 | L-2058 / L-6150 | 632 | 38 | 24,013 | 3.2 | 76,842 |
| 18 | L-6150 | 119 | 6 | 715 | 4.4 | 3,147 |
| Total | | N/A | 222 | 108,568 | | 401,853 |
| Average detour | | | | | | 3.70 |

*Table 29-21 Traffic impacts to background traffic during construction of onshore grid connection due to traffic diversions - additional PCU hours*

| Grid route section number | Roads on route | Daily traffic flows impacted year 2030, 2-way (PCUs) | Duration of impact (days) | Total trips impacted, 2-way (PCUs) | Additional journey time of diversion (hours) | Total detour vehicle kms |
|---|---|---|---|---|---|---|
| 2 | L-2026 | 140 | 2 | 279 | 0.06 | 16.7 |
| 4 | L-6072 | 140 | 1 | 140 | 0.11 | 14.8 |
| 5 | L-6074 | 140 | 25 | 3,4880 | 0.07 | 230.2 |
| 6 | L-20301 | 145 | 29 | 4,215 | 0.05 | 227.6 |
| 7 | L-2030 | 699 | 7 | 4,896 | 0.29 | 1,429.6 |
| 8 | L2034 | 699 | 91 | 63,645 | 0.06 | 3,946 |
| 9 | L-20343 | 145 | 21 | 3,052 | 0.07 | 225.9 |
| 11 | R483 | 2,062 | 1 | 2,062 | 0.11 | 231.0 |
| 14 | R473 | 2,062 | 1 | 2,062 | 0.06 | 115.5 |
| 15 | L-2058 / L-6150 | 632 | 38 | 24,013 | 0.06 | 1,536.8 |
| 18 | L-6150 | 119 | 6 | 715 | 0.09 | 62.9 |
| Total | | NA | 222 | 108,568 | | 8,037 |
| Average increase in journey time | | | | | | 0.074 hours or 4 mins, 26 seconds |

The main points to note from the Tables are as follows:

- It is estimated that traffic impacts on the local network will be experienced by local traffic on a total of 222 of 319 working days on which diversions will occur, during which the effects will be experienced on one section of road per day.
- The maximum diversion that will be experienced will be on the 7 days when the OGC is constructed on the L-2030 (Section 7) when a total of 699 trips per day will require to travel an additional 14.6kms adding an additional 0.29 hours, or 17.4 minutes to each journey.
- During the entire construction period of the OGC of 319 working days, a total of 108,568 trips on the route will experience an impact, resulting in a total of 8,037 additional vehicle hours spent travelling on the network, and 401,853 vehicle kilometres travelled on the network during the construction period. For vehicles affected during the construction period, this will result in an average of 4 minutes, 26 seconds added to each journey time, and an average detour of 3.70km.

### Traffic impacts on sections requiring temporary road closure during OGC cable installation

The installation of the cables will be completed separately to the construction of the OGC route and will also require the same local road closures as set out above. The traffic effects that will be incurred during the installation of the cables into the ducts will be as set out in Section 29.5.2 for the OGC construction but will last for 126 of the 180 days on which diversions will take place. Therefore, on a pro rata basis (126 / 222), during the installation of the cables which will last 180 working days, a total of 61,620 trips on the route will experience an impact, resulting in a total of 4,562 additional vehicle hours spent travelling on the network, and 228,079 vehicle kilometres travelled on the network during the construction period. Similarly, for vehicles affected during the installation of the cables, this will result in an average of 4 minutes, 26 seconds added to each journey time, and an average detour of 3.70km.

## 29.5.2 Impacts on Traffic Flows During Construction of Onshore Site

An assessment of the impact on link capacity on the various sections of the OGC, which are also part of the delivery route, was undertaken for the construction periods relating to the OGC, the cable installation and the construction of the OCC.

The daily background traffic volumes forecast for each section of the OGC are set out for the latest expected construction year of 2030 in Table 29-22, together with the additional traffic that is forecast to be generated during the construction of the three separate stages of the Onshore Site. Forecast traffic volumes during the construction for these three stages are also shown in Table 29-22.

*Table 29-22 Background daily traffic volumes, construction generated traffic volumes and with construction traffic volumes, year 2030, PCUs*

| Grid route section number | Construction year 2030 background traffic flows | Construction generated traffic flows | | | 2030 With construction generated traffic flows | | |
|---|---|---|---|---|---|---|---|
| | | OGC | Cable installation | OCC | OGC | Cable installation | OCC |
| 2 | 140 | 129 | 47 | 0 | 269 | 187 | 140 |
| 4 | 140 | 129 | 47 | 0 | 269 | 187 | 140 |
| 5 | 140 | 129 | 47 | 0 | 269 | 187 | 140 |
| 6 | 145 | 129 | 47 | 0 | 274 | 192 | 145 |

| Grid route section number | Construction year 2030 background traffic flows | Construction generated traffic flows | | | 2030 With construction generated traffic flows | | |
|---|---|---|---|---|---|---|---|
| | | OGC | Cable installation | OCC | OGC | Cable installation | OCC |
| 7 | 699 | 129 | 47 | 0 | 828 | 746 | 699 |
| 8 | 699 | 129 | 47 | 0 | 828 | 746 | 699 |
| 9 | 145 | 129 | 47 | 0 | 274 | 192 | 145 |
| 11 | 2,062 | 129 | 47 | 0 | 2,191 | 2,109 | 2,062 |
| 14 | 2,062 | 129 | 47 | 0 | 2,191 | 2,109 | 2,062 |
| 15 | 632 | 129 | 47 | 0 | 761 | 679 | 632 |
| 18 | 119 | 129 | 47 | 39 | 248 | 166 | 158 |

The capacity of the links on the OGC are shown in Table 29-23. Link capacities are based on road types and widths as set out in the TII Standards document *DN-GEO-03031 Road Link Design*, Table 6/1. Many of the links on the OGC (Sections 7, 8, 11, 14, 19, 21) have the characteristics of a Type 3 single carriageway, which have a link capacity of 5,000 PCUs per day. The remaining links on the OGC (Sections 2, 4, 5, 6, 9, 15 and 18) are single lane local roads with passing opportunities. For links where there is generally one lane with passing opportunities, the daily link capacity will be significantly less. There is no existing guidance in Ireland with respect to the link capacity for such situations. Reference is therefore made to a UK Department for Transport Traffic Advisory Leaflet 2/04[2] where it is recommended that a maximum hourly capacity for a single lane road with passing opportunities is 300 vehicles per hour. Based on this, a conservative 24-hour capacity of 3,000 PCUs (10 peak hours) per day is adopted. The percentage of capacity that is forecast to be used on each of the sections of the OGC is shown for the background traffic scenario and for each of the proposed construction phase in Table 29-23. Based on the assessment, the following is forecast with respect to link capacities on the OGC:

- The sections that are forecast to be busiest are the short sections of the R483 (Section 11) and R473 (Section 14), which are forecast to operate at 41% capacity for the background traffic only scenario, increasing by a maximum of 3% points to 44% during the construction of the OGC; and,
- All links are forecast to operate well within link capacity for the background and with development traffic scenarios.

*Table 29-23 Link capacity and % capacity for background traffic and with construction traffic, year 2030*

| Grid route section number | Sample road width | Daily link capacity | % of link capacity by traffic scenario | | | |
|---|---|---|---|---|---|---|
| | | | Background traffic only | With OGC traffic | With cable installation traffic | With OCC traffic |
| 2 | 3.0 | 3,000 | 5% | 9% | 6% | NA |

[2] https://tsrgd.co.uk/pdf/tal/2004/tal-2-04.pdf

| Grid route section number | Sample road width | Daily link capacity | % of link capacity by traffic scenario | | | |
|---|---|---|---|---|---|---|
| | | | Background traffic only | With OGC traffic | With cable installation traffic | With OCC traffic |
| 4 | 3.0 | 3,000 | 5% | 9% | 6% | NA |
| 5 | 3.0 | 3,000 | 5% | 9% | 6% | NA |
| 6 | 3.4 | 3,000 | 5% | 9% | 6% | NA |
| 7 | 5.5 | 5,000 | 14% | 16% | 15% | NA |
| 8 | 5.5 to 6.0 | 5,000 | 14% | 16% | 15% | NA |
| 9 | 3.0 | 3,000 | 5% | 9% | 6% | NA |
| 11 | 5.0 | 5,000 | 41% | 44% | 42% | NA |
| 14 | 5.0 | 5,000 | 41% | 44% | 42% | NA |
| 15 | 3.0 to 4.8 | 3,000 | 21% | 25% | 23% | NA |
| 18 | 3.6 | 3,000 | 4% | 8% | 6% | 7% |

## 29.5.3 Traffic Impacts of O&M Port Facility in Rosaveel, County Galway

An assessment of the additional traffic that will be generated on the road network in Rossaveel, Co. Galway, the preferred O&M Port Facility, after it becomes operational in the year 2030 was undertaken. While the O&M Port Facility is not considered part of the Onshore Site, the traffic associated with its operation has been assessed in this chapter based on the following:

- Traffic count data available from a previous planning application, observed traffic volumes on the R372 and R336 roads accessing Rossaveel harbour are available, as set out for the AM and PM peak hours in Table 29-24.
- An expansion factor to determine an all-day 24-hour traffic count from AM and PM peak hour traffic counts was established using continuous traffic count data from the closest count site maintained by TII to Rosaveel, which is located on the N59 between Oughterard and Galway. A factor of 6.7 was established to expand the AM and PM peak hour traffic flows to an all-day 24-hour count, with the 2017 all day traffic counts also shown in Table 29-24.
- The same TII automatic count data was used to determine that traffic increased by 7.1% between the years 2017 and 2024. With traffic forecast to increase by a further 9.7% between the years 2024 and 2030, as established in Section 29.2.5 of this EIAR, it is determined that traffic growth between the year 2017 and the proposed construction year of 2030 will be +17.5%.

*Table 29-24 Background traffic levels at Rosaveel for O&M Port facility, by time period and year, PCUs*

| Link | Year 2017 | | | Year 2030 |
|---|---|---|---|---|
| | AM peak hour | PM peak hour | All day | All day |
| R372 | 87 | 106 | 1,289 | 1,515 |
| R336 | 424 | 466 | 5,963 | 7,007 |

Background all day traffic flows on the R372 and R336 are estimated to be 1,515 PCUs and 7,007 PCUs respectively in the first year of operation in 2030, as shown in Table 29-24. Both of these roads have the characteristics of a Type 3 single carriageway, which have a link capacity of 5,000 PCUs per day. This indicates that by the year 2030, without any additional development, the R372 will operate at 30% capacity, while the R336 will operate over capacity at 140% of operational capacity.

It is estimated that the O&M Port Facility in Rosaveel will generate the following daily traffic movements:

- Operational Winter Estimate – 15 vehicles/people per day (30 vehicle movements); and,
- Operational Summer Estimate – 25 vehicles/people per day (50 vehicle movements).

Based on the busiest winter days, it is estimated that in the opening year of 2030 traffic, traffic flows will increase by 3.3% on the R372 and by 0.7% on the R336, due to the additional traffic generated by the O&M Port Facility, as shown in Table 29-25. It is noted that that these increases in traffic flows do not exceed the +10% threshold set out in the TII Guidelines that would require a detailed traffic assessment.

*Table 29-25 Impact of O&M Port Facility generated traffic at Rosaveel, background traffic, development generated traffic, total traffic, % increase, all -day 2-way flows, PCUs*

| Link | Background traffic | Development generated traffic | All traffic | % increase |
|---|---|---|---|---|
| R372 | 1,515 | 50 | 1,565 | 3.3% |
| R336 | 7,007 | 50 | 7,057 | 0.7% |

It is forecast that the traffic related effects of the O&M Port Facility will be Negative, Long-Term, and Slight in terms of severity, which is considered Not Significant. It is concluded that there will be no significant traffic related impacts as a result of the O&M Port Facility at Rosaveel.

## 29.5.4 Provision for Sustainable Modes of Travel

### 29.5.4.1 Walking and Cycling

The provision for these modes is not relevant during the construction stage of the Onshore Site as travel distances will likely exclude any employees walking or cycling to work.

### 29.5.4.2 Public Transport

A review of the TFI website indicates that the following bus routes serve the town of Kilrush and the village of Doonbeg that are situated at the southern and northern ends of the OGC respectively.

**Kilrush:** Service no 335 Kilrush – Ennis, Service No 336 Kilrush – Ennis – Limerick, Service No 337 Kilrush – Ennis (including Moneypoint)

**Doonbeg:** Service no 333 Doonbeg – Corofin – Ennis – Limerick.

It is noted, however, that times and frequencies do not provide an attractive level of service for transporting staff to and from the Onshore Ste at the beginning and end of the day respectively. In addition, only a limited element of the Onshore Site is in walking distance from the bus stops in Kilrush and Moneypoint. It is proposed that all staff will be transported to the Onshore Site by minibus in order to minimise traffic generation and parking demand.

## 29.5.5 Likely and Significant Effects and Associated Mitigation Measures

### 29.5.5.1 'Do-Nothing' Scenario

If the Project were not to proceed, the opportunity to capture the available renewable energy resource and connect it to Ireland's electricity grid would be lost, as would the opportunity to contribute to meeting Government and EU targets for the production and consumption of electricity from renewable resources and the reduction of greenhouse gas emissions. The opportunity to generate local employment and investment and to diversify the local economy would also be lost.

With respect to traffic effects, if the OGC route between the TJB located in the townland of Killard, to the OCC in the townland of Ballymacrinan, and onwards to the Moneypoint 220kV Substation, is not constructed, there will be no traffic related impacts as set out in this assessment.

Similarly, if there was no requirement to construct the OCC in Ballymacrinan, there will be no traffic related impacts. In summary, traffic volumes on the road network would grow in line with TII projections.

### 29.5.5.2 Construction Phase Impacts

#### 29.5.5.2.1 *Pre-Mitigation Impacts*

##### Types of impact considered

Traffic related impacts were considered with respect to the following:

- Traffic impacts in terms of increased travel distance and time as a result of diversions during the construction of the OGC; and,
- Traffic impacts due to increased traffic volumes during the construction of the OGC and OCC.

##### Impacts due to Road Closures during OGC Construction

It is estimated that the construction of the 22.3km OGC will take approximately 319 days, of which 222 days of road closures will be required. On these days, a total of 108,568 trips will experience an average increase in trip time of 4 minutes 26 seconds, and an increase in trip distance of 3.70km. While these impacts will be noticeable to local traffic on the local road network, it is forecast that the traffic related effects will be Negative, Temporary, and Slight in terms of severity, which is considered Not Significant. In addition, the Applicant will liaise with Clare County Council ahead of the works commencing to review the diversions and sequencing to further minimise any potential disruption, e.g. alternative diversion routes or diversion points ahead of the works. It is concluded that there will be no significant

effects to local traffic and transport as a result of diversions incurred during the construction of the OGC.

Similar effects will be incurred on approximately 126 days of the 180 days required to install the grid cables.

#### Impacts due to increased traffic volumes during the construction of the Onshore Grid Connection and OCC

It is forecast that during the construction of the Onshore Site, the following additional traffic volumes will be generated on the local road network:

- During the construction of the OGC, an additional daily traffic flow of 129 PCUs for 319 days,
- During the installation of the cables along the OGC, an additional daily traffic flow of 47 PCUs for 180 days, and,
- During the construction of the OCC, an additional daily traffic flow of 39 PCUs for 244 days,

Again, while the additional volumes of traffic generated during the construction of the Onshore Site will be noticeable on the local public road network, the impacts on link carrying capacity will be negative, temporary and slight in terms of severity. It is concluded that there will be no significant impacts to local traffic resulting from additional traffic volumes on the network during the during the construction of the OGC and OCC.

### 29.5.5.2.2 *Mitigation by design*

The route selected for the OGC is the shortest route possible along the public road network with suitable diversion routes available when required, and utilising some sections of third-party lands. resulting in the minimum impact on the National Road Network. HDD will be utilised at the 3 sections of National Road crossings, which will minimise impacts to the National Road Network. In addition, the design incorporates passing bays on the L-6150 to minimise disruption to the local road during construction of the OCC.

### 29.5.5.2.3 *Proposed Mitigation Measures*

A TMP, incorporating all the mitigation measures is included as Appendix 29-2. In the event that development consent is granted for the Project, the TMP will be updated to address the requirements of any relevant planning conditions, including any additional mitigation measures, which are conditioned and will be submitted to the planning authority for written approval. The TMP includes the following:

- **Construction and Delivery Programme –** a programme of construction and deliveries will be submitted to Clare County Council in advance of deliveries of material to the OGC and the OCC. Liaison with the relevant local authorities and TII will be carried out where required regarding requirements such as delivery timetabling, road closures and diversions.
- **A Pre and Post Construction Condition Survey** – A pre-condition survey of roads associated with the Onshore Site will be carried out immediately prior to construction commencement to record an accurate condition of the road network 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 roads departments of Clare County Council**. Once the surveys have been carried out and "prior to commencement" status of the relevant roads established, (and in compliance with the provisions of the Onshore Construction and Environmental Management Plan (Onshore CEMP)), the Roads section will be informed of the name and contact number of the Project Supervisor of the construction stage as well as the Site Environmental Manager.
- **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.
- **Information to locals** – Locals in the area will be informed of any upcoming traffic related matters e.g. temporary lane/road closures and diversions via letter drops and posters in public places. Information will include the contact details of the Contract 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. Local access to all properties located on the cable grid route will be maintained at all times.
- **Identification of delivery routes** – These routes, as shown in Figure 29-1c will be agreed and adhered to by all contractors.
- **Introduction of 3 permanent passing bays (each 50m in length) and road widening** on the L-6150 between the N67 to the south of the OCC and the OCC access. A drawing that details the proposed passing bays is included in Appendix 5-1 of the EIAR (Drawing reference IRE1-HMV-ONC-EL-PD-1007). The purpose of these passing bays is to provide passing opportunities for construction and local traffic during the construction phase of the OCC and also to provide a permanent improvement for local traffic in terms of capacity and safety.
- **Travel plan for construction workers –** The proceeding assessment is based on construction staff being transported to the point of construction on the OGC by minibus. The construction company will be required to provide a travel plan for construction staff, which will include the identification of routes to / from the Onshore Site and identification of an area for parking, prior to being transported to the OGC by minibus. These locations will be one of the temporary work compounds, or the OCC at Ballymacrinan, as shown in Drawings 220404-10, 220404-11 and 220404-12 in Appendix 5-1: Planning Drawings.
- **Temporary traffic signs** – As part of the traffic management measures temporary traffic signs will be put in place at the location where works are being undertaken along the grid route, and at locations where temporary local diversions are in place. All measures will be in accordance with the *'Traffic Signs Manual, Section 8 – Temporary Traffic Measures and Signs for Road Works*' (DoT, 2019) and '*Guidance for the Control and Management of Traffic at Roadworks*' (DoT). A member of construction staff (flagman) will be present at each construction location along the route. An example of the signage that will be used for a typical temporary diversion is set out in the in the TMP included as Appendix 29-2.
- **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 at the entrance to the Onshore Site and sweeping / cleaning of local roads as required.
- **Road Opening Licence** – Roads works associated with the OGC cabling will be undertaken in line with the requirements of a road opening licence as agreed with Clare County Council.
- **Diversions and road closures –** Reasonable access to residences, farms and businesses will be maintained at all times during any road closures associated with the OGC works. The details of this will be agreed with each impacted resident/business and the Roads Section of Clare County Council in advance of works taking place. The network of local roads in the area will be used for traffic diversions for local traffic in order to expedite the works and limit the duration of the impact owing to the OGC works.

- **Trench Reinstatement** - Trenches on public roads, once backfilled, will be reinstated to the relevant standard and satisfaction of the local authority. The roads conditions survey, which will be undertaken immediately prior to construction commencement of the Project, will ensure that any section of road along the OGC is not left in a degraded condition. The repetition of the survey immediately after completion of the construction phase of the Project will ensure that any reinstatement works are carried out to a satisfactory standard.

### 29.5.5.3 Residual Effects

The mitigation measures set out above will ensure that local residents are fully informed of upcoming works and diversions, have continued access and can plan routes to minimise diversions. Slight increases in traffic delays and journey times will be incurred along the OGC resulting in a Slight, Temporary effect on local traffic, and potentially on local businesses. This effect is Not Significant.

#### 29.5.5.3.1 *Significance of Effects*

Based on the assessment above, it is concluded that there will be no significant effects to local traffic resulting from additional traffic volumes on the network during the during the construction of the OGC and OCC.

### 29.5.5.4 Operation and Maintenance Phase Impacts

There will be no potential effects on traffic during the operation and maintenance phase of the Onshore Site, as all required works will be completed during the construction phase unless required for maintenance works at the OCC or in the event of a fault occurring along the OGC route. It is expected that this will be infrequent. During occasions where maintenance is required, a short-term road closure may be required at the location of the fault. During such times it is considered that the effects on the local road network will be negative, temporary and slight, and Not Significant. On completion of the OGC, the road corridors in which the works are to be undertaken will be fully reinstated, leaving no visible above-ground evidence of the proposed works that have the potential to give rise to any operation and maintenance phase effects. The details of the reinstatement plan for the public road corridor will be agreed with Clare County Council prior to any works taking place.

### 29.5.5.5 Decommissioning Phase

Activities associated with the decommissioning phase are provided in Appendix 5-18: Rehabilitation Schedule of the EIAR. The removal of the cable from the cable ducting on the OGC connecting the Offshore Site from the TJB at the OLL to the OCC, and then from the OCC to Moneypoint, at the end of the useful life of the Offshore Array Area will result in traffic generation and the requirement for road closures and diversions similar to, but less than those associated with the cable installation phase. The impacts and associated effects will be materially less than during the cable installation works for this section of the OGC. Similarly, the removal of all OCC buildings and electrical infrastructure above ground level will generate less traffic than is estimated during the construction phase.

While the actual number of loads that will require to be removed for the removal of these cables and the OCC has not been determined at this stage, the impact in terms of traffic volumes and duration of the traffic diversions will be significantly less than during the construction stage. Further information on decommissioning can be found in the Rehabilitation Schedule (included as Appendix 5-18 of this EIAR).

## 29.6 Cumulative Effects

A detailed list of all developments at varying stages in the development process (from pre-planning to operational), is set out in Appendix 4-1 and Appendix 4-2 of this EIAR. The potential cumulative traffic effects with the Onshore Site are assessed based on the following criteria:

- Project status (pre-planning to operational);
- Degree of overlap with the Onshore Site delivery highway network (low to high); and,
- Traffic volumes (low to high).

Projects included in the cumulative assessment were considered in the following categories:

- Developments within 500m of Onshore Site; and,
- Large infrastructural developments such as wind farms, energy and public transport developments within a 50km buffer from Onshore Site.

### 29.6.1 Projects within 500m of the Onshore Grid Connection

The list of projects included within these criteria is set out in Appendix 4-2 of the EIAR, complied by MKO. There are a total of 23 developments within Clare County Council's planning system and a further 3 being considered by An Board Pleanála. A review of the developments within the Clare County Councils planning system indicated that all are relatively small in scale and therefore, based on the volume of traffic likely to be generated by each development, would indicate that there will a low potential for cumulative traffic related impacts to occur with the Onshore Site.

Of the 3 developments within the 500m buffer being considered by An Bord Pleanála (ABP), one proposed project involving the conversion of an existing 900MW electrical generating station from coal to oil and associated development works is identified as having a medium potential level for traffic related cumulative impacts with the Onshore Site, as shown in Table 29-26. It is therefore proposed that the construction phase of the OGC on the N67 adjacent to the Moneypoint 220kV Substation be scheduled, where possible, to avoid the construction phase of the proposed conversion of the 900MW electricity station, in order to ensure that the potential for cumulative effects is minimised. In the event that they are both constructed concurrently it is considered that that the cumulative traffic impacts will be Negative, Temporary, and Slight in terms of severity, and Not Significant. It is concluded there will be no significant cumulative effects.

*Table 29-26 Summary of developments within 500m of Onshore Grid connection considered in cumulative assessment and potential for cumulative traffic effects with Onshore Site*

| Project | Status | Degree of overlap of highway network (low / medium / high) | Traffic volumes (low / medium / high) | Potential cumulative traffic effects |
|---|---|---|---|---|
| 1 – Proposed transition and conversion of the existing 900MW electricity generating station from coal to heavy fuel oil and associated ancillary development at Moneypoint Generating Station, | Proposed | High | Medium | Medium |

| Project | Status | Degree of overlap of highway network (low / medium / high) | Traffic volumes (low / medium / high) | Potential cumulative traffic effects |
|---|---|---|---|---|
| Moneypoint, Co. Clare. ABP Reference 319080 | | | | |

## 29.6.2 Large Infrastructural Development within 50km buffer

Similarly, a planning search was undertaken by MKO for all large infrastructural developments, including wind farms, within 50km of the Onshore Site, with the list of 9 no. wind farms set out in Table 29-27 and shown by location in Figure 11-2.

Based on the above assessment it is considered that the potential for cumulative impacts between the Onshore Site is high, with 3 wind farm developments as follows:

- Ballykett Wind Farm (4 no. turbines) – This proposed wind farm development is under appeal and is located within 2km of the OGC with both developments sharing the delivery route of the N68 Ennis to Kilrush Road.
- Crossmore Wind Farm (7 no. turbines) – This permitted wind farm development is located further from the Onshore Site, approximately 13kms to the east, but will also use the N68 as the main TDR and delivery route during the construction period.
- Moanmore Wind Turbine (1 no. turbine) – The proposed turbine is located between the N67 and the L-2034, approximately 1km from the latter, which forms part of the OGC route. While traffic levels that will be generated during the construction of the single turbine development will be relatively low, the very close proximity to the Onshore Site will result in a high potential for cumulative impacts between the 2 developments.

Similarly, is therefore proposed that the construction phase of the OGC section be scheduled, where possible, to avoid the construction phase of the 3 wind farm developments discussed above, in order to ensure that the potential for cumulative effects is minimised. In the event that the Onshore Site is constructed concurrently with either or all of the 3 wind farm developments it is considered that that the cumulative traffic impacts will be Negative, Temporary, and Slight in terms of severity, and Not Significant. It is concluded there will be no significant cumulative effects.

*Table 29-27 Summary of other wind farms within 50 km considered in cumulative assessment and potential for cumulative traffic effects with Onshore Site*

| Project | Status | Degree of overlap of highway network (low / medium / high) | Traffic volumes (low / medium / high) | Potential cumulative traffic effects |
|---|---|---|---|---|
| 1 – Ballykett Wind Farm (4 turbines) | Under appeal | High | Medium | High |

| Project | Status | Degree of overlap of highway network (low / medium / high) | Traffic volumes (low / medium / high) | Potential cumulative traffic effects |
|---|---|---|---|---|
| 2 – Cahermurphy Wind Farm (1 turbine) | Permitted | Medium | Low | Low |
| 3 – Cahermurphy II Wind Farm (10 turbines) | Under appeal | Medium | Medium | Medium |
| 4 – Coor West Wind Farm (6 turbines) | Proposed | Low | Medium | Low |
| 5 - Crossmore Wind Farm (7 turbines) | Permitted | High | Medium | High |
| 6 – Moanmore Wind Turbine (1 turbine) | Proposed | High | Low | High |
| 7 – Shronowen Wind Farm (12 turbines) | Permitted | Low | Medium | Low |
| 8 – Trippol Wind Turbine (1 turbines) | Proposed | Low | Low | Low |
| 9 – Slieveacurry Wind Farm (8 turbines) | Permitted | Low | Medium | Low |

As determined above, the effects during the construction, operation and maintenance, or decommissioning phases of the Onshore Site will be Not Significant. Therefore, no significant cumulative effects with other permitted or proposed projects are foreseen.

## 29.7 Conclusion

Overall, it is concluded that there will be no significant effects arising from the Onshore Site on Traffic and Transportation during the construction, operational and maintenance, or decommissioning phases, whether alone or cumulatively with other permitted or proposed plans or projects.