Chapter No.	EIAR Chapter	Assessment Report	Author
13	Traffic and Transport	Road Safety Audit Report	PMCE Limited 17 Greenmount House, Greenmount Business Park, Harold's Cross Road, Dublin 6W, D6W VX78 Mr Alan O'Reilly Associate, Chartered Engineer, BA, BAI, MSc, RSA Cert Comp, MIEI

2 DESCRIPTION OF DEVELOPMENT CHANGES AND ALTERNATIVES

For the purposes of this EIAR Addendum, the term *"proposed development (as amended)"* by this EIAR Addendum refers to the Development as assessed in the July 2024 EIAR, together with (i) an Alternative Construction Access Road and associated temporary works, and (ii) the Revised Planning Application Boundary to incorporate these amendments.

This EIAR Addendum assesses the proposed development (as amended) where relevant changes or updates have been identified in responding to the FI request. Where updates are interrelated, the relevant assessments have been revised and updated in full. All other elements of the original proposed development remain as assessed in the July 2024 EIAR unless otherwise stated, and where topic-specific additional detail is required, it is provided within the corresponding chapter, without altering the nature of the proposed development (as amended) as set out herein.

This EIAR Addendum should be read in conjunction with the July 2024 EIAR that accompanied, and was originally lodged with, the relevant planning applications. It is not intended that this EIAR Addendum replaces the July 2024 EIAR; rather, it identifies and assesses any material changes to baseline conditions, impact assessment and conclusions presented in the July 2024 EIAR.

2.1 CIVIL AND STRUCTURAL WORKS (ADDITIONAL INFORMATION)

The following information is provided to clarify the structural requirements for the proposed development (to support Section 2.5.1.2 of the July 2024 EIAR). The infrastructure proposed requiring foundations may be categorised as follows:

1. Buildings
2. Electrical Equipment Compounds
3. Long Duration Energy Storage (LDES) Compound

4. Above Ground Gas Installation (AGI) Compound
5. Concrete Bunds

All foundation systems have been developed in accordance with the requirements of Building Regulations Part A (Structure), IS EN 1997-1 (Eurocode 7): Geotechnical Design, and relevant Irish National Annexes, and informed by the GII Ground Investigation Report (December 2024).

2.1.1 BUILDINGS

A number of buildings are proposed across the development. The structural forms and associated foundation solutions generally adopt one of the following systems:

- Loadbearing masonry construction supported on reinforced concrete strip foundations, and
- Steel portal frame construction supported on reinforced concrete pad foundations.

2.1.1.1 Loadbearing Masonry Buildings

The Fire Water Pump House, Fuel Polishing Unit, Security Cabin and IPP Building are constructed using loadbearing solid concrete blockwork walls supported on traditional reinforced concrete strip foundations extending around the full perimeter of each building. Typical strip foundations are approximately 1200mm wide × 300mm thick, subject to confirmation at detailed design stage. Strip foundations are considered appropriate for these structures due to the relatively modest applied loads and the verified ground conditions, where an allowable bearing capacity in excess of 150kN/m² has been demonstrated in the GII Ground Investigation Report (December 2024). Further details are provided on, but not limited to, drawing CPA-HAL-SB-XX-DR-PL-3210.

2.1.1.2 Steel Portal Frame Buildings

Larger buildings, including the 400 kV GIS Building, OCGT Building, Workshop / Storage Unit and SynCon Building, will be formed using steel portal frame structures supported on reinforced concrete pad foundations. Concrete pad foundations vary in plan dimensions and thickness depending on loading and verified ground bearing capacity. Typical preliminary pad sizes for industrial buildings are in the order of 1.8m × 1.8m × 0.6m, with final dimensions confirmed at detailed design stage following completion of structural analysis and geotechnical verification. Except for the OCGT building, perimeter solid block masonry walls are also provided to the building envelopes and are supported on reinforced concrete strip foundations as described above. Further details are provided on, but not limited to, drawing CPA-HAL-SB-XX-DR-PL-3220.

2.1.2 ELECTRICAL EQUIPMENT COMPOUNDS

Three electrical equipment compounds are proposed within the development, namely the 400kV AIS Compound, SynCon Compound and LDES Compound. Within each compound, electrical equipment is supported on reinforced concrete pad foundations designed to provide adequate resistance to dead, imposed and dynamic actions, including wind loading and electrical operational forces. Typical foundation dimensions for such equipment are in the order of 14m × 1.5m × 0.5m, depending on equipment size and configuration. Deep excavations are generally not required due to the relatively low applied bearing pressures and the practice of constructing the pads such that the top of concrete is at or slightly above finished ground level. Further details are provided on, but not limited to, drawing CPA-HAL-OC-XX-DR-PL-1110.

2.1.3 AGI COMPOUND

The AGI Compound comprises several proprietary lightweight kiosks supported on precast concrete pad foundations. The number, layout and dimensions of the pads are dependent on the specific kiosk type and supplier requirements. Due to the relatively low applied loads, deep excavations are generally not required. External gas equipment, such as the heat exchangers, is supported on reinforced concrete flat slabs constructed at or marginally above finished ground level. Slab plan dimensions are governed by the equipment footprint, while slab thicknesses will generally not exceed 150 mm, subject to detailed structural verification. Further details are provided on, but not limited to, drawing CPA-HAL-OC-XX-DR-PL-1810.

2.1.4 LONG DURATION ENERGY STORAGE (LDES) COMPOUND

The LDES Compound comprises 168 No. battery containers and 56 No. Medium Voltage Power Stations (MVPS). Both the battery container units and MVPS units are supported on precast concrete pad foundations, with the top of concrete typically set approximately 400mm above finished ground level. Each battery container is typically supported on five concrete pads, while each MVPS unit is supported on three concrete pads, subject to the specific equipment model and manufacturer's requirements. Further details are provided on, but not limited to, drawing CPA-HAL-SB-XX-DR-PL-3201.

2.1.5 CONCRETE BUNDS

Each of the electrical equipment compounds contains electrical transformers housed within reinforced concrete bund structures, designed to:

- Support the self-weight and operational loads of the transformer, and

- Provide secondary containment in the event of an oil spill.

Bund structures are sized to suit the transformer footprint and oil retention volume, with typical dimensions in the order of 20m × 10m × 1.5m deep. Bunds are generally constructed below finished ground level to facilitate level access to the transformer units. Further details are provided on, but not limited to, drawing CPA-HAL-OC-XX-DR-PL-1110.

Fuel storage tanks are similarly contained within a reinforced concrete bund, designed to support the tank loads, and provide spill containment. These bunds generally do not require deep excavations, with the finished slab level typically constructed approximately level with adjacent finished ground. Further details are provided on, but not limited to, drawing CPA-HAL-OC-XX-DR-PL-1300.

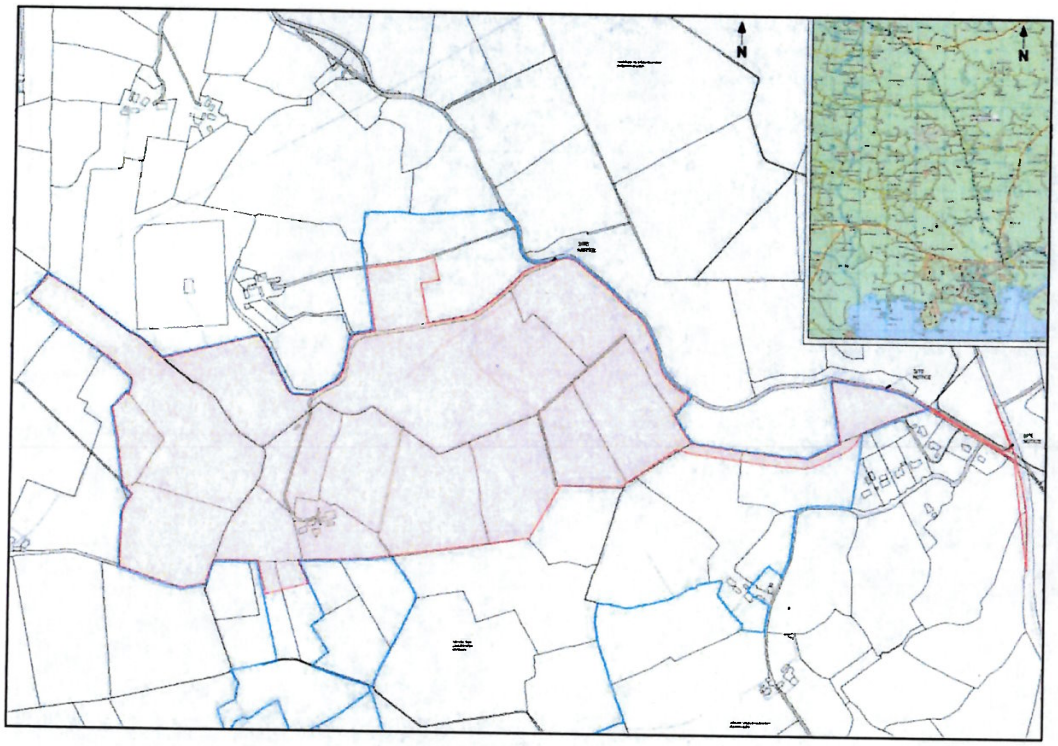
2.2 OVERVIEW OF PROPOSED DEVELOPMENT AS AMENDED

An alternative purpose-designed construction access road is proposed to connect the national road (N65) to the main works area of the development lands. The objective of the proposed alternative access is to reduce construction-stage effects (including traffic interaction with local roads, construction disturbance at sensitive receptors, and construction safety risks) by providing a direct, controlled route to the works area for HGV deliveries, abnormal loads (where required), and site traffic.

The access arrangements as originally proposed remains a reasonable and viable access option, notwithstanding the withdrawal of letters of consent[2] relating to the cutting /pushing back of the hedgerow to facilitate sightlines as per TII guidelines.

[2] Landowners west of, and immediately north and south of the junction of, the N65 with the L8763.

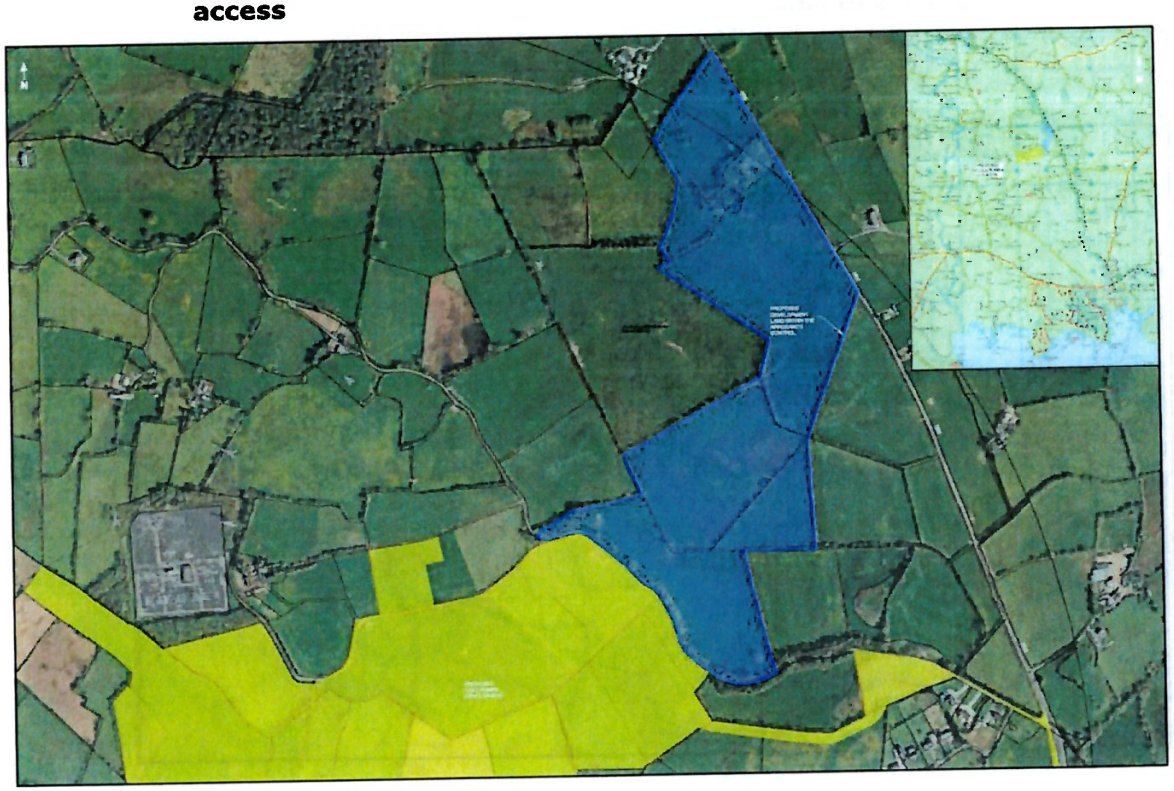
Figure 2.1 Drawing showing development lands and original proposed site access to N65



However, since lodgement and following consideration of third-party submissions, the applicant has carefully evaluated options to provide for an alternative construction access that avoids and reduces potential impacts and further enhance the overall development.

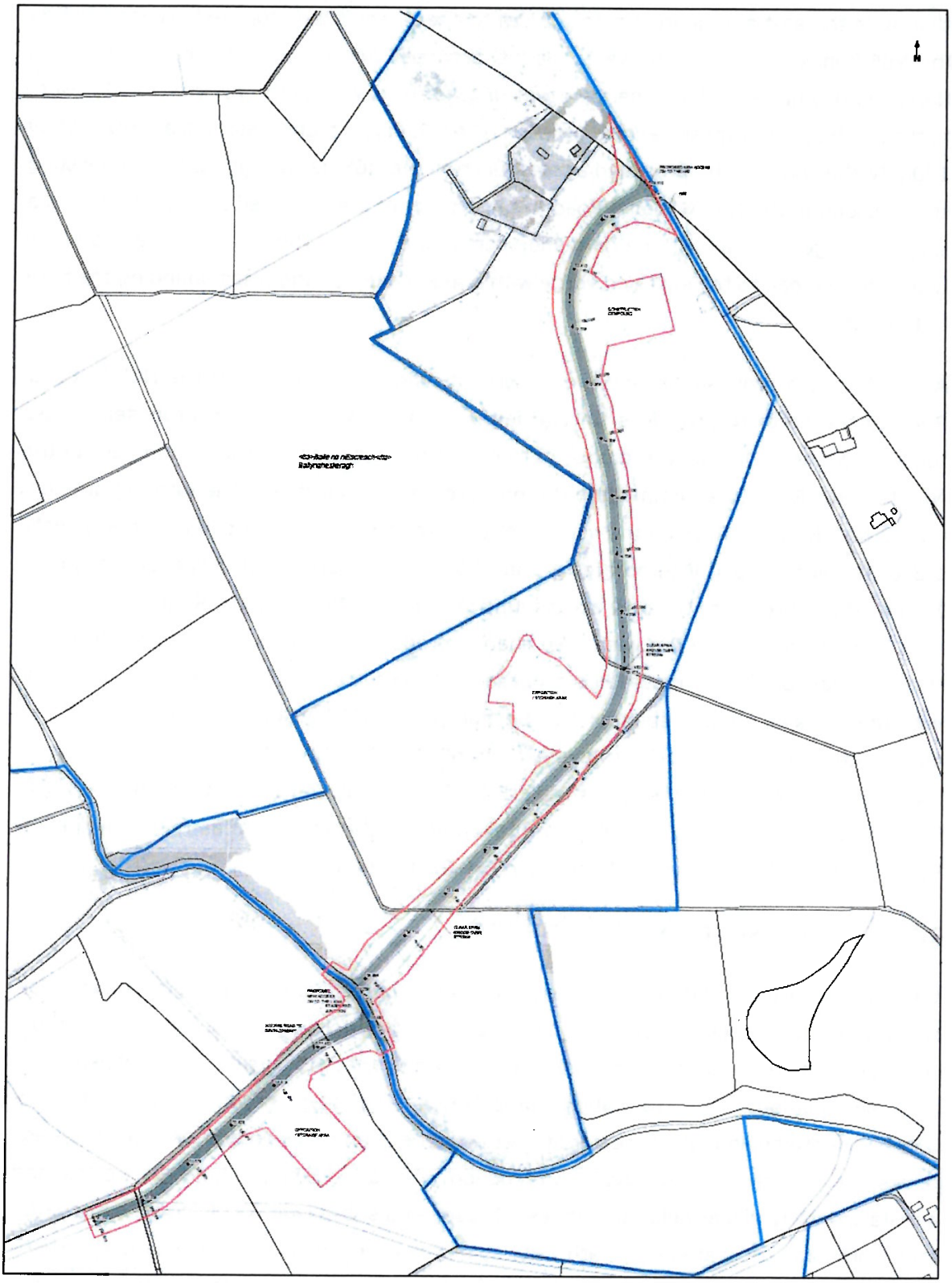
The applicant has now within their control lands which provides an alternative site access independent of third-party consent requirements to ensure sightlines can be provided to the site (see Figure 2.2).

Figure 2.2 Additional lands (shaded in blue) to provide for new con struction access



The proposed access comprises approximately 810m of new carriageway with a nominal 7.0m running width on the northeastern side of the original development lands. The proposed alternative construction access road will provide vehicular access to the main development site (south of the L8763 public road). It will route from a new junction along the N65 and traverse three undulating grassed fields. The access route will then cross the L8763 by staggered junction and extend from here (a further c. 250m) into the main development works area. The proposed alternative construction access road will tie into the originally proposed site access road, which will serve the site during operation (i.e. that which was originally applied for) – see Figure 2.3. The original proposed access route south of the L8763 will be constructed towards the completion of the overall development; extending east from the main works area The development lands incorporate areas for placement of an associated construction compound and two soil deposition /storage areas.

Figure 2.3 Layout drawing showing proposed route of alternative temporary construction access from N65



The proposed new access junction at the N65 is located on a straight sectionof the National Road. Approximately 380m to the north of the proposed access junction the N65 bends slightly to the east and approximately 270m to the south of the proposed access junction the N65 bends slightly to the west. At the proposed access junction location, the N65 National Road has a relatively gentle downhill gradient to the south. Approximately 130m to the north of the proposed access junction, the N65 has a slight crest and approximately 120m to the south of the proposed access junction the N65 has a slight sag. The existing cross section of the N65 National Road in the vicinity of the proposed access junction is a single carriageway road with no hard shoulders of 5.8-6.0m. There is a maintained verge bounding the road to the east and verge with a mix of bushes and trees bounding the road to the west.

At the N65, the proposal will involve minor widening (300-350mm) of the N65 National Road to the north to provide a 6m carriageway in the vicinity of the proposed access junction. No amendments are proposed to be carried out to the vertical alignment of the N65 National Road to accommodate the proposed access junction. The existing gradient on the N65 National Road in the vicinity of the proposed access junction is approximate 1.3%. The access road incorporates a 1 in 200 (0.5%) approach gradient for more than 15m on the approach to the new access junction with the N65 National Road. The access road is proposed to be 7.0m wide. No change proposed to the existing cross fall on the N65 National Road. 2.5% cross fall is proposed to be provided on the access road complaint with the crossfall recommendations of Section 3.1 of TII Publication DN-GEO-03031 to assist with drainage. Visibility splays extents of 215m are provided in both directions as recommended in Section 5.6.2.2 & Table 5.5 of TII Publication DN-GEO-03060 for a 100 km/h design speed. Visibility splays are taken at a setback of 3.0m as recommended in Section 5.6.2.2 & Table 5.4 TII Publication DN-GEO-03060.

2.2.1 CONSTRUCTION METHODOLOGY

Construction will be undertaken under a Construction Environmental Management Plan (CEMP) and will generally comprise: (i) setting out and fencing of the working corridor; (ii) establishment of site environmental controls and traffic management; (iii) topsoil strip and segregation; (iv) formation preparation including proof-rolling and local improvement/capping where required; (v) placement and compaction of sub-base/base layers; (vi) surfacing; and (vii) construction of road drainage, junction tie-ins and reinstatement works at field boundaries. Topsoil and subsoil will be stripped, segregated and stored for reinstatement, with haul road construction using engineered fill where required to achieve formation levels across undulating ground. The proposed access road pavement construction is detailed below:

- Surface/Wearing Course - 25mm compacted dense bitumen macadam wearing course (10mm nominal size aggregate) to BS4987 & Table 9/3 of the DOE Specification
- Binder Course - 40mm thickness (compacted) dense bitumen macadam basecourse (20mm nominal size aggregate) to BS4987 & Table 9/1 of the DOE Specification
- Road Base - single course 150 mm thickness (compacted) dense bitumen macadam basecourse
- Sub-Base – 150mm thickness (compacted) granular material type b
- Capping Layer – If required

Construction plant movements will be confined to the access corridor and defined working areas. Where poor ground conditions are encountered, the formation will be improved using a capping layer and/or geosynthetics, subject to geotechnical verification, to maintain stability and avoid excessive excavation and off-site disposal.

2.2.2 WATERCOURSE CROSSING

The access alignment requires the crossing of two water features (watercourses/drainage ditches). In keeping with good practice and similar to proposed crossing within the main works area (south of the L8763), the design seeks to avoid or minimise culverting and maintain natural conveyance and ecological function by clear spanning these. A clear-span structure carries the road over the watercourse channel with supports set back from the banks, avoiding placement of a structure within the wetted channel. This materially reduced the extent of in-channel excavation works compared with culverting. The benefits of clear span structures allows:

- existing drainage channel profile and gradients to be maintained, and
- minimises direct disturbance to channel bed /banks

A clear-span structure will be constructed using a precast concrete deck supported on gabion abutments, such that the deck spans between abutments and no structural elements are placed within the wetted channel. The crossing will comprise stone-filled gabion baskets (to the Engineer's detailed design) forming stable abutments set back from the channel edge and founded on a cast in-situ reinforced concrete base/strip foundation. The concrete base will distribute loads to the underlying ground, provide a level bearing surface for the abutment seats, and incorporate local scour/erosion protection detailing as required. Precast concrete deck units will then be installed onto prepared bearing seats on the gabion abutments to achieve the required clear span over the watercourse, with parapet/edge protection (as required) and approach slabs or tie-ins to ensure a smooth transition between the access road and the deck.

Following installation, the approaches will be completed using compacted engineered fill and pavement layers, and surface water from the crossing and approaches will be directed to appropriate roadside drainage and treatment measures (e.g., cut-off drains and settlement controls), preventing direct discharge to the watercourse. On completion, disturbed banks will be reinstated and stabilised (e.g., with topsoil replacement and seeding/planting), maintaining the pre-existing channel alignment and bed continuity beneath the clear-span deck

2.2.3 CONSTRUCTION COMPOUND AND SOIL DEPOSITION AREAS

The lands through which the temporary construction access will incorporate: (i) an associated construction compound (for welfare, laydown, parking, and materials handling), and (ii) two soil deposition/storage areas. These areas will be surfaced/managed to prevent tracking of mud onto public roads and to control runoff. Soil storage will be segregated by type (topsoil/subsoil), placed in stable stockpiles, and protected to prevent erosion and sediment release. Stockpile locations will be set to avoid encroachment on drainage lines and to maintain access for inspection and maintenance.

It is proposed that the alternative construction access road will operate as the primary construction-stage vehicular route to the main development lands (south of the L8763), facilitating delivery of construction materials and plant and providing controlled access for site staff. It is anticipated that, on an average construction day, approximately 32 HGV movements (trucks) will access the site to deliver materials, distributed across the working day to avoid peak-time clustering. Access at the N65 will be managed in accordance with agreed traffic management arrangements (including signage, visibility requirements and any temporary measures), and HGV routing will be controlled to minimise interaction with local roads. The proposed construction programme for the overall development is estimated at 28 months, with the timing of commencement subject to planning, detailed design, procurement, and ecological constraints. Vegetation clearance and soil stripping would be seasonally constrained where necessary to avoid significant ecological effects (e.g., nesting bird season restrictions, subject to ecological supervision.

2.2.4 ROAD DRAINAGE

Surface water from the proposed alternative construction access road will be managed using continuous roadside filter drains installed on both sides of the carriageway for the operational period of the temporary access. Based on the drainage assessment, the filter drains will comprise a minimum 500mm deep × 600mm wide trench within a 2.0m wide verge, incorporating a 150mm diameter perforated carrier pipe laid to a minimum longitudinal fall of 1:500. The pipe invert will be set at a minimum depth of 500 mm below

finished ground level, with the pipe bedded and surrounded in Type B coarse (or lightweight) aggregate to provide storage and conveyance. A geotextile wrap will enclose the aggregate to prevent migration of fines and maintain long-term permeability. The upper portion of the filter drain will comprise a Type A fine aggregate surface layer to provide a stable verge finish and facilitate infiltration while maintaining trafficability adjacent to the carriageway.

Runoff will be collected via the road crossfall into the verges and will enter the filter drains by infiltration and percolation through the aggregate media, providing attenuation and treatment prior to infiltration to ground, thereby avoiding uncontrolled discharge and reducing the potential for sediment-laden runoff leaving the access corridor. The drainage design calculations are based on 1% Annual Exceedance Probability (AEP) rainfall data obtained from Met Éireann, with an adopted conservative soil infiltration rate of 2.0×10^{-5}m/s (noting that higher infiltration rates of 4.4×10^{-5}m/s and 8.9×10^{-5}m/s were recorded for the original planning applications). The required storage volumes to accommodate runoff within the filter drain system have been calculated accordingly, and the final storage requirements have been increased by 20% to account for climate change allowance.

The filter drain system will be installed early in the enabling works such that it functions throughout the construction phase. The system will incorporate appropriate access/maintenance provisions (e.g., rodding points and/or inspection chambers at low points and/or defined intervals, as set out in the detailed design) and will be subject to routine inspection and maintenance during construction, including removal of silt at inlets/verges and repair/replacement of any geotextile/aggregate where fouling is identified. This provides a robust, linear drainage solution that limits off-site runoff pathways, supports water-quality protection measures and aligns with the temporary nature of the construction access.

2.2.5 UNAUTHORISED ACCESS

To ensure that the temporary construction access functions solely as a private construction access (and does not attract public traffic through the new N65 junction or the staggered junction on the L8763), a layered package of physical, operational and signage controls will be implemented for the full period the access is in place.

- Physical access control (primary control)
  - Lockable vehicle gates installed on the at public-road interfaces and complimented with barrier.
- Controlled entry procedures (operational control)
  - Manned access control during periods when gates are open.

    - Clear site rules displayed at access points.
- Signage and road user messaging (to reduce "attractiveness")
    - Install compliant traffic signs at both junctions indicating restriction of access
    - Construction Traffic Only / Site Access Only / No Public Access
- Junction and layout measures to discourage public entry
    - Entrance functional for HGVs and oversized radii/flare avoided
- Integration with Temporary Traffic Management
    - All junction signing, barriers, and any temporary road markings will be consistent with national/TII roadworks and traffic management requirements for works affecting national roads and local roads

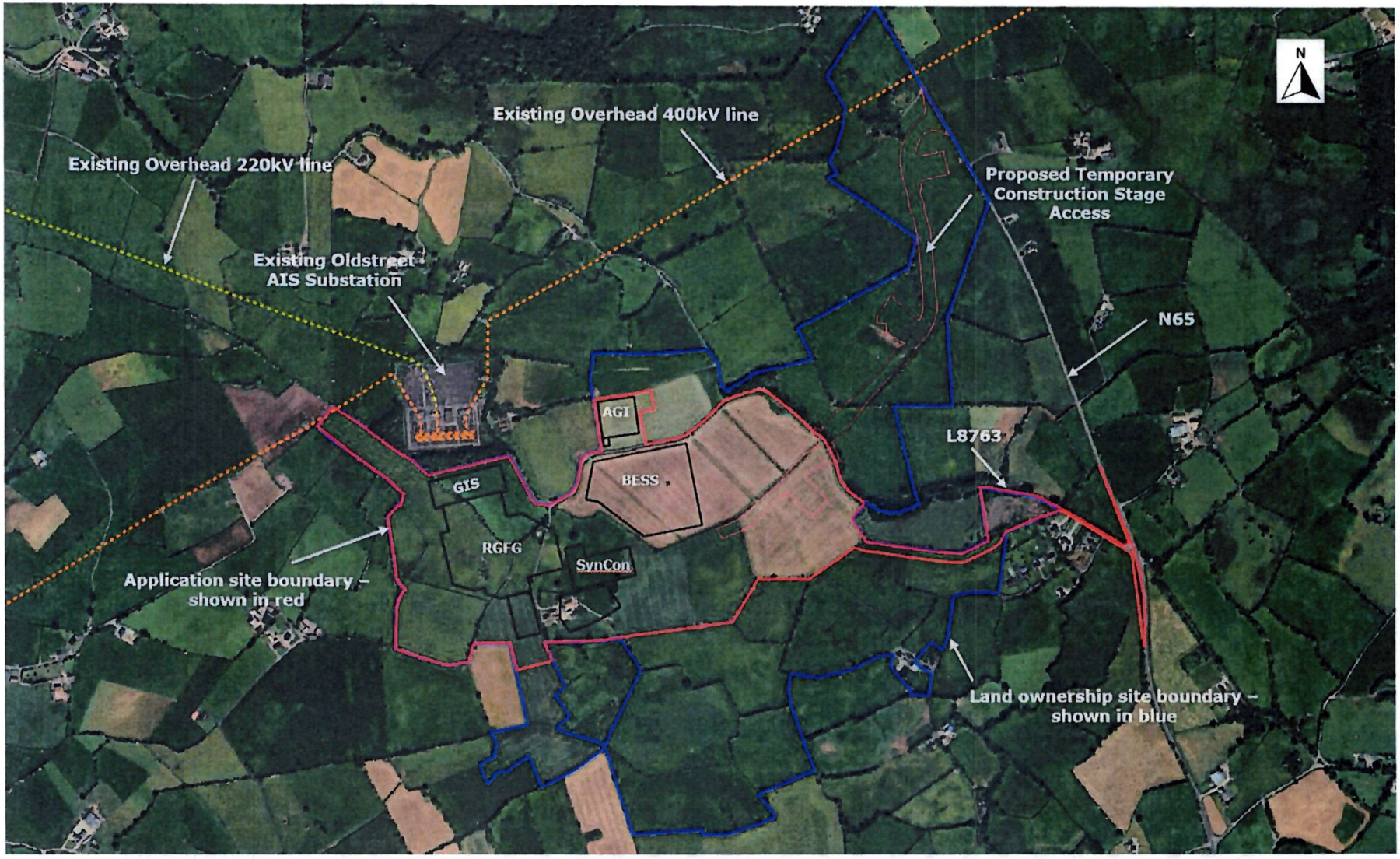
These measures will prevent the alternative construction access road becoming an unintended public shortcut, thereby avoiding additional non-project traffic through the new junctions and reducing collision risk with construction plant/HGVs and avoiding junction capacity issues arising from unplanned public use.

2.2.6 DECOMMISSIONING AND REINSTATEMENT

Following completion and commissioning of the overall development (within the main works area of the site which includes each of the project compounds), it is proposed that the temporary construction stage access road will be decommissioned and reinstated[3]. Decommissioning would typically include removal of surfacing and granular layers (as appropriate), removal of temporary drainage features not required for the operational phase, reinstatement of pre-existing field drainage (where affected), replacement of stored subsoil/topsoil, and reinstatement of agricultural land through cultivation and reseeding. Any culvert installations not required long-term would be removed where practicable, with channels reinstated to stable profiles and protected against erosion.

[3] Unless otherwise authorised by condition of any grant of permission, the temporary construction access road will be fully decommissioned and reinstated. Any authorised retention (in whole or in part) would be limited to that which is demonstrated to provide operational benefit and to be consistent with the permitted development and the environmental assessment herein.

Figure 2.4 Drawing showing aerial view



3 NEED FOR DEVELOPMENT AND ALTERNATIVES

3.1 BACKGROUND

Coolpowra Flexgen Limited submitted and lodged three planning applications on 04 July 2024 for development on lands located in the townlands of Coolpowra, Cooldorragha, Ballynaheskeragh, Gortlusky and Sheeaunrush, County Galway.

The proposed Reserve Gas-Fired Generator and ESS facilities are transformative for Ireland's energy system. Ireland's decarbonisation pathway is premised on rapid electrification of heat, transport and industry alongside large-scale deployment of renewable electricity particularly wind and solar. In the All-island Resource Adequacy Assessment 2025–2034[4] EirGrid show the projected proportion of demand for each sector for 2025 and 2034 and takes into account the Government's Climate Action Plan targets. Over the next ten years, demand is forecasted to grow considerably. In the median scenario, electricity demand is forecasted to increase 45% by 2034 from 2023 levels with growth coming from new technology loads , data centres and the electrification of heat and transport.

In this context, electricity system adequacy and operability become enabling conditions for delivering national climate, energy security and socio-economic objectives. While further significant renewable energy growth is the primary objective, additional firm dispatchable "transitional"[5] generation and energy storage, such as that proposed, are essential to bridge variability and support renewable generation intermittency. Together these resources provide the adequacy and operational resilience required to keep the electricity system reliable as demand grows and electrification accelerates. Without such reliable capacity, the system remains exposed to brown-outs and black-outs.

At European level, the EU Green Deal (EGD) promotes investment in energy infrastructure that enables the transition to a climate-neutral economy by 2050. Under the EU Taxonomy Regulation, gas-fired generation is classified as a transitional activity[6] where it replaces more carbon-intensive sources, complies with lifecycle emissions thresholds, and is

[4] EirGrid and SONI (2025) *All-Island Resource Adequacy Assessment 2025–2034.* Dublin and Belfast: EirGrid and SONI.

[5] Article 10(2) of Regulation (EU) 2020/852 defines "transitional" activities. A transitional activity is an economic activity for which no technologically and economically feasible low-carbon alternative exists and which supports the transition to a climate-neutral economy on a 1.5°C pathway by cutting GHG emissions. It qualifies only if it:

- has GHG performance at the best level in its sector/industry;
- does not hamper the development/deployment of low-carbon alternatives; and
- does not lock in carbon-intensive assets over their economic lifetime

[6] European Parliamentary Research Service: EU taxonomy: Delegated acts on climate, and nuclear and gas

capable of operating on renewable or low-carbon gases. It should also be noted that the Coolpowra development has the ability to replace older and more carbon-intensive generation units[7] like the diesel fuelled temporary emergency generator (TEG) units and to operate on renewable gas in the future, ensuring clear alignment with both national policy targets and EU climate frameworks.

Ireland's Climate Action Plan 2025[6], states that we must deliver at least 2GW of new flexible gas-fired generation capacity by 2030 to facilitate the integration of renewables. Both generation capacity and energy storage are also identified as core components in meeting future reliability outcomes in the International Energy Agency (IEA) Report *"Powering Ireland's Energy Future"* which was published in December 2025[8]. The IEA report references the additional 2GW dispatchable capacity required by 2030 and concludes that Ireland's future system adequacy depends on the timely delivery of a portfolio of resources including dispatchable generation, storage, interconnection and flexibility. The report highlights that both short duration and long-duration energy storage (LDES) are system critical in high renewable energy futures providing flexibility and balancing services. IEA modelling calculates that by 2035, that energy storage will grow from 1GW today to 6GW by 2035 (an additional 5GW storage required).

The Coolpowra development will provide secure, fast, and flexible capacity to stabilise the grid during demand peaks (typically in the morning and evening), periods of low outputs from renewable energy source and unplanned outages. The development is designed to provide complimentary, quick-response dispatchable capacity and system services to the grid through the 400kV system. The proposed 400kV GIS substation will accommodate the reserve gas fired generator and energy storage connections in addition to other renewable generators in the wider region of the site.

The proposed technologies are not only a compliant transitional solution, but an essential enabler of renewable energy deployment, ensuring that decarbonisation can proceed without compromising security of supply. The Coolpowra development will support National Development Plan (NDP) major infrastructure projects, cater for anticipated economic growth, strengthen national resilience and accelerates the low-carbon transition.

[7] Based on the current portfolio trajectory, by the end of 2034 there will be approximately 1700MW of conventional capacity over 30 years of age across the island, which could be at risk of exiting the market – source: All Ireland Resource Adequacy Assessment 2025-2034.
[8] International Energy Agency (IEA) (2025) *Powering Ireland's Energy Future: Approaches for a secure, renewables-led electricity system to 2035*. France: International Energy Agency

3.2 ALTERNATIVES

3.2.1 INTRODUCTION

The *Consideration of Alternatives* is presented under Section 3.2 of the July 2024 EIAR. In addition to this, and in line with Article 5(1)(d) and Annex IV(2) of the EIA Directive, this section of the EIAR Addendum further describes the reasonable alternatives studied for the temporary construction access. Additional information regarding *"alternative location"* is also presented for the Proposed development as Amended. The section sets out main reasons for selecting the preferred option, including a comparison of environmental effects.

3.2.2 LOCATION – PROPOSED DEVELOPMENT AS AMENDED

EirGrid's network development plans and technical reports consistently describe the 400/220/110 kV grid as the *"backbone of the power system"* and set out the need to make the grid stronger and more flexible to carry the increased renewable electricity.

At the outset of this project, the applicant undertook an analysis of the electricity system which identified the 400kV transmission line as the best opportunity to connect the proposed development and *"best fit"* for providing capacity and system support. The 400kV network provides the highest transfer capacity and lowest losses moving large volumes of power from low carbon and renewable generation areas to major load centres. Connection at a lower voltage (e.g., 220kV/110kV) was considered at a conceptual level but was discounted because it would not provide the same *"system fit"* for the identified need. It was concluded that connecting the development as proposed at lower voltage (than the 400kV network) would necessitate additional transformation, interface infrastructure and potentially wider network works to achieve the same outcome. Furthermore, the applicant's own analysis identified (among other constraints) network upgrade delays and connection constraints to the 220kV network in the Greater Dublin area (GDA). This was subsequently verified in Eirgrid's *"Short Circuit Issues in Dublin – Update for Industry and Developers"*, dated 27 March 2025. In the document Eirgrid state that short-circuit issues in the GDA presents a growing challenge for grid stability and generator integration and recommend *"connecting at 400kV stations which minimises short-circuit contributions and provides greater operational flexibility".*

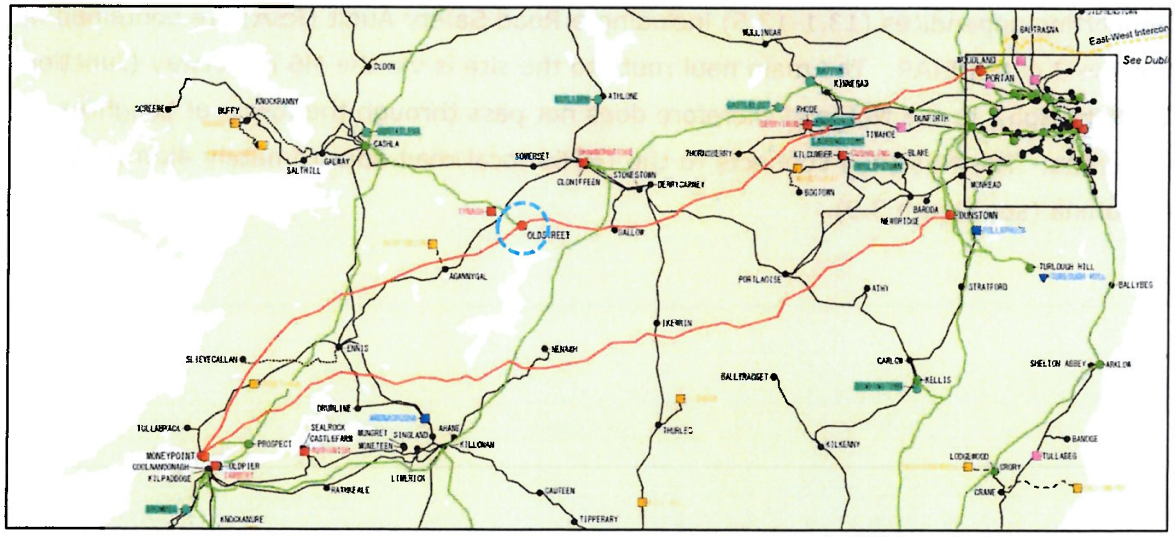
This is a defining *"specific characteristic"* of the project for EIA purposes. It is not simply a land-use choice. Rather it is a choice driven by the need to connect at a 400kV node to deliver the intended grid function. Identifying the 400kV network as the best connection option materially limits the scope for alternative sites because the development requires

an efficient, secure, and technically compliant interface to the 400kV network. Locating the proposed development away from the 400kV system would require substantial additional transmission infrastructure (new HV corridors, extended cable routes, additional switchgear /compound works, and/or additional consenting complexity), which can introduce additional environmental effects. Alternative sites along the 400kV were evaluated at high level at the outset, but due to factors including lack of available lands, lack of suitable lands, inadequate roads and access arrangement, environmental sensitivities, insufficient buffer to residential receivers, and other factors which are outside of the applicant's control, the proposed Coolpowra lands were deemed to be the best option.

This is precisely the scenario contemplated by the 2018 EIA "Guidelines *for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment" and* which was reiterated in the 2022 EPA EIA Guidelines; i.e. where a project is site-specific, alternative sites may not be relevant, and the developer may provide a broad description of the main alternatives and key issues rather than a *"mini-EIA"* for each.

The proposed 400kV GIS substation is a grid-enabling investment which will deliver material national benefit by relieving transmission bottlenecks, enabling higher renewable penetration, and strengthen security of supply at least cost to consumers. The established Oldstreet Node is the only existing intermediate substation along the route of this 400kV line (see Figure 3.1).

Figure 3.1 Eirgrid Transmission System Map (excerpt)



The EIAR findings show a low-sensitivity environmental baseline, and the development is demonstrated as being sufficiently separated from sensitive receptors. Developing the facility at this location avoids and reduces adverse environmental effects following the

mitigation hierarchy of avoid, reduce and, if possible, remedy. It ensures that the above ground development[9] is consolidated and substantially improves cost benefit analysis. Indeed, it should be noted that the local planning authority acknowledges the proposed development is of *national priority* and its strategic location. The local planning authority state that *the principle of the proposed development is generally supported by the policy objectives set out under the Galway County Council Development Plan 2022-2028*[10]. Therefore, siting the development proposal at this location conforms with the principles of proper planning and sustainable development and is compatible with the overarching framework of international, national, regional and local plans and policies as discussed in Chapter 4 of the July 2024 EIAR.

3.2.3 DO NOTHING

In the event of a "do-nothing" scenario, the site (lands north of the L8763) would remain *"as-is"* with the undeveloped nature of the site or its former agricultural use retained. A "do-nothing" scenario would result in the original construction access arrangement which was assessed within the July 2024 EIAR prevailing. Under this option, all proposed construction traffic would access the site using the existing local road network, with no new access points created to the national secondary road (N65). The access as currently proposed remains a reasonable and viable access option, notwithstanding the withdrawal of letters of consent[11] relating to the cutting/pushing back of the hedgerow to facilitate sightlines as per TII guidelines.

Chapter 13 of the July 2024 EIAR contains the traffic and transport assessment. Supporting appendices (13.1-13.5) including a Road Safety Audit (RSA) are contained in Volume 3 of the EIAR. The main haul route to the site is via the M6 motorway (Junction 1 - Kiltullagh), to the N65 and therefore does not pass through the towns of Loughrea or Portumna. The N65 then connects to the L8763 local road approximately 4km north of Portumna (see Figure 3.3).

[9] It is noted that an underground gas transmission line will be extended to serve the proposed development. However, extension of the gas transmission network in the region conforms with development policy as outlined in Chapter 3 of the EIAR

[10] Galway County Council's report to the Commission dated 18 September 2024

[11] Landowners west of, and immediately north and south of the junction of, the N65 with the L8763.

Figure 3.2 Layout map showing access point from public road

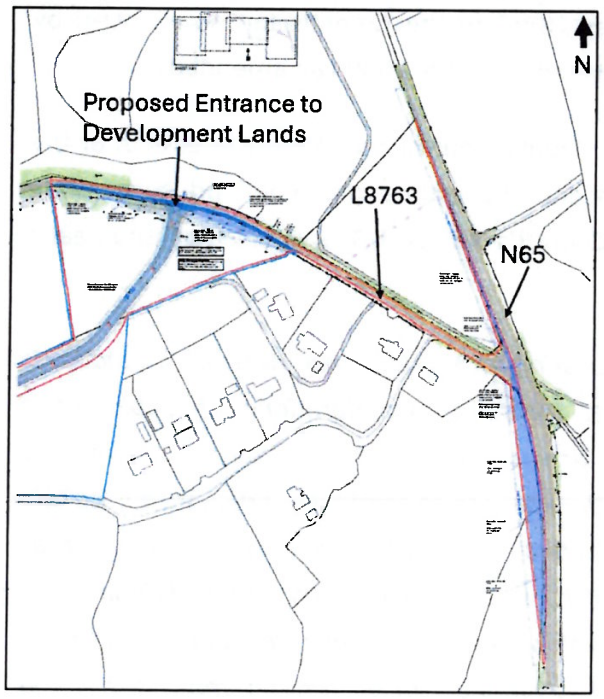
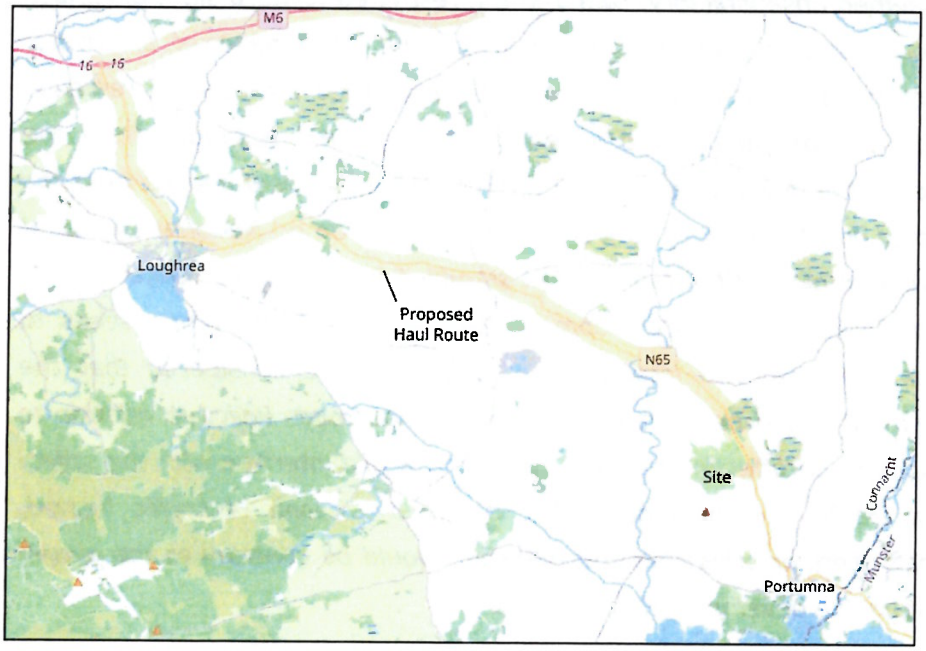


Figure 3.3 Site location map showing proposed haul route



Following a review of submissions related to traffic, road structure and road safety, concerns were expressed relating to conflicts with national roads policy, suitability of the access road, additional turning movements and sight distances at (a) the junction of the L8763 with the N65 and (b) the junction of the L8763 with the proposed entrance to the development lands. Details of the internal report from the Roads and Transportation

Section of Galway County Council dated 05 September 2024[12] contained within Galway County Council's report, dated 18 September 2024, to the Commission as required by Section 37E (4) & (5) of the Planning and Development Act 2000 (as amended).

The report sets out the views of the Galway County Council regarding the effects of the proposed development on the environment and the proper planning and sustainable development of the area. Galway County Council's Roads & Transportation Engineer's states the following:

Having regard to National Policy and the existing local public road network intended to serve the proposed development, whilst including considerations of public road capacity, width and alignment, the surface or structural condition of the pavement, and future maintenance requirements, and in the absence of complete and sufficient details pertaining to the same including relevant third party agreements and consents, that would render the network, or any part of it, unsuitable to carry the additional road traffic. It is considered, the proposed development would endanger public safety by reason of traffic hazard because of the additional traffic turning movements the development would generate at a point where the proposed site entrance on to the road network is also deemed unsatisfactory, owing to the restricted forward sight distances available at the road frontage, precluding the provision, and maintenance of, a safe and satisfactory means of vehicular access. It is further considered the scale of remedial works required to provide public road widening and acquired sightlines from the proposed entrance of the development site onto the L-8763 and as proposed from the N65 Junction, would constitute significant roadside intervention on National and Local routes in contravention of DM Standard 28, DM standard 33a and Policy Objective NR 1, NNR 2 of the Galway County Development Plan 2022 – 2028, which seeks to safeguard national, regional and local roads. It is therefore considered that the proposed development would be at variance with National Roads Policy in relation to control of development on/affecting national roads and would interfere with the safety and free flow of traffic and endanger public safety by reason of traffic hazard, obstruction of road users or otherwise and therefore would be contrary to the proper planning and sustainable development of the area [13]

[12] The Roads Section of Galway County Council provided a report dated 06 September 2024, which set out conditions to be applied should An Bord Pleanála ["the Commission"] decide to grant planning permission, which are reflected in Condition No.'s 19 to 25 inclusive in Section 24 of Galway County Council's report dated 18 September 2024.

[13] Galway County Council also refer to its decision on Planning Ref No. 24/60845 for the BESS application, which was refused planning permission on the basis of traffic safety and associated considerations. The wording presented at Item 1 in the Schedule to the refusal decision (Ref No.24/60845) is noted as being the same.

In terms of the withdrawal of relevant third-party agreements and consents referred to in some submissions, we are advised that the subject application required confirmation of landowner consent at the time of the submission of the application (Ref. Article 22(2)(g) of the Planning and Development Regulations 2001 (as Amended)). This requirement was met and evidenced within the application at that time and the application complies with the requirements of planning legislation.

It remains appropriate for the application to include the current access, as it remains open to the Commission to address any issues regarding maintenance of the hedgerow as per the submitted proposals on the basis that:

(a) The applicant will continue to liaise with the landowner(s) to the north to ensure the maintenance of the sightlines, which provide visibility to all users of this lane.

(b) Maintenance of the sightlines are required irrelevant of the granting or construction of the proposed development as this lane is currently used by numerous residents of the lane itself. The applicant requires visibility on an intermittent basis for the 24 to 30 month construction period, while residents of the lane require this visibility in perpetuity. Therefore, the arrangements that the applicants had been proposing resulted in a long-term positive impact, and while we will continue to strive to deliver this, were this not achievable the potential impact is a temporary (sporadic short-term) adverse impact, and with traffic management would be predicted to be of a minor nature.

(c) In should also be noted that where sightlines cannot be achieved or maintained, it is emphasised that this is an existing access for all residents on the L8763 and as such we wish to note that in the event of a failure to maintain the hedgerow by the current landowner (irrelevant of the proposed development) the Local Authority has the powers to compel that the required maintenance be undertaken.

Significantly and for context it is worth noting that Eirgrid plc was granted planning permission (Galway County Council Ref. 23/60849) to construct *"Series Compensation Equipment"* on a 12.5ha site directly east of the existing Oldstreet substation. ESBN, in its capacity as Transmission Asset Owner (TAO) has commenced construction of this project. The L8763 public road running from the development site beside the existing 400kV AIS substation to its junction with the N65 are being used by those constructing on their behalf. The use of the L8763 by ESBN for their construction traffic was permitted by Galway County Council and establishes a precedent and permissibility in principle for use of the L8763 and junction with the N65 in its current form.

The Road Safety Authority of Ireland advise that Section 70 of the Roads Act 1993 places responsibility for the maintenance of roadside hedges on the owners/occupiers of the adjoining lands. The responsibility for the maintenance of roadside verges rests with the Local Authority. The season for hedge cutting under the Wildlife Acts starts from the 01 September to the 28 February the following year. It is not permitted to cut hedgerows outside of these dates. The only exception to this is if there are grounds to act for road safety reasons. County Councils can and do, either take direct action themselves or serve a notice on the landowner to do something in such instances.

(d) In circumstances where the existing access on to the national road may be considered to represent a traffic hazard (due to the limited sightlines), there is potential for further mitigation to improve road safety in this area by reducing the operating speed to 80/60kph (and the sightline requirement) accordingly, in line with Government objectives. There is clear precedent for this on national roads across Ireland including roads within Galway County Council's jurisdiction.[14]

Traffic calming, additional /amended road signage and road marking arrangements/permanent or temporary changes to the speed limit could also be used to aid improvements to the road network in the area and the applicant can assist in the delivery of such measures by way of condition. The above measures would allow reduced sightline requirements, facilitate the measuring of sightlines to the centre of the road when measured to the south and therefore significantly reduce the extent of hedging to be maintained as part of the development. It should be emphasised that these measures are required by the applicant only for the construction period at managed and pre-arranged times.

As mentioned above, in their report to the Commission as required by Section 37E (4) & (5) of the Planning and Development Act 2000 (As amended), Galway County Council set out conditions which could be applied should the Commission decide to grant planning permission for the subject application. <u>These are detailed in Condition No.'s 19 to 25 inclusive in Section 24 of Galway County Council's report dated 18 September 2024</u>.

3.2.3.1 <u>Road Safety – Pavement Condition</u>

Road structure impact is initially assessed by a simple visual inspection for cracking, deformation and disintegration in the vicinity of the site. If following this visual assessment, (taking account of the types and volumes of traffic likely to be generated

14 https://www.galway.ie/en/media/Road%20Traffic%20%28Special%20Speed%20Limits%29%20Bye-laws%20No.1%20-%202021%28signed%29.pdf

from a proposed development) the structural ability of the road to carry the traffic is in question, tests can be undertaken to determine the structural strength of the carriageway. Current guidance for such testing is detailed in the TII publication, *Pavement Assessment, Repair and Renewal Principles (AM-PAV-06050), published in March 2020.*

We wish to reiterate that full consideration to the public road capacity, width and alignment, the surface and structural condition of the pavement has been given within Chapter 13 of the EIAR and associated appendices (volume 3 of the EIAR). As stated within the EIAR, and in common with virtually all local roads, *"The pavement formation on the L8763 is unknown, and as such construction traffic may result in short term localised degradation to the L8763 carriageway and bordering residential frontage strips".* Under such circumstances, and particularly in relation to the construction of infrastructure related projects where additional heavy traffic is limited in duration, it is normal practice for a local authority to condition inspections of road condition: prior to the commencement of construction; during construction; and, at the completion of construction; with any damage to the local road being made good by the applicant. It is also normal practice for a bond to be requested from the applicant to cover the cost of any additional works to the local road should they need to be undertaken by the local authority.

Accordingly, prior to commencement a machine road condition survey will be undertaken for all surrounding local roads and bridges along haul routes. The exact scope and details of this work will be submitted and agreed with the area engineer and planning authority. A post construction survey will be completed within three months of cessation of the use of each public road /haul route and any remedial measures arising from project construction stage works shall be completed to the satisfaction of the area engineer. The aforementioned financial bond will be used to cover the costs of such works as deemed necessary

3.2.3.2 Road Safety - Traffic Hazard – Additional Turning Movements

Traffic impact is typically assessed in terms of the impact of the traffic generated by a development on the operation of the local road network. A *'material increase'* is considered to have occurred where a development exceeds threshold values including where: traffic to and from the development exceeds 10% of the traffic flow on adjoining local and regional roads; and traffic to and from the development exceeds 10% of turning movements at junctions with and on National Roads. Exceeding these threshold values does not mean that the development results in a significant traffic or environmental impact but does mean that the impact of the development requires further assessment using traffic modelling software.

Road safety impact is typically assessed in terms of the collision record on the local road network in the vicinity of a development. Safety related geometric measurements are also assessed, for example, visibility to and from access points and junctions. In certain circumstances, such as the alterations to visibility splays at the N65/L8763 junction and proposed new access junction onto the L8763 local road, a Road Safety Audit can also be undertaken. Current guidance is detailed in the TII publication *"Road Safety Audit"* (standard) Ref. GE-STY-01024 published in May 2025.

The Halston Environmental and Planning Ltd. design drawing entitled *"Proposed Site Layout"*, reference CPA-HAL-OC-XX-DR-PL-1010D Rev P01, dated 30 May 2024 was fully reviewed by TTRSA Limited (the traffic and transport consultant working on the project on behalf of the applicant) when undertaking the RSA. The Transport Infrastructure Ireland (TII) Standard Construction Details (SCDs) referenced on the drawing are current as per the [www.tiipublications.ie] website.

This drawing shows proposed egress visibility from the site access onto the L8763 local road of 2.4m x 90m and from the L8763 local road on to the N65 of 2.4m x 215m. Whilst not dimensioned on the aforementioned design drawing, the proposed forward visibility to vehicles turning at the junction, referred to in the Galway County Development Plan 2022-2028 DM Standard 28 as an *"entry visibility check"* would be for similar distances. Whilst the RSA is not a design check visibility splays of 90m are normally considered to be adequate for vehicle speeds of up to 60km/h, and of 215m are normally considered to be adequate for vehicle speeds of up to 100km/h, consistent with the design speeds provided within the RSA Audit Brief.

The observed operational *'traffic speed'* on the L8763 was recorded at the time of the RSA site visit (using GPS tracking) as being between 30km/h and 40km/h. The RSA Audit Team fully considered the proposed visibility splays in relation to road user safety in preparing the Stage 1 RSA report issued on 05 June 2024 under TTRSA reference T240315. The Stage 1 RSA report identified seven problems and recommendations in relation to the highway design, all of which were accepted by the scheme Design Team and applicant (scheme client). The aforementioned drawing also indicates that Temporary Traffic Management will be provided on the L8763, *"to be agreed with the Local Authority prior to construction"*.

Both road works (construction and maintenance) and temporary traffic management are covered by a range of primary and secondary legislation, and associated guidance. The design, implementation, operation and removal of the Temporary Traffic Management would need to comply (as far as practicable) with: Chapter 8 of the (2024) Traffic Signs

Manual; the Temporary Traffic Management Design Guidance document; and, the Temporary Traffic Management Operations Guidance (Part 0 and Part 2 – Level 2 Roads Rural Single Carriageway Roads) documents.

3.2.3.3 Conformance with Galway County Development Plan (CDP) 2022-2028 – DM Standard 28, DM Standard 33a and Policy Objective NR1 and NNR2 (which seeks to safeguard national, regional and local roads)

Policy Objective NR1 covers the *"Protection of Strategic Roads"*, specifically protecting the strategic transport function of national roads and associated national road junctions, through the implementation of the *"Spatial Planning and National Roads Guidelines for Planning Authorities"*. In the context of these guidelines, construction traffic related to the proposed development is consistent with the definition of strategic traffic within the guidelines in that it is *"contributing to socio-economic development and the transportation of goods and products"*. The traffic survey undertaken on the N65 as part of preparing Chapter 13 of the EIAR recorded a two-way traffic flow of 3172 vehicles on 28 May 2024, which broadly approximates Annual Average Daily Traffic (AADT) at this location. Existing vehicle turning movements at the N65/L8763/L8760 junction are estimated (based on the traffic survey count data appended to the EIAR) to be approximately 130 per day. As detailed within the EIAR, the operational phase of the LDES development covered by the planning application is not anticipated to generate a measurable number of trips (15-20 operatives over three shifts). The development covered by the planning application does not therefore materially impact on the N65 or L8763 and is not therefore at variance with the National Policy or Policy Objective NR1. This is also of relevance to the TII submission of 09 August 2024 in relation to the planning application.

Policy Objection NNR2 seeks to *"Safeguard Regional and Local Roads"*, specifically related to the carrying capacity and safety of these roads. In relation to a road, the concept of carrying capacity refers to the maximum number of vehicles that a road network can accommodate before it becomes congested and inefficient. The impact of the proposed development on the carrying capacity of the local road network, in this case limited to the L8763 is fully covered within the EIAR Chapter and associated appendices. The proposed development has been shown to not impact on the carrying capacity of the L8763. Details in relation to the safety of the proposed development in relation to the L8763 has been previously covered above in relation to the RSA.

DM Standard 28 covers *"Sight Distances Required for Access onto National, Regional, Local and Private Roads"*. The design proposed as part of the planning application addresses existing substandard sight distances at both the L8763/site access and N65/L8673, and

will bring the sight distances into line with the requirements of DM Standard 28 based on the specified design speeds.

The design of junctions, as submitted by the Applicant, provided for the full implementation of the recommendations of the RSA. The proposals will result in a safer junction for all users. The junction will be subject to a Stage 2 audit prior to construction and a Stage 3 audit on completion of the development.

DM Standard 33(a) covers *"Traffic and Transport Assessment (TTA), Road Safety Audit (RSA) & Road Safety Impact Assessments (RSIA)"*. As outlined above, a TTA and RSA were undertaken in relation to the proposed development. RSIA applies to Major Schemes on national roads as defined in PE-PMG-02041 Project Management Guidelines, which result in a substantial modification to the existing national road network. A major scheme is defined in PE-PAG-02021 as being where the highway scheme has a project value >€20 million. Setting back a fence-line at a junction does not fall within the definition of a major scheme.

The information presented above, along with that contained in Chapter 13 of the EIAR and the associated appendices, demonstrates that the proposed development is not at variance with National Roads Policy in relation to the control of development, and will not interfere with the safety and free flow of traffic.

3.2.3.4 Design Report

In addition to the above, the TII submission of 09 August 2024 in relation to the planning application for the BESS application (Planning Ref No. 24/60845) indicated that TII had *"not received nor approved a design report for the proposed alterations to the National Road Network"*.

The requirement for design reports is covered within the TII publication '*Design Phase Procedure for Road Safety Improvement Schemes, Urban Renewal Schemes and Local Improvement Schemes*' (DN-GEO-03030). No change is proposed to the design of the N65 (for example in terms of the cross-section, road markings, signing, horizontal and/or vertical alignment or drainage); proposed works are limited to setting back of the existing fence-line outside of the required visibility splay and replacing it with a fence-line in accordance with the TII CC-SCD-00320 standard detail; and, existing road signing is to be relocated outside of the required visibility splay. As such, and in the context of DN-GEO-03030, the design team consider the scheme to be *"Type C"* which does not require the preparation of a Design Report.

3.2.4 ALTERNATIVE LOCATION AND LAYOUT

The proposed development (as amended) will include a purpose-designed construction stage access road formed directly onto the N65 national secondary road. While national policy on development access to national roads (Section 2.5 of the *Spatial Planning and National Roads Guidelines for Planning Authorities*, DoECLG, 2012) is to avoid the creation of additional access points, or the intensification of existing accesses, to national roads where speed limits greater than 60 km/h apply, Section 2.6 of those Guidelines explicitly recognises that, in exceptional circumstances, a less restrictive approach may be adopted in the case of developments of national and regional strategic importance.

The EIAR and EIAR Addendum has been prepared to support a reserve gas-fired generator nominal capacity of 1,155MWe (a Strategic Infrastructure Development (SID) under Section 37A of the Planning and Development Act 2000, as amended) together with a grid-connected energy storage system (comprising a Battery Energy Storage System (BESS) and synchronous condenser), which will connect to the national grid via a proposed 400kV GIS substation qualifying as electricity transmission infrastructure and a separate Section 182A SID. Collectively, these elements fall within the Energy Infrastructure classes listed in the Seventh Schedule for the purposes of Sections 37A and 182A and therefore constitute strategic electricity infrastructure of national and regional importance, contributing materially to security of supply, system stability and the integration of renewable generation on the national grid.

Having regard to the above, the development proposed is considered to clearly meet the criteria for a development of national and regional strategic importance within the meaning of Section 2.6 of the Spatial Planning and National Roads Guidelines. In this context it is appropriate to consider a less restrictive policy stance in respect of access to the adjoining national secondary road, while still ensuring that the design of any junction or access arrangement safeguards the safety, capacity and strategic function of the national road network in accordance with the Guidelines.

The proposed alternative construction access road is designed in accordance with relevant TII geometric design and safety standards for rural single carriageway roads, including appropriate taper lengths, radii, visibility splays, drainage, surface construction and provision for safe turning of HGVs. Accordingly, the proposed temporary construction access arrangement represents an acceptable application of the *"exceptional circumstances"* provision in Section 2.6.

The applicant also considered widening the existing L8763 public road as it routes from the N65 to the development boundary. This option does r educeprivate land take but was not considered a viable option due to third-party land ownership constraints.

3.2.5 ALTERNATIVE DESIGNS

3.2.5.1 Temporary unbound stone haul road

A temporary unbound haul road would comprise a granular running surface (crushed rock) constructed over a prepared formation, typically with geotextile separation and/or capping where ground conditions are weak. This option is commonly used for temporary construction access where rapid installation and straightforward reinstatement are priorities. This option is a more cost-effective option and allows for easier decommissioning, however it was omitted based on the potential of environmental effects such as dust generation in dry weather, noise from HGV vehicles (such as tipper trucks bodies travelling over a relatively uneven surface and sediment mobilisation during weather. A bound surface generally provides a cleaner running surface (reduced dust /track-out onto public roads) and more predictable HGV performance.

3.2.5.2 Watercourse crossings

The proposed alternative construction access road will cross two watercourses /drainage features within the development lands. At the outset of the design process, the preference was to avoid in-stream works, maintain hydromorphology, and provide unrestricted passage of water, sediment and biota, while meeting flood/hydraulic requirements and relevant consents. Alternative crossing options considered included bottomless arch and closed culvert. Both options were disregarded following evaluation of the favoured clear span option which was also adopted for watercourse crossings within the main development works area of the site.

4 PLANNING POLICY CONTEXT

4.1 INTRODUCTION

The original proposed development as presented in the July 2024 EIAR is demonstrably consistent with national and regional policy, including the National Planning Framework (first revision), the Climate Action Plan 2025, and Regional and Local Development Plans. Due to the passage of time and for completeness, the following information is submitted to reaffirm the need for the development and confirm alignment with the latest national policy and regulatory frameworks. This includes:

- Department of Climate, Energy and the Environment. (2025) *Climate Action Plan 2025*[15].
- Government of Ireland. (2025) *National Development Plan 2021–2030*[16].
- Department of Housing, Local Government and Heritage. (2025) *National Planning Framework: First Revision.*[17]
- EirGrid plc and SONI Ltd. (2025) *All-Island Resource Adequacy Assessment 2025–2034: Main Report*[18].
- EirGrid plc and SONI Ltd. (2023) *Shaping Our Electricity Future: Roadmap, Version 1.1 (July 2023)*[19].
- Commission for Regulation of Utilities (CRU). (2021) *Security of Electricity Supply – Programme of Actions (CRU/21/115)*[20].

The general policy direction in Ireland is to enable a growing electrical demand through enhanced electricity infrastructure which shall be supplied by a diversified energy portfolio, predominantly indigenous renewables and backed up by flexible gas generation (for energy security).

EirGrid, Irelands Transmission System Operator (TSO), is responsible for the planning, management and development of Irelands electricity grid to ensure that there is a secure and sustainable supply of electricity to meet demand. To determine this, EirGrid conducts

[15] Available at: https://www.gov.ie/en/department-of-climate-energy-and-the-environment/publications/climate-action-plan-2025
[16] Available at: https://www.gov.ie/en/department-of-public-expenditure-infrastructure-public-service-reform-and-digitalisation/campaigns/project-ireland-2040/
[17] Available at: https://cdn.npf.ie/wp-content/uploads/National-Planning-Framework-First-Revision-April-2025.pdf
[18] Available at: https://cms.soni.ltd.uk/sites/default/files/publications/All-Island%20Resource%20Adequacy%20Assessment%202025-2034%20Main%20Report.pdf.
[19] Available at: https://cms.eirgrid.ie/sites/default/files/2023-07/Shaping-Our-Electricity-Future-Roadmap_Version-1.1_07.23.pdf
[20] Available at: https://cruie-live-96ca64acab2247eca8a850a7e54b-5b34f62.divio-media.com/documents/CRU21115-Security-of-Electricity-Supply--Programme-of-Actions.pdf

assessments annually, the results of which inform their recommended volume of generation capacity to be procured in upcoming capacity auctions.

4.2 DEMAND VERSUS GENERATION

Irelands electricity demand is expected to grow considerably over the next decade, driven by the electrification of heat and transport and build out of data centres (LEU) and new technology loads. EirGrid's Resource Adequacy Assessment 2025-2034 considers the balance between electricity supply and demand for the next 10 years. EirGrids median scenario shows that by 2034 electricity demand is expected to increase by 45% relative to 2023 levels[21]. This figure is conservative, particularly for datacentres (the predominant demand) which are assumed to continue to grow linearly but are experiencing rapid growth driven by artificial intelligence and intensifying density.

On the generation side, the report notes that 1,700MW of conventional generation capacity will be over 30 years old in 2034 and at risk of exiting the market which would add to the requirement. EirGrid Generation Capacity Statement 2021 (predecessor to Resource Adequacy Assessment) identified a supply deficit for winters 2022/23 to 2025/26[22] which led to the development of the Commission for Regulation of Utilities (CRU) Security of Electricity Supply – Programme of Actions. The programme of actions (which is supported by the Government Policy Statement on Security of Electricity Supply) included the procurement of new flexible gas plant, procurement of Temporary Emergency Generation (TEG), and extending the availability of old generation on a temporary basis[23][24]. The temporary emergency measures, which have been implemented, include and additional 653MW of TEG (191MW at North Wall, 50MW at Huntstown, *"TEG 1"*; and 262MW at Shannonbridge and 150MW at Tarbert *"TEG 2"*) and retaining 820MW at Moneypoint which was scheduled to close in 2025[25]. The 1,473MW of temporary emergency measures must be replaced by 2029 with new flexible gas plant.

The CRU notes the General Policy Directive[26], pursuant to Section 79 of the Environmental Protection Act, from January 2023, which calls for the prioritisation of *"the consideration of applications which impact on the State's energy security of supply."*

[21] EirGrid plc and SONI Ltd., 2025: Resource Adequacy Assessment 2025-2034
[22] EirGrid. 2021: Generation Capacity Statement
[23] Commission for Regulation of Utilities, 2021: Security of Electricity Supply – Programme of Actions
[24] DECC, 2021: Policy Statement on Security of Electricity Supply
[25] EirGrid 2025: Information Note Temporary Emergency Generation
[26] General Directive pursuant to Section 79 of the Environmental Protection Act, 1992

4.3 TRANSMISSION INFRASTRUCTURE

Shaping Our Electricity Future is EirGrid's roadmap to make the grid ready to carry 80% of Irelands electricity from renewable sources by 2030, as set out in Ireland's Climate Action Plan[27]. The roadmap lists several targets for electricity, including "*at least 2GW new flexible gas plant*"[28], which can provide fast-response capacity that reduces curtailment and supports grid stability (key to enabling renewables). The updated National Development Plan (NDP) has allocated €3.5 billion to support investment in electricity grid infrastructure over 2026-2030[29]. National Policy Objective 69 contained in the NPF (DHLGH, 2025) aims to integrate climate action into the planning system in support of national targets[30].

The lack of grid development, particularly in Dublin, has led to constraints which limit the ability to connect additional generation and demand in the region. In March 2025 EirGrid published a note on *Short Circuit Issues in Dublin* stating that it would not be prudent to allow more conventional generation connect on the 220kV system in Dublin. EirGrid recommends that generator developers consider connecting at 400kV stations when selecting sites[31].

The 400kV transmission circuits are the backbone of Ireland's power system which connects the demand in the East (Dublin) to the generation in the West and South. According to the NPF (DHLGH, 2025), the western and southern region will contribute 75% of wind generation and 55% of solar generation by 2030 (National Policy Objective 74).

The combination of rapidly growing electricity demand (which has been pent-up due to a lack of infrastructure development) and shortage of suitable generation capacity (which must be new flexible gas generation) demonstrates that there is a need for the proposed development in terms of the location, the type of plant, and the scale.

[27] DCEE, 2025 Climate Action Plan
[28] EirGrid plc and SONI Ltd., 2023: Shaping Our Electricity Future
[29] DHLGH 2025: National Development Plan Review
[30] DHLGH, 2025: National Planning Framework
[31] EirGrid, 2025: Short Circuit Issues in Dublin Update for Industry and Developers

5 POPULATION AND HUMAN HEALTH

This Chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides supplementary information in relation to the Population and Human Health Chapter and is to be read in conjunction with Chapter 5 of the July 2024 EIAR.

While there are a range of issues which may impact on human beings many of these have been considered within other disciplines within the EIAR, including Planning Policy (Chapter 4), Water Environment (Chapter 8), Air Quality (Chapter 9), Noise and Vibration (Chapter 11), Landscape and Visual (Chapter 12), Traffic and Transport (Chapter 13). Cultural Heritage (Chapter 14) and Climate (Chapter 15). This approach is consistent with the EPA EIAR Guidelines (2022)[32].

This Chapter is therefore focused on potential impacts which have not been assessed elsewhere within the EIAR. In accordance with the Health and Safety Authority (HSA) requirements, a Technical Land Use Plan (TLIUP) Assessment has been carried out for the development and is included as Appendix 17.1 to this EIAR Addendum.

5.1 ASSESSMENT METHODOLOGY & SIGNIFICANCE CRITERIA

5.1.1 METHODOLOGY

A desk-based assessment was undertaken to examine relevant information pertaining to the population impact assessment. Information on population statistics, employment and social data for the relevant Electoral Division (Eds) was obtained from the Central Statistics Office (CSO) for census years 2022. Fáilte Ireland's EIAR Guidelines for the Consideration of Tourism and Tourism Related Projects and specifically the potential impact of the proposed development (as amended) on Tourism is considered. Given the rural setting, much of the potential for impacts is addressed in Chapters 6 (Biodiversity) and 12 (Landscape and Visual) of the EIAR.

The Study Area for the assessment of *"Population and Human Health"* includes a review of relevant information on a county and national scale but is mainly concentrated on the Electoral Districts (EDs) and Small Areas (Small Area Population Statistics (SAPS)) within which the proposed development (as amended) is located. A desk study was undertaken to assess the baseline environment. The desk study involved the assessment and review of data from the Central Statistics Office (CSO) and a review of the Galway County

[32] EPA, Guidelines of the Information to be contained in Environmental Impact Assessment Report, 2022

Development Plan (CDP) 2022-2028. Information was also obtained from the following sources:

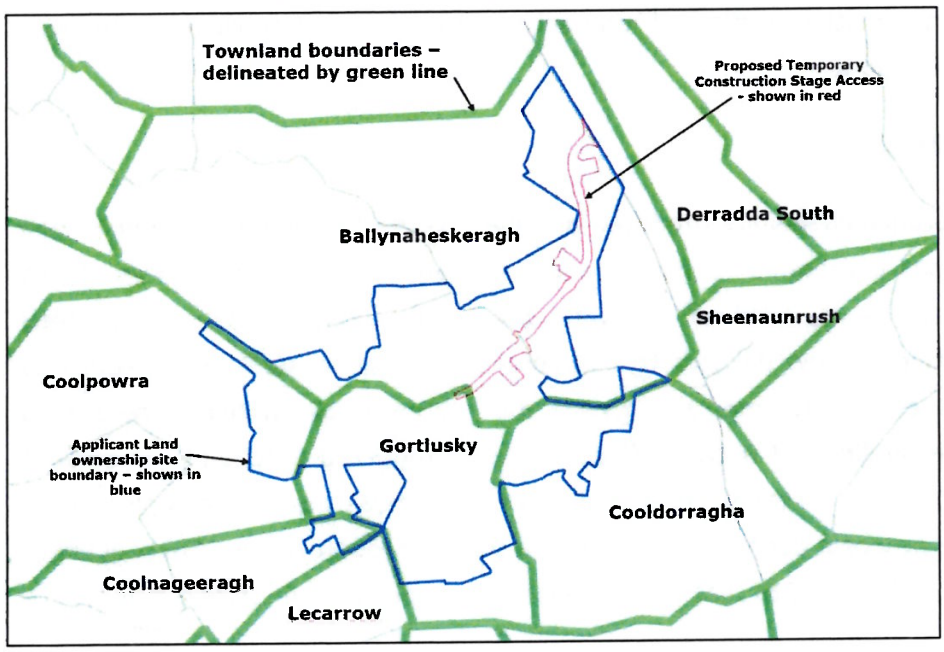
- Environmental Protection Agency (www.epa.ie);
- Galway County Council (https://www.galway.ie/en/
- Central Statistics Office (http://www.cso.ie);
- Geohive (https://airomaps.geohive.ie/ESM);
- Pobal (https://maps.pobal.ie/WebApps/DeprivationIndices/index.html);
- All-Island Research Observatory (AIRO) (https://airo.maynoothuniversity.ie/).

As there is no loss of residential or community lands as a result of the proposed development (as amended), the impacts from the loss of private property are not further considered. Similarly, the development of either or all of the proposed projects will not result in negative adverse impact to the local economy. Positive effects on the local economy, supply chains, and employment opportunities (particularly) during construction is anticipated.

5.2 DESCRIPTION OF RECEIVING ENVIRONMENT

The lands in which the proposed alternative access road is situated adjoins the main Coolpowra project development works site to the north-east. The development lands are predominately located in the townland of Ballynaheskeragh with the most westerly section of the access road within the townland of Gortlusky (see Figure 5.1).

Figure 5.1 Map showing proposed alternative access road within applicant ownership boundary along with townland boundaries



5.3 ASSESSMENT OF POTENTIAL ENVIRONMENTAL EFFECTS

5.3.1 DO NOTHING SCENARIO

If the proposed alternative construction access road is not constructed, then the site remain in agricultural use and the originally proposed access to the site will pertain.

5.3.2 POPULATION AND SETTLEMENT PATTERNS

The proposed development (as amended) does not include a housing or community services element and, as such, is not predicted to result in a direct change to local or regional population levels or settlement patterns. During construction and operation, the development will generate employment which may support limited inward commuting and, for some roles, the relocation of staff to nearby settlements to reduce commuting distances; any such demographic change is expected to be minor and not significant in EIAR terms.

The proposed alternative construction access road provides a clear population and human health benefit during construction by reducing the interaction of construction traffic with the local road network. By providing a direct, purpose-designed route for construction vehicles and HGV deliveries between the N65 and the main works area, the alternative construction access route reduces reliance on the L8763 local road network and therefore reduces the frequency and intensity of HGV pass-bys at residential receptors and other sensitive properties fronting the L8763. This reduces the potential for traffic-related nuisance (noise, vibration, dust/track-out) and improves local amenity during the construction period, while also reducing the potential for delay, driver frustration and conflict between construction traffic and local access movements at constrained sections of the minor road network.

5.3.3 SEVERENCE

No significant severance effects are predicted to arise in respect of population and human health. The proposed alternative construction access road is located within lands owned by the applicant and is designed as a private, temporary construction route, thereby avoiding the creation of new barriers to movement for local residents or changes to existing public access arrangements. Where the proposed alternative access road interfaces with the public road network (including the staggered junction arrangement across the L-8763), traffic management and access control measures will be implemented to ensure that the proposal does not function as a public through-route. Consequently, the proposal is not anticipated to result in material severance of communities, services or

amenities, and, by reducing construction traffic along the L8763 frontage, it will reduce the potential for temporary perceived severance arising from frequent HGV movements on minor roads.

The effect of the impact associated with development or in combination is considered as neutral and long-term. The proposed improvement will have a positive long term moderate effect.

5.3.4 HEALTH AND SAFETY

5.3.4.1 Alternative Construction Access Road

The proposed alternative construction access road provides a positive construction-phase health and safety outcome by reducing the need for heavy construction vehicles to travel along the L8763 local road network in proximity to sensitive receptors. Diverting HGVs to a purpose-designed access route reduces potential interactions between construction vehicles and vulnerable road users (pedestrians, cyclists) and reduces conflicts with local traffic, agricultural machinery and residential access movements on the minor road. In addition, the provision of a dedicated construction access enables better management of site traffic through controlled entry, signage and site rules, thereby reducing the risk of collisions at junctions, within the site approach, and at accesses serving dwellings fronting the L8763. Overall, the alternative access option supports the EIAR objective of minimising construction-stage effects on human health by reducing exposure pathways associated with construction traffic (noise, dust, vibration, safety risk and stress associated with congestion and delay).

In accordance with the Health and Safety Authority (HSA) requirements, a Technical Land Use Plan (TLIUP) Assessment has been carried out for the development and is included as Appendix 17.1 to this EIAR Addendum. The TLUP is prepared in accordance with HSA guidance[33] and interprets the HSA policy on the technical land-use planning (TLUP) advice requirements of the Seveso-III Directive (Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC), as implemented by the Chemicals Act (Control of Major Accidents Involving Dangerous Substances) Regulations 2015.

[33] HSA, Guidance on Technical Land Use Planning, 2023

5.3.4.2 LDES/BESS - Safety

Grid-scale battery energy storage systems have become a key component for balancing renewable electricity in modern power networks. The proposed BESS will comprise a series of (i) battery and (ii) medium voltage power system (MVPS) enclosures.

The major safety aspects which are considered in the design of the proposed BESS facility are categorised as electrical and electrochemical. Hazards are controlled through design, spacing, fixed protection and an evidence-based fire-fighting strategy that aligns with internationally recognised standards. There are numerous international standards which regulate the design, manufacture and distribution of lithium-ion batteries to ensure they are adequately tested for safety, reliability and durability. The proposed BESS has been designed in accordance with the following regulatory and standardisation framework and has layered controls built in for its fire-fighting strategy.

- UL 9540A (2019); *"Standard for Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems"*
- NFPA 855 (2026); Standard for the Installation of Stationary Energy Storage Systems
- NFCC (2024) *"Grid-scale BESS Planning – Guidance for FRS"*
- Energy Storage Ireland, (July 2021) *Safety of Grid-Scale Battery Energy Storage Systems - Information Paper*

The proposed BESS facility is designed as a series of independent enclosures. The steel ISO compliant enclosures incorporate deflagration vents sized by the installation-level UL 9540A test so that an internal over-pressure event jets upwards and away from walkways. Fixed inert gas suppression systems will be provided within enclosures in order to help prevent or limit propagation between modules. Upon detection of abnormal cell temperature, smoke, or vapour concentrations, the BMS will:

- Initiate an immediate safety-shutdown sequence by opening charge and discharge contactors and de-energising the power-conversion system, thereby preventing further energy flow into the affected string.
- Transmit a suppression-release command to the fixed gaseous-agent system, ensuring agent discharge occurs only after electrical isolation is confirmed.
- Close all motorised dampers and halt mechanical ventilation to preserve the agent's design concentration and comply with NFPA 855 in conjunction with the parent suppression standard (e.g., NFPA 2001 or NFPA 2010).
- Activate audible and visual alarms locally and via SCADA to notify plant operators and first responders of the event sequence and container status.

- Log all parameters and event timestamps for post-incident analysis and verification of compliance with the site's Hazard-Mitigation Analysis.

This fully integrated control logic ensures that detection, electrical isolation, ventilation shutdown and agent discharge occur in the correct order and timeframe, satisfying both the functional requirements of NFPA 855 (2026) and the performance criteria of the applicable clean-agent standard. A Fire Risk Assessment and Emergency Response Plan Report for the purposes of planning is provided in Appendix 17.3 of this EIAR Addendum

All enclosures (BESS and MVPS) will be UL9540A (2024) tested and certified. Spacing between battery (battery to battery) and MVPS (battery to MVPS) enclosure is 4.4m which is greater than the 0.9m minimum spacing specification detailed in NFPA 855. Accordingly, the BESS facility will be NFPA 855 (2026) compliant.

A 500m^3 sectional steel fire-water tank and pump set is positioned within the BESS facility which will serve hydrants thereby providing water for cooling of nearby enclosures and boundary areas in the event of a fire. The water tank will be capable of delivering a minimum of 1,900 litres per minute for just over 4 hours (minimum 2 hours normally required). The additional capacity provides for automatic refill and reduces instantaneous pressure on water supplies (i.e. the reserve can be refilled over a longer time period than 8 hours as the stored water volume will be greater than the required water volume).

5.4 MITIGATION MEASURES

To control and minimise potential adverse impacts during construction, a Construction Environmental Management Plan (CEMP) is prepared for the development. The CEMP will be further developed and implemented by the appointed Contractor in advance of construction works and agreed with the Planning Authority. Mitigation measures set out within the EIAR Addendum (including traffic management, dust and mud control, restrictions on working practices where required, and access-control measures to prevent unauthorised public use of the temporary alternative construction access road) will be incorporated into the CEMP, together with any planning conditions. With these measures in place, effects on population and human health during the construction (and decommissioning) phases are predicted to comprise temporary/short-term, direct and indirect, slight adverse effects at worst. Given the setting and sensitivity of the identified receptors, potential effects associated with operation of the proposed development (as amended) are assessed as neutral.

5.5 RESIDUAL IMPACTS OF THE DEVELOPMENT

Following implementation of the mitigation measures secured through the CEMP, the residual effects on population and human health during construction are expected to be slight adverse, temporary/short-term, and within acceptable bounds. The alternative temporary construction access road is expected to deliver a measurable benefit by reducing HGV movements along sections of the L8763 with frontage residences, thereby reducing potential nuisance and improving road safety conditions for local users for the duration of construction. Following completion of construction and decommissioning of the temporary access (as applicable), residual effects are expected to be neutral, with no long-term severance or amenity impacts predicted.

5.6 CUMULATIVE EFFECTS

Cumulative population and human health effects could arise where the construction programme overlaps with other developments or background roadworks in the area, potentially increasing overall construction traffic and pressure on the local road network. The proposed alternative construction access road reduces the potential for such cumulative effects by concentrating project-related HGV movements onto a managed, purpose-designed route between the N65 and the works area, thereby limiting additional traffic on the L8763 local road network and reducing combined nuisance and safety effects at residential frontages. Subject to implementation of the CEMP (including delivery scheduling, traffic management measures and ongoing monitoring), cumulative effects on population and human health are expected to remain not significant, with any residual effects likely to be temporary and slight.

6 BIODIVERSITY

6.1 INTRODUCTION

This chapter provides an assessment of the impacts of the proposed development (as amended) on the ecological environment, i.e. biodiversity, flora and fauna. It has been compiled in compliance with the European Communities Legal requirements with regard to Environmental Impact Assessment and follows the Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2022).

6.2 METHODOLOGY

This chapter concentrates on ecological features within the development area of particular significance, primarily designated habitats and species. This includes habitats/species listed in Annex I, II and IV of the EU Habitats Directive, rare plants listed in the Flora Protection Order and other semi-natural habitats of conservation value.

A Report for the purposes of Appropriate Assessment Screening was undertaken by Moore Group for the proposed alternative access road which is presented as a standalone report. In order to screen out a project, it must be excluded, on the basis of objective information, that the proposed development (as amended), individually or in combination with other plans or projects, will have a significant effect on a European site.

A Natura Impact Statement (NIS) has been prepared in respect of the proposed alternative construction access road serving the proposed energy projects at Coolpowra, Ballynaheskeragh, Coolnageeragh, Sheeaunrush and Gortlusky, Co. Galway. This is also submitted to the planning authority as a standalone report. The NIS contains information to assist the competent authority in carrying out an Appropriate Assessment (AA) for the purposes of Article 6(3) of the Habitats Directive and Section 177V of the Planning and Development Act 2000, as amended.

6.2.1 LEGISLATION

6.2.1.1 EU Habitats Directive

The "Habitats Directive" (Council Directive 92/43/EEC) on the Conservation of Natural Habitats and of Wild Flora and Fauna) is the main legislative instrument for the protection and conservation of biodiversity within the European Union. The Habitats Directive provides for the designation, conservation and protection of sites comprising Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), collectively forming the Natura 2000 network of "European sites". Article 3 of the Habitats Directive obliges

Member States to designate as SACs sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II of the Habitats Directive. Article 10 of the Habitats Directive requires that Member States endeavour to improve the ecological coherence of the Natura 2000 network to manage and conserve features of the landscape which are of major importance for wild fauna and flora, for example ecological corridors or stepping-stones which are important for the migration, dispersal and genetic exchange of species.

Article 6(2) obliges Member States to take the necessary measures to avoid the deterioration of an SAC, or disturbance of a species for which the site is designated. Article 6(3) sets out the requirement for an "Appropriate Assessment", to ensure that a proposed plan or project will not have an adverse effect on the integrity of a SAC. Article 7 applies the requirements of Article 6(2) and 6(3) of the Habitats Directive to SPAs designated under the Birds Directive.

In addition, and separate to the Appropriate Assessment requirements, Article 12 of the Habitats Directive obliges Member States to establish a regime of strict protection for certain species listed in Annex IV of the Directive, wherever they occur within their natural range. The protection for species under Article 12 of the Habitats Directive is not confined to the boundary of SACs. Species listed in Annex IV include the otter and certain species of bat.

6.2.1.2 EU Birds Directive

The "Birds Directive" (European Council (2009) Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds) confers legal protection to all naturally occurring wild birds within the EU territory. Member States are obliged to adopt the necessary measures to maintain the population of bird species, and that includes, in accordance with Article 3, an obligation to create, maintain and manage habitats for birds, and specifically for the species of Bird listed in Annex I of the Directive, Article 4 requires Member States to create SPAs which, by virtue of Article 7 of the Habitats Directive, form part of the Natura 2000 network of European sites and are subject to the Appropriate Assessment requirements under Article 6(3) of the Habitats Directive.

Additionally, Article 5 of the Birds Directive requires that Member States establish a general system of protection for all naturally occurring wild birds within the EU territory, similar to the system of strict protection required for Annex IV species under the Habitats Directive.

6.2.1.3 Wildlife Acts (1976 - 2024)

The primary domestic legislation providing for the protection of wildlife in general, and wild birds in particular, and the control of some activities adversely impacting upon wildlife is the Wildlife Act of 1976, as amended. The aims of the Wildlife Act, according to the National Parks and Wildlife Service (NPWS) are *"... to provide for the protection and conservation of wild fauna and flora, to conserve a representative sample of important ecosystems, to provide for the development and protection of game resources and to regulate their exploitation, and to provide the services necessary to accomplish such aims."* All wild bird species are protected under the Act. The European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) made significant amendments to the Wildlife Acts to ensure consistency with the Habitats and Birds Directives.

6.2.2 METHODOLOGY AND GUIDANCE

The biodiversity survey was carried out in three stages, firstly through desktop assessment to determine existing records in relation to habitats and species present in the potential Zone of Influence of the proposed development (as amended). This included research on the NPWS metadata website, the National Biodiversity Data Centre (NBDC) database and a literature review of published information on flora and fauna occurring in the development area.

Sources of information that were used to collate data on biodiversity in the potential Zone of Influence are listed below:

- The following mapping and Geographical Information Systems (GIS) data sources, as required:
  - National Parks & Wildlife (NPWS) protected site boundary data;
  - Ordnance Survey of Ireland (OSI) mapping and aerial photography;
  - OSI/ Environmental Protection Agency (EPA) rivers and streams, and catchments;
  - Open Street Maps;
  - Digital Elevation Model over Europe (EU-DEM);
  - Google Earth and Bing aerial photography 1995-2025;
- Online data available on Natura 2000 sites as held by the National Parks and Wildlife Service (NPWS) from www.npws.ie including:
  - Natura 2000 - Standard Data Form;
  - Conservation Objectives;
  - Site Synopses;
- National Biodiversity Data Centre records;

- On line database of rare, threatened and protected species;
- Publicly accessible biodiversity datasets.
- Status of EU Protected Habitats in Ireland. (National Parks & Wildlife Service, 2019); and
- Relevant Development Plans in neighbouring areas:
- Galway County Development Plan 2022-2028

Other environmental information for the area was reviewed, e.g. in relation to soils, geology, hydrogeology and hydrology. Interactions in terms of the chapters on these topics presented in this EIA Report were important in the determination of source vector pathways and links with potentially hydrologically connected areas outside the proposed development site.

The second phase of the survey involved a site visit on 26 August 2025 to establish the existing environment in the footprint of the proposed development area. Areas which were highlighted during desktop assessment were investigated in closer detail according to the Heritage Council Best Practice Guidance for Habitat Survey and Mapping (Smith et al., 2011). Habitats in the proposed development area were classified according to the Heritage Council publication *"A Guide to Habitats in Ireland"* (Fossitt, 2000). This publication sets out a standard scheme for identifying, describing and classifying wildlife habitats in Ireland. This form of classification uses codes to classify different habitats based on the plant species present. Species recorded in this report are given in both their Latin and English names. Latin names for plant species follow the nomenclature of "An Irish Flora" (Parnell & Curtis, 2012).

Habitats were surveyed by conducting study area walkovers covering the main ecological areas identified in the desktop assessment. The survey dates are within the optimal survey periods for botanical species.

Signs of mammals such as badgers and otters were searched for while surveying the study area noting any sights, signs or any activity in the vicinity especially along adjacent boundaries.

Birds were surveyed using standard transect methodology and signs were recorded where encountered during the field walkover surveys.

Trees are a highly important feature of landscapes in that they provide roost sites throughout the year as well as being essential sources of insect prey. Therefore, the removal of such trees reduces the availability of shelter and feeding sites for bats (NRA 2005). The use of trees as roost sites is well established. Discovery of such roosts may be

established by a variety of means including the use of a bat detector survey or alternatively by examination of all suitable crevices and cavities; commonly referred as Potential Roost Features (PRF's). Trees most likely to serve as bat roosts should be identified by a bat specialist from a walk-through of the route, from aerial photography or from a tree survey report.

Trees were examined for potential to host bat roosts on 26 August 2025 following guidelines set out in the Bat Tree Habitat Key (Andrews, 2016) and BCT Guidelines for professional ecologists Editions 2 and 3. All trees were assessed from ground level using binoculars.

Examples of crevice features include:

- Natural holes;
- Cracks/splits in major limbs;
- Loose bark; and
- Hollows/cavities.

Each tree was assessed and ranked from category 1 – 4 according to Bat Conservation Trust 2 ed. (Hundt et al, 2012):

Tree Category	Description
1	Trees with multiple, highly suitable features capable of supporting larger roosts
2	Trees with definite bat potential but supporting features suitable for use by singleton bats;
3	Trees have no obvious potential although the tree is of a size and age that elevated surveys may result in cracks or crevices being found or the tree supports some features which may have limited potential to support bats;
4	Trees have no potential

The final part of the assessment involves an evaluation of the study area and determination of the potential impacts on the habitats of the study area. This part of the assessment forms the basis for Impact Assessment and is based on the following guidelines and publications:

- Guidelines for Ecological Impact Assessment in the UK And Ireland Terrestrial, Freshwater, Coastal and Marine Version 1.3 - Updated September 2024 (CIEEM, 2024);

- EPA Guidel nes on Information to be contained in an EIAR (EPA, 2022);
- Best Practice Guidance for Habitat Survey and Mapping (Heritage Council, 2011);
- Ecological Surveying Techniques for Protected Flora & Fauna (NRA, 2008);
- Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009);
- Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DEHLG, December 2009, Rev 2010);
- Guidance document on Article 6(4) of the Habitats Directive 92/43/EEC (EC, 2007).

While prepared for linear projects the TII Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009) are still relevant and outlines the methodology for evaluating ecological impacts of the project in the present report. According to the TII Guidelines, the Ecological Study should address:

- Designated conservation areas and sites proposed for designation within the zone(s) of influence of any of the Project options,
- All the main inland surface waters (e.g. rivers, streams, canals, lakes and tanks) that are intersected by any of the route corridor options, including their fisheries value and any relevant designations,
- Aquifers and dependent systems and turloughs and their subterranean water systems,
- Any known or potentially important sites for rare or protected flora or fauna that occur along or within the zone(s) of influence of any of the route options,
- Any other sites of ecological value, that are not designated, along or in close proximity to any of the route corridor options,
- Any other relevant conservation designations or programmes (e.g. catchment management schemes, habitat restoration or creation projects, community conservation projects, etc.),
- Any other features of particular ecological or conservation significance along any of the route options.

The TII Guidelines set out a method of evaluating the importance of sites identified and in turn the evaluation of the significance of impacts. The Evaluation Scheme is presented in Appendix 1 for reference.

Impact Assessment is then based on CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland, 2019.

6.2.3 DESCRIPTION OF PROJECT

A detailed description of the proposed alternative access road as amended is provided in Chapter 2 of this EIAR Addendum. Where relevant to a topic-specific assessment, any additional detail is provided in the corresponding chapter, however the scope and nature of the proposed development (as amended) remain as set out in Chapter 2.

6.3 EXISTING ENVIRONMENT

6.3.1 GENERAL NOTES

The site comprises a mosaic of open farmland fields (GA1) which are cattle grazed. The fields are bordered by low Hedgerows with a treeline along the esker road. The following is a description of the flora and fauna of the existing environment in the study area.

6.3.2 DESIGNATED CONSERVATION AREAS

The Zone of Influence may be determined by considering the Proposed Development's potential connectivity with European sites, in terms of:

- Nature, scale, timing and duration of all aspects of the proposed works and possible impacts, including the nature and size of excavations, storage of materials, flat/sloping sites;
- Distance and nature of potential pathways (dilution and dispersion; intervening 'buffer' lands, roads etc.); and
- Location of ecological features and their sensitivity to the possible impacts.

The potential for source pathway receptor connectivity is firstly identified through GIS interrogation and detailed information is then provided on sites with connectivity. European sites that are located within a potential Zone of Influence of the Proposed Development are listed in Table 6.1 and presented in Figure 6.1 and Figure 6.2, below. Spatial boundary data on the Natura 2000 network was extracted from the NPWS website (www.npws.ie) on 25 November 2025. This data was interrogated using GIS analysis to provide mapping, distances, locations and pathways to all sites of conservation concern including pNHAs, NHA and European sites.

Table 6.1 European Sites located within the potential Zone of Influence of the Proposed Development.

Site Code	Site name	Distance (km)
000231	Barroughter Bog SAC	6.12
002241	Lough Derg, North-east Shore SAC	5.63

Site Code	Site name	Distance (km)
000216	River Shannon Callows SAC	5.14
004058	Lough Derg (Shannon) SPA	5.63
004096	Mi ddle Shannon Callows SPA	5.16
004168	Slieve Aughty Mountains SPA	8.33

The proposed alternative access road is almost entirely located in the townland of Ballynaheskeragh, between Killimor and Portumna, in southeast Co. Galway. It is drained by field boundary ditches which lead to a conjoined water course identified by the EPA and the Ballynaheskeragh Stream and the Sheeaunrush Stream. However, the topography of this area has been altered over the last 20 years and the Ballynaheskeragh Stream does not exist at the base of the esker road leading to the Coolpowra site (entrance as proposed within the July 2024 EIAR). The Sheeaunrush Stream was observed to be a dry ditch originating from the south in the vicinity of recently developed dwelling in that area. After rainfall, it flows east toward the N65 and joins the Gortaha River which lows south to the River Shannon 6.5 river km downstream and thus has connectivity with the River Shannon Callows SAC (Site Code 000216), the Middle Shannon Callows SPA (Site Code 004096) along with the Lough Derg, North-east Shore SAC (Site Code 002241) and the Lough Derg (Shannon) SPA (Site Code 004058) both over 10 river km downstream in Lough Derg.

The western portion of the proposed alternative access road is drained by large deep cut drainage ditches which convey water to the Treananearla Stream, which runs northwest from the site, and enters the Kilcrow River. The Kilcrow flows generally south, discharging into Lough Derg at Stonyisland Bay. The Treananearla Stream has connectivity to two European sites at Lough Derg, the Lough Derg, North-east Shore SAC (Site Code 002241), and the Lough Derg (Shannon) SPA (Site Code 004058).

Barroughter Bog SAC (Site Code 000231) also lies close to the Kilcrow River, 6.1km to the southwest. The Kilcrow River runs along the eastern edge of the SAC boundary before it outfalls into Lough Derg.

However, given the location of the SAC in relation to the original proposed development and the nature of the qualifying interests for which it is designated (terrestrial habitats) no viable source pathway receptor links are identified and therefore no potential for significant effects to this European site, and it is screened out.

The Slieve Aughty Mountains SPA (Site Code 004168) lies 7.4km to the southwest. The footprint of the proposed alternative access road has not been identified as an ex-situ foraging, roosting or breeding area for any SCI species, and it is screened out.

Figure 6.1 Showing European sites and NHAs/pNHAs within the wider Potential Zone of Influence of the Proposed Development.

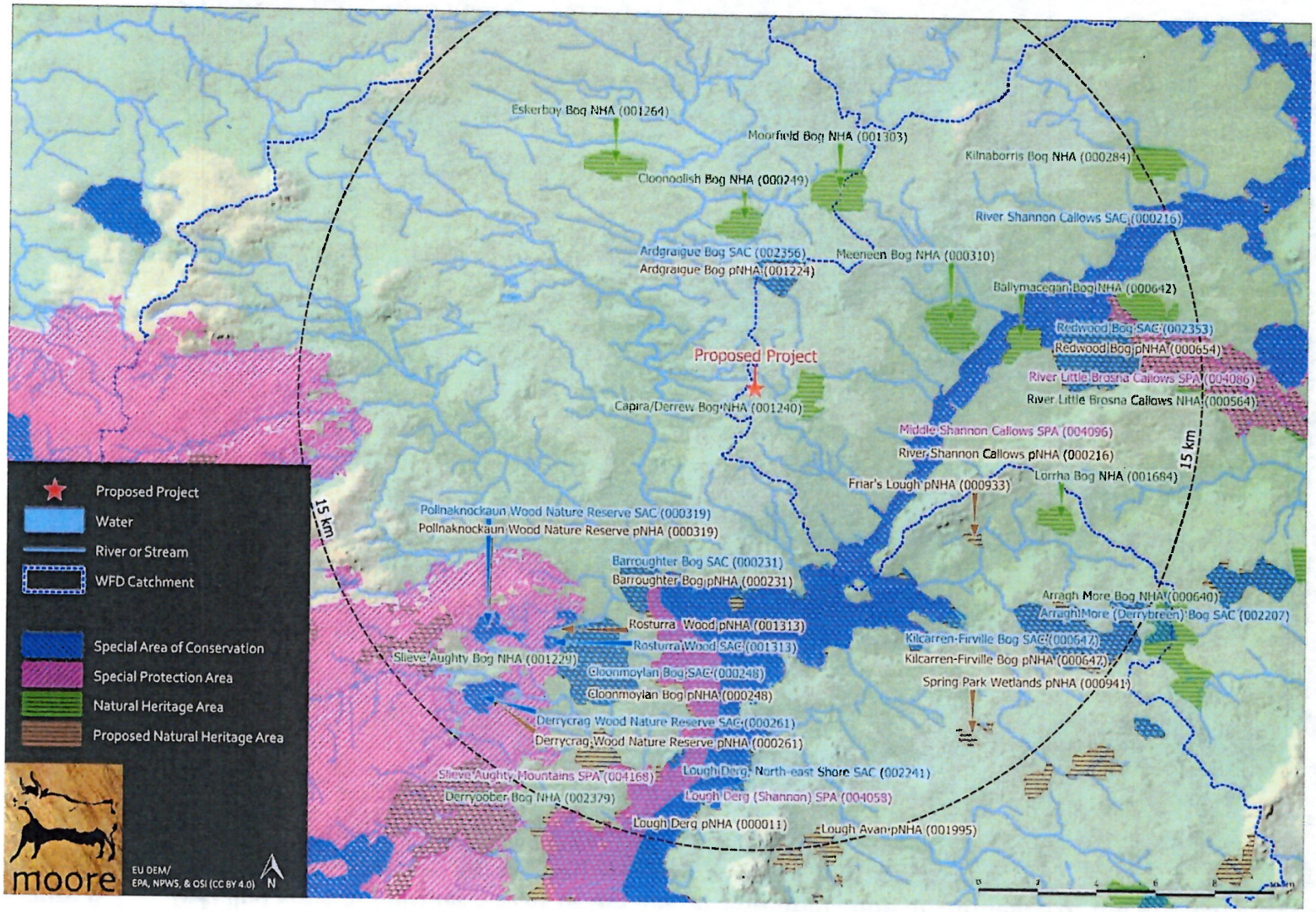


Figure 6.2 Detailed view of European sites in the nearer Potential Zone of Influence of the Proposed Development

6.3.3 NON-DESIGNATED HABITATS

The proposed alternative access road consists of two areas of agricultural grassland (GA1), as well as the road separating these areas. One section of grassland lies to the southwest of the L8763 local road, with the larger section extending from this road to the N65 national road.

The existing road is classed as Buildings and Artificial structures (BL3). There are no records of rare plants in the 1km squares in which the Project site is located (M8209 & M8309).

The main habitats are presented on the recent aerial photography in Figure 6.3. A list of habitats recorded, and their corresponding Fossitt codes is presented in Table 6.2.

Table 6.2 Details of habitats recorded and their corresponding Fossitt codes

Habitat	Habitat Category	Habitat Type
(F) Freshwater	(FW) Watercourses	(FW4) Drainage ditches
(G) Grassland	(GA) Improved grassland	(GA1) Improved agricultural grassland
	(GS)	(GS2) Dry meadows and grassy verges
(W) Woodland and Scrub	(WS) Scrub and transitional woodland	(WS1) Scrub
	(WL) Linear woodland	(WL1) Hedgerows
		(WL2) Treelines
(B) Cultivated and Built land	(BL) Built land	(BL3) Buildings and artificial surfaces
(E) Exposed rock and disturbed ground	(ED) Disturbed ground	(ED3) Recolonising bare ground

6.3.3.1 (FW4) Drainage ditches

This habitat classification applies to drainage ditches within the site associated with low gappy hedgerows. These ditches are generally shallow and stagnant being self-contained draining to ground during drier weather with no fisheries value.

The Kilcrow River further downstream was assessed as part of the WFD surveillance monitoring programme in rivers 2012. The survey site was located upstream of Ballyshrule Bridge, approximately 6km west of Portumna, Co. Galway. Three electric-fishing passes were conducted using two boat-based electric fishing units on the 14 September 2012, along a 154m length of channel. Glide dominated the habitat, while the substrate consisted mainly of cobble and gravel. Vegetation at this site consisted of tall emergent, and small, marginal, aquatic and semi-aquatic species. A total of nine fish species were recorded in the Kilcrow River Ballyshrule Bridge site. Brown trout was the most abundant species, followed by perch, roach, minnow, gudgeon, salmon, pike, European eels and stone loach.

6.3.3.2 (GA1) Improved agricultural grassland

All of the farmland within the redline boundary is laid out in Improved agricultural grassland (GA1). Areas recently re-seeded form a Perennial Rye Grass (*Lolium perenne*) monoculture; most fields have a number of common weedy species in addition, such as Broad-leaved Dock (*Rumex obtusifolius*), Creeping Thistle (*Cirsium arvense*), Dandelion (*Taraxacum* agg.) and Common Mouse-Ear (*Cerastium fontanum*). Small areas in lower lying parts of the fields have wet, but still improved grassland, with Soft Rush (*Juncus effusus*) dominant.

6.3.3.3 (GS2) Dry meadows and grassy verges

The L8763 road, where the new access road will cross, has some areas of Dry meadows and grassy verges (GS2) along its verges, with species such as Wood Avens (*Geum urbanum*), Crested Dog's Tail (Cynosurus cristatus), Cowslip (*Primula veris*), False Brome (*Brachypodium sylvaticum*), and Wild Strawberry (*Fragaria vesca*).

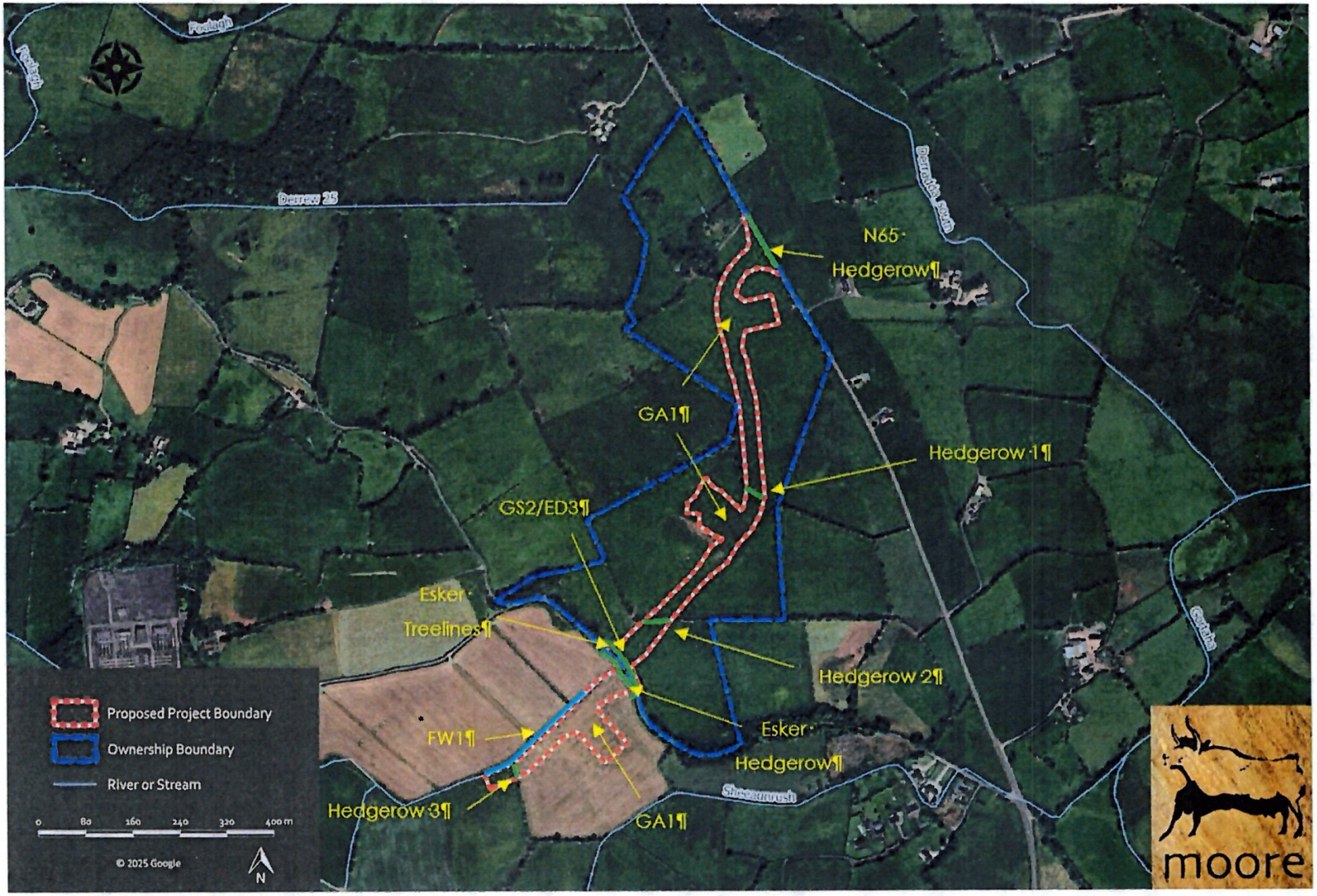
6.3.3.4 (ED3) Recolonising bare ground

Small areas of land on the field margins adjacent to the esker road have areas of barish soil where slippage and clearance has occurred recently. Recolonisation is patchy, with Nettle (*Urtica dioica*), Hairy Bitter Cress (*Cardamine hirsuta*) and Willowherbs (Epilobium sp.) all recorded.

6.3.3.5 (WS1) Scrub

Scrub (WS1) was recorded along the field boundary northwest of the L8763 road at the new crossing point, with Gorse (*Ulex europaeus*), and Nettle and Brambles (*Rubus fruticosus*).

Figure 6.3 Habitats recorded during survey



6.3.3.6 (WL1/WL2)) Hedgerows/Treelines

This habitat refers to the internal dividing field boundaries as well as roadside boundaries along the L8763 /N65 roads. Species present include Hawthorn (*Crataegus monogyna*) and Ash (*Fraxinus excelsior*) along with Willow (*Salix* spp) and frequent Elder (*Sambucus nigra*). A hedgerow survey and assessment were undertaken of those hedgerows and treelines which need to be crossed by the new access road, see Figure 6.3 for locations described below.

N65 boundary hedgerow

This section lies alongside the N65, and is dominated by Hawthorn and Ash, with some Wild Privet (*Ligustrum vulgare*), Blackthorn (*Prunus spinosa*), and abundant Bramble throughout. As a roadside hedgerow, it is regularly flailed but retains moderate local biodiversity value.

Hedgerow 1

This hedgerow section is short, and composed of Hawthorn, Grey Willow, Ash and some scrubby Gorse. Despite little floristic diversity, it has value for its connectivity role.

Hedgerow 2

This is a section of a longer dog-legging hedgerow and has a similar species composition to the previous hedgerow, but greater structural diversity, with more outgrowth. A relatively deep drainage ditch forms an integral part of the row, with stagnant water in parts, but dry elsewhere. Fool's Water Cress (*Apium nodiflorum*) and Brooklime (*Veronica beccabunga*) were both recorded in damper parts.

Hedgerow 3

This is a short section of the hedgerow which forms part of the historic townland boundary between Gortlusky and Ballynaheskeragh. It has modest species diversity with Hawthorn the predominant tree. The structure of the row is considered good, with some management evident in the face, while parts of the top have grown out. This hedgerow is assessed as having low local biodiversity value, largely due to its connectivity to other hedgerows.

Esker Hedgerow Northwest

The eastern boundary of the site lies along the L8763 road, which runs along an esker. The boundary is lined by a roadside hedgerow with stone wall, with a steep bank dropping to the fields of the site: this bank has been cleared of vegetation. The hedgerow contains a good mixture of species typical of calcareous soils on eskers, including Hazel, Blackthorn and Ash, with Hogweed, Cleavers, Primrose, and Bush Vetch comprising the ground flora. This hedgerow is assessed as having low local biodiversity value, due to its connectivity and floristic diversity.

Esker Treeline Northwest

The northwestern side of the road features a rather impressive treeline, mostly of Beech (*Fagus sylvatica*), including some veteran specimens, as well as frequent Hazel, Grey Willow, Hawthorn, Gorse and Dog Rose (*Rosa canina*). The heavily shaded field margin below supports some Primrose, Pignut (*Conopodium majus*), Red Fescue (*Festuca rubra*) and Glaucous Sedge (*Carex flacca*). This treeline forms a significant landscape feature and has a diverse suite of species indicative of good quality calcareous habitat, and this linear feature is assessed as of high local biodiversity value.

6.3.4 INVASIVE SPECIES

No invasive species were recorded during surveys.

6.3.5 FAUNA

6.3.5.1 Badgers

There were no badger setts along field boundaries which would be disturbed and no signs of badgers in the study area.

6.3.5.2 Otters

There were no signs of otters in the site or along the stream or drainage ditches which have no fisheries value.

6.3.5.3 Bats

Trees within the site were also assessed with reference to (Andrews H., 2018) Bat Roosts in Trees. None were found to have bat roosting potential being either mature with no available roosing features or semi/immature with no available roosing features.

The NBDC database was consulted for details on bat records held for the site and the surroundings. The database was consulted on the 25/11/2025 for details on historical records from the site and the surrounding 6km given this is the furthest likely zone of influence for Irish bat roosts. No bat species were recorded within 2km, however six of the nine confirmed resident bat species known to occur in Ireland have been recorded within 6km of the subject site.

6.3.5.4 Other Mammals

There were signs of foxes in the grassland fields. Hares were observed in the Coolpowra parent applications (as detailed in the July 2024 EIAR) area during previous surveys and are likely to pass through the subject fields. These species are of relatively low ecological concern and being highly mobile will not be affected.

6.3.5.5 Birds

All birds are protected under the Wildlife Acts. A list of breeding bird species recorded during fieldwork in 2018 is presented in Table 6.3 below.

Table 6.3 Birds recorded during fieldwork in August 2025

Birds	Scientific name	BWI Status	Habitat Type
Magpie	*Pica pica*	Green	Anywhere in lowland areas
Woodpigeon	*Columba palumbus*	Green	Gardens, woods, hedges
Wren	*Troglodytes troglodytes*	Green	Gardens, woods, hedges

6.3.6 HABITAT EVALUATION

The ecological value of the site was assessed following the guidelines set out in the Institute of Ecology and Environmental Management's Guidelines for Ecological Impact Assessment (2019) and according to the Natura Scheme for evaluating ecological sites (after Nairn & Fossitt, 2004). Additionally, the TII Guidelines (formerly NRA) for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009) outlines the methodology for evaluating ecological impacts Judgements on the evaluation were made using geographic frames of reference, e.g. European, National, Regional or Local, see Table 6.4 below.

Due cognisance of features of the landscape which are of major importance for wild flora and fauna, such as those with a *"stepping stone"* and ecological corridors function, as referenced in Article 10 of the Habitats Directive were considered in this assessment.

Table 6.4 Details of TII Guidelines (formerly NRA) for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009.

Ecological valuation: Examples

International Importance:

- 'European Site' including Special Area of Conservation (SAC), Site of Community Importance (SCI), Special Protection Area (SPA) or proposed Special Area of Conservation.
- Proposed Special Protection Area (pSPA).
- Site that fulfills the criteria for designation as a 'European Site' (see Annex III of the Habitats Directive, as amended).
- Features essential to maintaining the coherence of the Natura 2000 Network.[4]
- Site containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive.
- Resident or regularly occurring populations (assessed to be important at the national level)[5] of the following:
  - Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or
  - Species of animal and plants listed in Annex II and or IV of the Habitats Directive.
- Ramsar Site (Convention on Wetlands of International Importance Especially Waterfowl Habitat 1971).
- World Heritage Site (Convention for the Protection of World Cultural & Natural Heritage, 1972).
- Biosphere Reserve (UNESCO Man & The Biosphere Programme)
- Site hosting significant species populations under the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals, 1979)
- Site hosting significant populations under the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats, 1979).
- Biogenetic Reserve under the Council of Europe.
- European Diploma Site under the Council of Europe
- Salmonid water designated pursuant to the European Communities (Quality of Salmonid Waters) Regulations, 1988, (S.I. No. 293 of 1988).[6]

National Importance:

- Site designated or proposed as a Natural Heritage Area (NHA).
- Statutory Nature Reserve
- Refuge for Fauna and Flora protected under the Wildlife Acts.
- National Park
- Undesignated site fulfilling the criteria for designation as a Natural Heritage Area (NHA); Statutory Nature Reserve; Refuge for Fauna and Flora protected under the Wildlife Act; and/or a National Park.
- Resident or regularly occurring populations (assessed to be important at the national level)[7] of the following:
  - Species protected under the Wildlife Acts; and or
  - Species listed on the relevant Red Data list.
- Site containing 'viable areas'[8] of the habitat types listed in Annex I of the Habitats Directive.

County Importance:

- Area of Special Amenity.[9]
- Area subject to a Tree Preservation Order.
- Area of High Amenity, or equivalent, designated under the County Development Plan.
- Resident or regularly occurring populations (assessed to be important at the County level)[10] of the following:
  - Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;
  - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;
  - Species protected under the Wildlife Acts; and/or
  - Species listed on the relevant Red Data list.
- Site containing area or areas of the habitat types listed in Annex I of the Habitats Directive that do not fulfil the criteria for valuation as of International or National importance.
- County important populations of species, or viable areas of semi-natural habitats or natural heritage features identified in the National or Local BAP,[11] if this has been prepared
- Sites containing semi-natural habitat types with high biodiversity in a county context and a high degree of naturalness, or populations of species that are uncommon within the county.
- Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.

Local Importance (higher value):

- Locally important populations of priority species or habitats or natural heritage features identified in the Local BAP, if this has been prepared;
- Resident or regularly occurring populations (assessed to be important at the Local level)[12] of the following:
  - Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;
  - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;
  - Species protected under the Wildlife Acts; and/or
  - Species listed on the relevant Red Data list.
- Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality;
- Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.

Local Importance (lower value):

- Sites containing small areas of semi-natural habitat that are of some local importance for wildlife;
- Sites or features containing non-native species that are of some importance in maintaining habitat links.

The proposed alternative access road is predominantly located in the townland of Ballynaheskeragh, between Killimor and Portumna, in southeast Co. Galway. It is drained by field boundary ditches which lead to a conjoined water course identified by the EPA and the Ballynaheskeragh Stream and the Sheeaunrush Stream. However, the topography of this area has been altered over the last 20 years and the Ballynaheskeragh Stream does not exist at the base of the esker road leading to the Coolpowra site. The Sheeaunrush Stream was observed to be a dry ditch originating from the south in the vicinity of recently developed dwelling in that area. After rainfall, it flows east toward the N65 and joins the Gortaha River which lows south to the River Shannon 6.5 river km downstream and thus has connectivity with the River Shannon Callows SAC (Site Code 000216), the Middle Shannon Callows SPA (Site Code 004096) along with the Lough Derg, North-east Shore SAC (Site Code 002241) and the Lough Derg (Shannon) SPA (Site Code 004058) both over 10 river km downstream in Lough Derg.

There will be no direct negative effects on sites of conservation concern of annexed habitats or species of conservation concern.

However, in the absence of mitigation measures during construction to control potential pollution of surface water, the potential effects water quality in the Gortaha River leading to Lough Derg and on the River Shannon Callows SAC (Site Code 000216), the Middle Shannon Callows SPA (Site Code 004096), the Lough Derg North-east Shore SAC (Site Code 002241), and the Lough Derg (Shannon) SPA (Site Code 004058) is uncertain.

It cannot be excluded, on the basis of objective information, that the Proposed Development, individually or in combinationn with other plans or projects, will have a significant effect on a European site.

6.4 POTENTIAL EFFECTS ON BIODIVERSITY

6.4.1 POTENTIAL DIRECT EFFECTS -HABITATS

The open field habitats are considered of low biodiversity value at a local level while internal and boundary hedgerows range from low to moderate local value.

There are no rare or protected habitats recorded in the study areas inside the licenced areas. Overall, the proposed development area is of Low Local Ecological Value, with the exception of the esker hedgerows and treelines.

In the absence of mitigation measures during diversion and overall site development near water courses, the potential for pollution for elevated suspended solids and/or chemical spills or hydrocarbons is uncertain in the absence of construction management measures.

The potential direct effects on habitats will be imperceptible and neutral.

6.4.2 POTENTIAL DIRECT EFFECTS - BIRDS

Potential direct effects on breeding birds through loss of internal hedgerow can be avoided by appropriate timing.

6.4.3 POTENTIAL DIRECT EFFECTS - BATS

The proposed works will have a Moderate effect on receptors of Local Importance (Low Value). The loss of trees within the site is not significant at a county, national or international scale.

6.4.4 POTENTIAL INDIRECT EFFECTS

The proposed alternative access road will involve crossing and culverting of two water courses /drainage ditches and the banking of support material to the northern side of the esker road.

Standard road construction activity involves earth movement and the use of plant and machinery that will require refuelling in addition there will be small amounts of cement delivered for local use in small batches.

In the absence of mitigation measures during construction to control potential pollution of surface water, the potential effects water quality in the Gortaha River leading to Lough Derg and on the River Shannon Callows SAC (Site Code 000216), the Middle Shannon Callows SPA (Site Code 004096), the Lough Derg North-east Shore SAC (Site Code 002241), and the Lough Derg (Shannon) SPA (Site Code 004058) is uncertain.

Guidance on lighting has been based on the Bats & Lighting document; (BCI , 20 the Bats and artificial lighting in the UK Guidance Note 08/18 (BC T, 2018) and Guidelines for consideration of bats in lighting projects. EUROBATS Publication Series No. 8 (Voigt, 2018). Lighting can alter the behaviour of bats and the insects they prey on.

The potential indirect effects on Biodiversity relate to the conveyance of pollutant emissions downstream to the River Shannon and/or Lough Derg. The predicted effect is unlikely to be significant, however, construction management will be included under the Precautionary Principle.

6.5 MITIGATION MEASURES

6.5.1 MITIGATION MEASURES FOR HABITATS

Some tree felling and hedgerow removal is planned, as well as removal of species poor agricultural grassland and arable land. New native hedgerows along the access road will provide significant net gain of high-quality habitat with improved connectivity for species in the wider landscape.

6.5.2 MITIGATION MEASURES FOR BATS

The landscape plan will see a large quantity of tree planting providing more landscape features usable by bats.

In order to minimise the extent of light spill onto perimeter habitats, all lights that are pole mounted will be directional and/or cowled to ensure that light is directed downward and inwards. Lights will be programmed or otherwise to be off unless required.

6.5.3 MITIGATION MEASURES FOR BIRDS

Potential impacts on birds will be avoided by cutting of vegetation outside the bird nesting season March to August.

Planting of native tree species in linear features as well as woodland patches will provide ecological corridors, nest sites and will compensate for the loss of hedgerows as part of the development.

6.6 RESIDUAL IMPACTS

Specific local mitigation measures include the avoidance of cutting of vegetation during the bird nesting season with regard to the construction phase. The planting of new hedgerow habitat will negate the loss of relatively short sections of low value gappy hedgerow, scrub, grassland and overgrown drainage ditches. The overall effect is considered neutral, imperceptible, and long-term.

With the employment of appropriate mitigation measures with regard to local biodiversity, the proposed alternative access road will have a neutral, imperceptible and long-term effect on biodiversity.

6.7 CUMULATIVE EFFECTS

The parent application for which the new access road is required are currently under consideration by An Coimisiún Pleanála are listed below. All three applications are supported by the July 2024 EIAR and this EIAR addendum.

- Project 1: Reserve Gas Fired Generator
- Project 2: Energy Storage System (ESS)
- Project 3: Gas Insulated Switchgear (GIS) Electricity Substation

These Projects were considered under the EIA Directive and Habitats Directive and supporting reports have demonstrated that with appropriate mitigation during construction, operation and landscaping that these Projects would have no significant effects on Biodiversity or on the Natura 2000 Network under the Habitats Directive. The Proposed Development will include a CEMP and environmental commitments in order to avoid potential negative effects on all European sites considered in the potential zone of

influence and to avoid negative effects on an and improve Biodiversity. Provided that mitigation is implemented, there are no predicted in-combination effects from the parent applications and the subject Proposed Development.

Potential routes for the underground transmission gas pipeline which will serve the reserve gas-fired generator project are being considered by Gas Networks Ireland. This connection will form a separate planning application. There is potential for the route of the pipelines to impact on unknown habitats and fauna such as badgers will be mitigated by appropriate avoidance measures to ensure no cumulative effects occur.

The Galway County Development Plan in complying with the requirements of the Habitats Directive requires that all Projects and Plans that could affect the Natura 2000 sites in the same zone of influence of the Development site would be initially screened for Appropriate Assessment and if requiring Stage 2 AA, that appropriate employable mitigation measures would be put in place to avoid, reduce or ameliorate negative impacts. In this way any, in-combination impacts with Plans or Projects for the proposed development area and surrounding townlands in which the development site is located, would be avoided.

A review of developments granted permission in the vicinity in most cases have been granted with conditions relating to sustainable development by the consenting authority in compliance with the relevant Local Authority Development Plan and in compliance with the Local Authority requirement for regard to the Habitats Directive. Any consented development cannot have received planning permission without having met the consenting authority requirement in this regard. There are no predicted in-combination or cumulative effects given that it is predicted that the development will have no effect on any European site.

6.8 MONITORING AND FURTHER WORKS

No ecological monitoring is required. Post-construction and following decommissioning/reinstatement, monitoring /inspection will confirm (i) reinstatement of bank profiles and drainage function where relevant, (ii) stabilisation of disturbed ground and absence of erosion/sediment pathways, and (iii) establishment and survival of planted hedgerows/trees, with remedial actions implemented as required.

6.9 SUMMARY OF SIGNIFICANT EFFECTS

There will be no significant effects on designated sites in the potential Zone of Influence of the proposed alternative access road. Mitigation measures proposed will reduce the impact on all bird species while enhancement measures should result in a net overall

benefit for the local bird population. The proposed alternative access road will not have a significant impact on any bird species on a local or county basis.

There will be no significant effects on overall low value local biodiversity.

6.10 REFERENCES

- Guidelines for Ecological Impact Assessment in the UK And Ireland Terrestrial, Freshwater, Coastal and Marine Version 1.3 - Updated September 2024 (CIEEM, 2024).
- Department of the Environment, Heritage and Local Government (2010) Guidance on Appropriate Assessment of Plans and Projects in Ireland (as amended February 2010).
- EC (2000) Managing Natura 2000 sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC.
- EC (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43EEC. European Commission, Brussels.
- EC (2007) Guidance document on Article 6(4) of the 'Habitats Directive '92/43/EEC: Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interests, compensatory measures, overall coherence and opinion of the Commission. European Commission, Brussels.
- EC (2018) Managing Natura 2000 sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC.
- EPA (2022) EPA Draft Guidelines on Information to be contained in an EIAR; EPA, May 2022.
- Fossitt, J. (2000) A Guide to Habitats in Ireland. The Heritage Council.
- Nairn, R. and J. Fossitt (2004) The Ecological Impacts of Roads, and an Approach to their Assessment for National Road Schemes. In: J. Davenport and J.L Davenport (eds) The Effects of Human Transport on Ecosystems: Cars and Planes, Boats and Trains, 98-114. Dublin. Royal Irish Academy.
- NPWS (2025) National Parks and Wildlife Service Metadata available online at https://www.npws.ie/maps-and-data
- NRA (2009) Guidelines for Assessment of Ecological Impacts of National Road Schemes. Dublin: National Roads Authority. Available at: http://www.nra.ie/Environment/
- Parnell, J. and T. Curtis (2012) Webb's An Irish Flora. Cork University Press.
- Smith, G.F., O'Donoghue, P., O'Hora, K. and E. Delaney (2011) Best Practice Guidance for Habitat Survey and Mapping. The Heritage Council.

7 SOILS AND GEOLOGY

7.1 INTRODUCTION

This section provides an update of Chapter 7 of the July 2024 EIAR which assesses the potential effects associated with the Proposed Development as Amended on Soils and Geology. The chapter considers the proposed alternative construction access road (and associated revised planning application boundary) to allow for construction of the three Coolpowra Energy Projects – Reserve Gas Fired Generator (An Coimisiún Pleanála; Ref. 320095), GIS Generator (An Coimisiún Pleanála; Ref. 320094), and ESS (An Coimisiún Pleanála; Ref 32091).

Additional information is also provided within this Chapter of the EIAR Addendum to further describe and provide a comprehensive consideration of the baseline environment. Baseline and assessment findings of the Soils and Waters Environment Chapter contained in the July 2024 remain valid except where updated in this EIAR addendum chapter.

7.2 ASSESSMENT METHODOLOGY & SIGNIFICANCE CRITERIA

7.2.1 INTRODUCTION

This updated assessment uses the same methodologies outlined in Chapter 8 of the EIAR. The report meets the requirements of the relevant regulations and has been prepared in accordance with the EPA Guidelines on Information to be contained in Environmental Impact Assessment Reports (EPA, 2022).

7.3 DESCRIPTION OF THE RECEIVING ENVIRONMENT

7.3.1 BACKGROUND

As set out in the July 2024 EIAR, the proposed development is located in the townlands of Coolpowra, Cooldorragha, Ballynaheskeragh, Gortlusky and Sheeaunrush, County Galway. The development lands are accessed via the N65 and the L8763 local road network in the vicinity of the site. Lands within the development site boundary of the Proposed Development as Amended are in agricultural use (grassed and arable) and include a farmhouse and outbuildings. The proposed lands are situated at an elevation of c. 51-54m AOD and are accessed by road via the N65 (National Road which connects the towns of Loughrea and Portumna) and the L8763 (local road). The study area for the geology and soils assessment is focused on land within the site boundary and outward to 2km.

The study area for the Waters assessment is focused on surface water and groundwater bodies within the development boundary and outward to 2km. Downstream waterbodies and protected waterbodies within 5km have also been considered.

7.3.2 SOILS AND GEOLOGY

7.3.2.1 Historical Land Use

Review of historical maps[34] and aerial imagery show that the lands on which the the proposed alternative construction access road was historically used as agricultural lands containing open grassland, pockets of woodland and scrub. In more recent years (last 30 years), aerial imagery shows lands as arable and grazing pastures.

7.3.2.2 Geology

Bedrock formation beneath the site is Lucan Formation (Dark limestone & shale (calp)) comprising dark grey to black, fine-grained, occasionally cherty, micritic limestones that weather paler, usually to pale grey.

7.3.2.3 Soils and Subsoils

Soils on the site are described as Mullabane (Teagasc Code 1100q) and described as mostly Brown Earths and Calcareous Brown Earths on drift with limestones, associated with Luvisols and some inclusions of Rendzinas and peat. The soils are classed as well drained (Type BminSW).

The majority of the site is underlain by glacial till derived from limestone. Some isolated mounds of limestone gravels are present in the area along with a graded ridge of esker sands and gravels which underlie part of the local road (L8763) which routes in a north-western direction from the proposed "operational-stage" entrance to the site. This combination of deposit type is characteristic of sub-glacial mechanisms resulting in well drained soils of homogenous nature.

7.3.2.4 Ground Investigation - August to October 2024

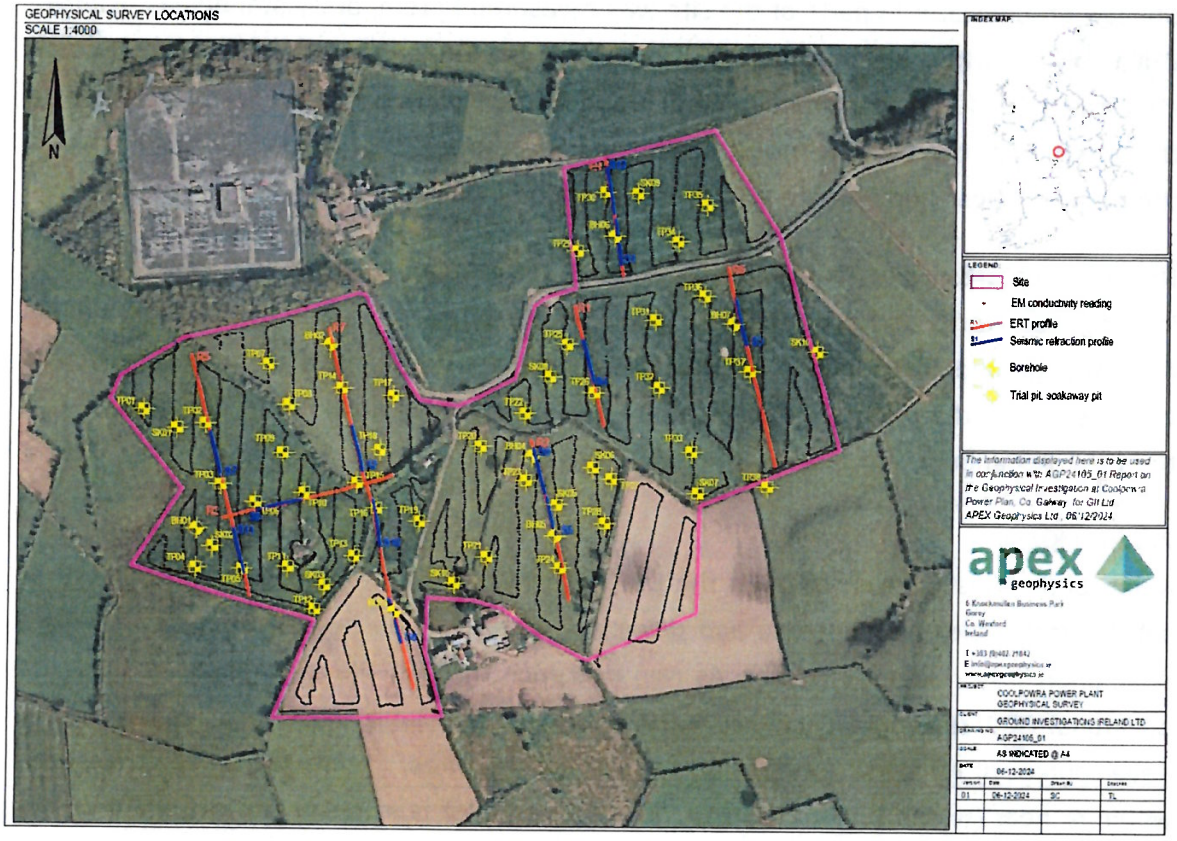
A ground investigation was carried out within the original planning site boundary (July 2024) on behalf of the applicant between August and October 2024 (see attached in Appendix 7.1). Thirty-eight trial pits, ten soakaway pits and seven rotary boreholes were completed between 10 September and 02 October 2024. A geophysical survey consisted of EM ground conductivity, 2D Electrical Resistivity Tomography (ERT) and Seismic Refraction profiling was carried out over a number of sessions between the 12 August and

[34] 6" (dated 1829-1841) and 25" (1897-1913)

the 23 of October 2024. A drawing showing survey locations is presented in Figure 7.1 and a summary of the combined geophysical and direct investigation findings is as follows:

- Layer 1 - thin upper layer of predominantly soft sandy gravelly clay or loose clayey sand/gravel soils ranging from 0.3 to 1.8 m thick (average 1.0m)
- Layer 2 - a layer of predominantly firm to stiff sandy gravelly clay and/or medium dense to dense clayey and/gravel to depths ranging from 0.8 to 9.0 m bgl (average 3.5 m). No distinct weathered rock layer could be interpreted from the geophysical data however two trial pits (TP17 and SK04) encountered 0.9 to 1.2 m of weathered rock returned as clayey sandy gravel and one borehole (BH06) encountered 1.0m of possible weathered bedrock. As such, the base of Layer 2 may comprise of highly to moderately weathered rock which the seismic velocities indicate would be diggable to marginally rippable.
- Layer 3 - slightly weathered to fresh rock at elevations ranging from 41.8 to 52.8mOD. The seismic velocities indicate that the rock is of good quality.

Figure 7.1 Ground Investigation Survey Locations



The interpreted soil thickness (Layers 1 and 2 combined) ranges from 0.8m in the south of the site to 9.0m in the northwest, where there is a localised thickening of sandy gravelly

clay soil. The top of the slightly weathered to fresh rock has been interpreted at elevations ranging from 41.8mOD in the northwest to 52.8mOD in the northeast.

While there is generally a good correlation between the geophysical data and depth to bedrock encountered in the boreholes, the geophysical data indicates the diggable weathered rock encountered in the trial pits (TP17 and SK04) generally lies within Layer 2 material. Two bedrock types were interpreted; predominantly high resistivity dark limestone with thin interbedded shales with some areas of low resistivity rock interpreted as mudstone/shale.

A number of zones of lower bedrock resistivities are present on NW-SE trending ERT profiles. These zones could be indicative of a change in rock lithology (i.e. an increase in shale content) or increased weathering/fracturing/ faulting. These zones have been interpreted as indicating possible NE-SW faulting as the seismic data across these zones does not indicate the presence of lower velocity zones indicative of weathered/fractured rock.

Shallow groundwater in parts of the site was measured in temporary standpipes installed BH01, BH03, BH04, BH05, and BH06) as part of ground investigation works in October /November 2024. From the data general groundwater flow direction (indicative[35]) beneath the site is from the eastern /north-eastern part of the site (around BH06/BH05) toward the western /west-north-western part of the site, i.e. toward BH01.

No karst features were identified (e.g. voids) within the lands as part of the ground investigation works and the karst features is not supported by the evidence and findings from the ground investigation carried out. Findings of the ground investigation are consistent with the original EIAR findings. The GI report is provided in Appendix 7.1 of the EIAR Addendum.

7.3.2.5 Karst

Karst landscapes develop through the process of karstification, this occurs primarily in soluble rocks such as limestone and dolomite. Karstification takes place due to calcite dissolution from meteoric water. As rain descends through the atmosphere it picks up additional CO2 causing a chemical reaction within the soluble limestone, leading to the development of numerous surface and subsurface features. There are no karst features within or near (within 2.5km) the site. The closest karst features to the site are a spring (Karst Feature Unique ID IE_GSI_Karst_40K_8186) and an Enclosed Depression (Karst

[35] This is based on a small number of monitoring points and a short monitoring window (October to November 2024). Heads may reflect local shallow groundwater conditions (and standpipe installation depths – BH01 (6.7m), BH03 (6.7m), BH04 (6.7m) and BH05(6.5m).

Feature Unique ID IE_GSI_Karst_40K_2815), which are located approximately 3km from the southern redline boundary of the site.

7.3.2.6 Geological Heritage

The GSI in conjunction with the Geoparks network and GSNI have undertaken the programme *"Geoheritage"* dedicated to the protection and promotion of regions and features of geological importance throughout the country. The sites are identified as County Geological Sites for inclusion in County Development and Heritage Plans. According to the GSI There are no recorded sites of geological interest within or close to the development boundary. The Killimor Esker (Code GY078), a moderate-sized ridge comprised of esker sands and gravels, deposited under the ice sheet and trending east west is located 2.1km north of the proposed development (as amended) at its nearest point.

7.3.2.7 GSI wells and Springs

There are no GSI recorded wells or springs within the study area. There are no group schemes or public supply source protection areas within 2km of the development lands. A groundwater abstraction well is located within the development lands to the east of the house which is to be demolished as part of the proposed development. The existing abstraction well historically supplied potable water to the residence and farm. Field measurements of the well were completed in October 2024. The well depth was recorded as being 24.0m deep and depth to groundwater was recorded as being 3.99m bgl.

7.3.2.8 Landslide /Ground Stability

There is no risk of landslide within the development lands (GSI classification of susceptibility is *"low"*). A small section of the public road to the east of the site which runs along the raised ridge is classed as *"moderately low"*.

7.3.2.9 Geotechnical Site Records

There are no Geotechnical Site Records recorded by GSI within 2km of the proposed development lands.

7.3.2.10 Radon

According to the EPA, approximately 1 in 10 homes in this area is likely to have high radon levels.

7.3.3 EARTHWORKS ASSESSMENT

The estimation of earthworks associated with the Proposed Development has been undertaken to quantify the volumes of cut and fill required to achieve the proposed finished ground levels across the site. The proposed levels have been developed based on available

topographical survey data, interpreted ground conditions, and the functional and operational requirements of the proposed infrastructure and associated ancillary equipment.

The assessment has been carried out in accordance with recognised civil engineering practice and with reference to:

- IS EN 1997-1 (Eurocode 7): Geotechnical Design,
- The principles of volume measurement set out in the Civil Engineering Standard Method of Measurement (CESMM).

7.3.3.1 Earthworks Zoning

For the purposes of earthworks assessment and volumetric analysis, the site has been subdivided into the following five distinct zones:

1. 400kV GIS, OCGT and Fuel Storage Area
2. SynCon Area and Adjacent Parking Area
3. Long Duration Energy Storage (LDES) Area
4. AGI Area
5. Access Road (Original Alignment)

The following tables indicate the preliminary unfactored bulk volumes associated with each zone.

Table 7.1 400kV GIS, OCGT & Fuel Storage Area

Volume Summary							
Name	Type	Cut Factor	Fill Factor	2d Area (sq.m)	Cut (Cu. M.)	Fill (Cu. M.)	Net (CuM.)
400kV GIS OCGT Fuel Storage Area	full	1.200	1.200	59049.15	43340.37*	37886.99*	5453.38*

Totals				
	2d Area (sq.m)	Cut (Cu. M.)	Fill (Cu M.)	Net (Cu. M.)
Total	59049.15	43340.37*	37886.99*	5453.38*

Table 7.2 Syncon and Adjacent Parking Area

Volume Summary							
Name	Type	Cut Factor	Fill Factor	2d Area (sq.m)	Cut (CuM.)	Fill (Cu. M.)	Net (Cu. M.)
Parking Area	full	1.200	1.200	3644.80	3370.83*	225.13*	3145.70*
SynCon	full	1.200	1.200	10934.85	5251.80*	307.97*	4943.82*

Totals				
	2d Area (sq.m)	Cut (Cu. M.)	Fill (Cu. M.)	Net (Cu. M.)
Total	14579.66	8622.63*	533.10*	8089.52*

Table 7.3 LDES

Volume Summary							
Name	Type	Cut Factor	Fill Factor	2d Area (sq.m)	Cut (Cu. M.)	Fill (Cu. M.)	Net (Cu. M.)
LDES	full	1.200	1.200	37159.75	15044.02*	20055.52*	5011.50*

Totals				
	2d Area (sq.m)	Cut (Cu. M.)	Fill (Cu. M.)	Net (Cu. M.)
Total	37159.75	15044.02*	20055.52*	5011.50*

Table 7.4 AGI

Volume Summary							
Name	Type	Cut Factor	Fill Factor	2d Area (sq.m)	Cut (Cu. M.)	Fill (Cu. M.)	Net (Cu. M.)
AGI	full	1.200	1.200	8138.25	1829.70*	579.90*	1249.81*

Totals				
	2d Area (sq.m)	Cut (Cu. M.)	Fill (Cu. M.)	Net (Cu. M.)
Total	8138.25	1829.70*	579.90*	1249.81*

Table 7.5 Access Road (Original)

Volume Summary							
Name	Type	Cut Factor	Fill Factor	2d Area (sq.m)	Cut (Cu. M.)	Fill (Cu. M.)	Net (Cu. M.)
Original Access Road	full	1.200	1.200	7596.42	906.80*	2124.28*	1217.48*

Totals				
	2d Area (sq.m)	Cut (Cu. M.)	Fill (Cu. M.)	Net (Cu. M.)
Total	7596.42	906.80*	2124.28*	1217.48*

7.3.3.2 Earthworks Quantities and Material Reuse

The results of the preliminary volumetric analysis indicate a combined unfactored cut volume of approximately 69,700m³ across the proposed development. For the purposes of this assessment, and on a conservative basis, it has been assumed that the excavated cut material is unsuitable for direct reuse as structural fill beneath buildings or pavements. Accordingly, the excavated material is proposed to be reused on site to form three landscaped berms, as indicated on drawing number CPA-HAL-MP-XX-DR-PL-1000, thereby avoiding off-site disposal, and associated environmental impacts.

7.3.3.3 Berm Earthworks Assessment

The proposed undulating berms have a combined footprint with an approximate plan area of 32,000m², a maximum height of approximately 5.0m, and side slopes of 3H:1V. Based on these parameters, and assuming a linear variation in height from the berm perimeter to the crest, the total volume of earthworks associated with the berms is estimated to be in the order of 80,000m³. This estimate is derived using an average berm height of approximately 2.5m and is considered appropriate for planning phase design and

associated environmental assessment purposes. The berm geometry and associated volumes will be refined at detailed design stage following completion of detailed topographical modelling and confirmation of final slope profiles and crest configurations.

7.3.4 BASELINE SCENARIO - WITHOUT DEVELOPMENT

Soils and subsoils support would continue in agricultural land use. The ground profile is generally well drained with localised pockets of made ground and peat. Shallow groundwater in parts of the site was measured in temporary standpipes installed as part of ground investigation works in October /November 2024.

Without development, the lan use is expected to remain predominantly agricultural in the short to medium term. Routine farming and maintenance of field drains would continue to influence soil structure and runoff generation. Periodic maintenance of the arterial drainage network would continue to influence local drainage efficiency and channel form.

7.4 ASSESSMENT OF POTENTIAL ENVIRONMENTAL EFFECTS

7.4.1 CONSTRUCTION PHASE

The Construction Phase Potential Environmental Effects are presented in Table 7.6 of the July 2024 EIAR. Construction of the proposed alternative construction access road does not alter the type, extent, or likely significance of construction-phase effects on the water environment as previously assessed. Accordingly, there is no change to the impact significance ratings or the supporting discussion presented in the original EIAR.

7.4.2 OPERATIONAL PHASE

The proposed alternative construction access road is required for construction-stage activities only and will be removed following completion of the relevant works. As such, there are no operational phase impacts associated with the proposed alternative construction access arrangement.

7.5 MITIGATION MEASURES

7.5.1 CONSTRUCTION PHASE

Mitigation is presented in Table 7.10 of the July 2024 EIAR for the construction phase. No additional mitigation measures are proposed specifically in respect of the construction, use, and removal of the proposed alternative construction access road. The construction-phase mitigation set out in the July 2024 EIAR (including pollution prevention measures,

runoff management, sediment control, materials handling, and inspection/maintenance procedures) will apply equally to the alternative access works.

7.5.2 DECOMMISSIONING

Where decommissioning is undertaken following commissioning of the overall development, the proposed alternative construction access road will be removed and the lands reinstated. For the purposes of soils and geology, decommissioning would typically comprise:

- removal of surfacing and granular layers, as appropriate, and off-site disposal/reuse in accordance with waste management requirements;
- removal of temporary drainage features not required in the long term, reinstatement of any affected field drainage, and restoration of pre-existing drainage pathways where practicable; and
- replacement of stored subsoil and topsoil in the correct order and thickness, followed by reinstatement of agricultural use through cultivation, reseeding and/or equivalent land management measures.

Agricultural lands and associated field infrastructure, including drainage functionality, are considered to be of medium sensitivity. The magnitude of change is assessed as slight, reflecting the short-term and localised nature of disturbance associated with removal and reinstatement works, and the objective to restore pre-existing ground conditions. The likely significant effect is therefore assessed as minor adverse (short term) during decommissioning works. Residual effects are anticipated to be negligible, subject to implementation of an appropriate reinstatement method statement (including soil handling, protection of subsoil/topsoil structure, and erosion/sediment control) and post-works verification of surface condition and drainage performance.

7.6 RESIDUAL IMPACTS OF THE DEVELOPMENT

With implementation of the mitigation measures identified in the July 2024 EIAR (and applied to the alternative access works), the proposed development (as amended) is not predicted to give rise to significant residual effects on soils and geology. The alternative construction access arrangement is temporary and will be removed and the area reinstated; therefore, any effects arising during construction—such as localised soil disturbance/compaction, minor excavation and handling of superficial deposits, and short-term potential for sediment mobilisation—will be short-term and reversible.

Following reinstatement, ground levels and surface conditions will be restored as far as practicable, including replacement of soils/subsoils where relevant, stabilisation of exposed surfaces, and restoration of drainage controls. As a result, no long-term alteration to the geological or soil environment, and no enduring pathway for effect (e.g., persistent erosion or long-term contamination risk), is introduced beyond that already assessed in the original EIAR.

7.7 CUMULATIVE EFFECTS

Cumulative effects on soils and geology were assessed in the July 2024 EIAR in the context of the overall development and other relevant plans/projects. The proposed alternative construction access road results in a revised red-line boundary and introduces an additional temporary area of construction activity; however, it does not alter the operational characteristics of the development and does not introduce new operational emissions or discharges relevant to soils and geology.

Accordingly, any potential cumulative interactions are confined to the construction phase and relate primarily to temporary soil disturbance (including stripping/stockpiling/handling), localised excavation and earthworks, and the potential for increased runoff and mobilisation of fine sediment in combination with other construction activities associated with the overall development and any concurrent third-party works in the locality. These potential interactions are of the same nature as those assessed for the construction phase in the original EIAR and are managed through the established mitigation and control framework, including surface water and sediment management measures, pollution prevention procedures, and routine inspection and maintenance.

On this basis, the proposed alternative construction access arrangement is not predicted to materially alter the cumulative effects conclusions of the July 2024 EIAR for soils and geology. With implementation and monitoring of the construction-phase mitigation measures, residual cumulative effects are anticipated to remain not significant.

7.8 MONITORING AND FURTHER WORK

Monitoring commitments set out in the July 2024 EIAR will apply to the proposed alternative access works. In addition, the following measures shall be incorporated (as applicable) within the Construction Environmental Management Plan for the amended works, to manage potential cumulative interactions arising from concurrent construction activities in the locality:

Pre-works walkover: A walkover survey of the proposed alternative access route and adjacent drainage features to confirm the location and condition of field drains, ditches and any nearby water features, and to inform protection, set-back and temporary drainage/control measures.

- Inspection and maintenance: Routine inspection and maintenance of surface water controls and any temporary drainage measures along the access route, with increased frequency during and following heavy rainfall and where other nearby works may elevate sediment/runoff risk.
- Construction-stage observations /monitoring: Water quality observations at agreed locations where relevant (e.g., visual checks for discoloration /sediment and hydrocarbons; and, where required, basic parameters such as turbidity /suspended solids and pH), supported by clear trigger levels and action /response procedures in the event of exceedances or incidents.
- Reinstatement verification: Decommissioning /reinstatement verification to confirm reinstated ground levels, surface condition and drainage performance (including field drain functionality), with prompt remedial works where deficiencies are identified.

8 WATER ENVIRONMENT

8.1 INTRODUCTION

This section provides an update of Chapter 8 of the July 2024 EIAR which assesses the potential effects associated with the Proposed Development as Amended on the Water Environment. The chapter considers the proposed alternative construction access road (and associated revised planning application boundary) to allow for construction of the three Coolpowra Energy Projects – Reserve Gas Fired Generator (An Coimisiún Pleanála; Ref. 320095), GIS Generator (An Coimisiún Pleanála; Ref. 320094), and ESS (An Coimisiún Pleanála; Ref 32091).

All other elements of the proposed development remain as assessed in the July 2024 EIAR unless otherwise stated. Baseline and assessment findings of the Water Environment Chapter contained in the July 2024 remain valid except where updated in this EIAR addendum chapter.

The Stage 3 Flood Risk Assessment (FRA) prepared and lodged with the three planning applications has been revised and updated to reflect the proposed changes and is provided in Appendix 8.3 to this EIAR Addendum. The FRA considers the Proposed Development as Amended including rerouting of part of an existing stream (Treananearla) which traverses the site (decommissioning of 370m of existing channel and creation of 170m of new channel) and new crossings of the stream with internal roads within the development lands.

8.2 ASSESSMENT METHODOLOGY & SIGNIFICANCE CRITERIA

8.2.1 INTRODUCTION

This updated assessment uses the same methodologies outlined in Chapter 9 of the EIAR. The report meets the requirements of the relevant regulations and has been prepared in accordance with the EPA Guidelines on Information to be contained in Environmental Impact Assessment Reports (EPA, 2022).

8.3 DESCRIPTION OF THE RECEIVING ENVIRONMENT

8.3.1 BACKGROUND

As set out in the July 2024 EIAR, the proposed development is located in the townlands of Coolpowra, Cooldorragha, Ballynaheskeragh, Gortlusky and Sheeaunrush, County Galway. The development lands are accessed via the N65 and the L8763 local road network in the

vicinity of the site. Lands within the development site boundary are in agricultural use and include a farmhouse and outbuildings. The proposed lands are situated at an elevation of c. 51-54m AOD and are accessed by road via the N65 (National Road which connects the towns of Loughrea and Portumna) and the L8763 (local road). The study area for the Waters assessment is focused on surface water and groundwater bodies within the development boundary and outward to 2km. Downstream waterbodies and protected waterbodies within 5km have also been considered.

8.3.2 SOILS AND GEOLOGY

8.3.2.1 Historical Land Use

Review of historical maps[36] and aerial imagery show that the lands on which the the proposed alternative construction access road was historically used as agricultural lands containing open grassland, pockets of woodland and scrub. In more recent years (last 30 years), aerial imagery shows lands as arable and grazing pastures.

8.3.2.2 Geology

Bedrock formation beneath the site is Lucan Formation (Dark limestone & shale (calp)) comprising dark grey to black, fine-grained, occasionally cherty, micritic limestones that weather paler, usually to pale grey.

8.3.2.3 Soils and Subsoils

Soils on the site are described as Mullabane (Teagasc Code 1100q) and described as mostly Brown Earths and Calcareous Brown Earths on drift with limestones, associated with Luvisols and some inclusions of Rendzinas and peat. The soils are classed as well drained (Type BminSW).

The majority of the site is underlain by glacial till derived from limestone. Some isolated mounds of limestone gravels are present in the area along with a graded ridge of esker sands and gravels which underlie part of the local road (L8763). This combination of deposit type is characteristic of sub-glacial mechanisms resulting in well drained soils of homogenous nature.

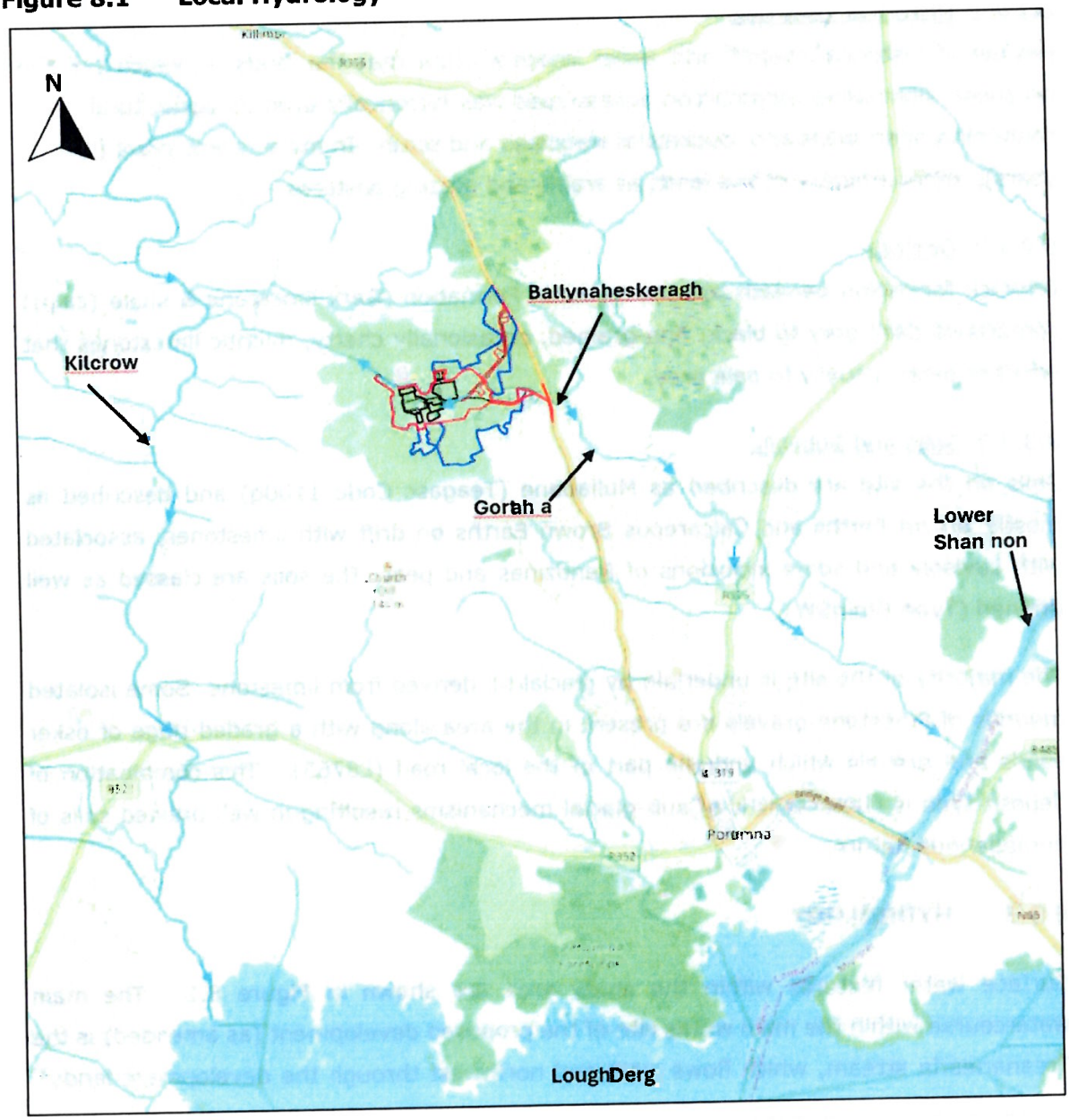
8.3.3 HYDROLOGY

Surface water features within the study area are shown in Figure 8.1. The main watercourse within the main works site of the proposed development (as amended) is the Treananearla stream, which flows west and northwest through the development lands[37]

[36] 6" (dated 1829-1841) and 25" (1897-1913)
[37] The EPA map viewer (https://gis.epa.ie/EPAMaps/Water) incorrectly shows the watercourse as the Gortaha_010 and to be flowing east and southeast.

before discharging to the Kilcrow River (1.9km to the west). TheKilcrow Riverthen flows south for approximately 11km and enters Lough Derg close to Stoneyisland. Benefitting land maps show that The Treananearla stream flowing through the site is maintained as part of the Killimor/Cappagh arterial drainage scheme. The Sheeaunrush stream flows east beyond the main development area of the proposed development (as amended) before its confluence with the Ballynaheskeragh stream on the northern s ideof the L8463. The waterbody then flows into the Gortaha River and southeast for 6.1km before merging with the Lower Shannon, 1km north of Portumna Bridge.

Figure 8.1 Local Hydrology



8.3.3.1 Catchment Description

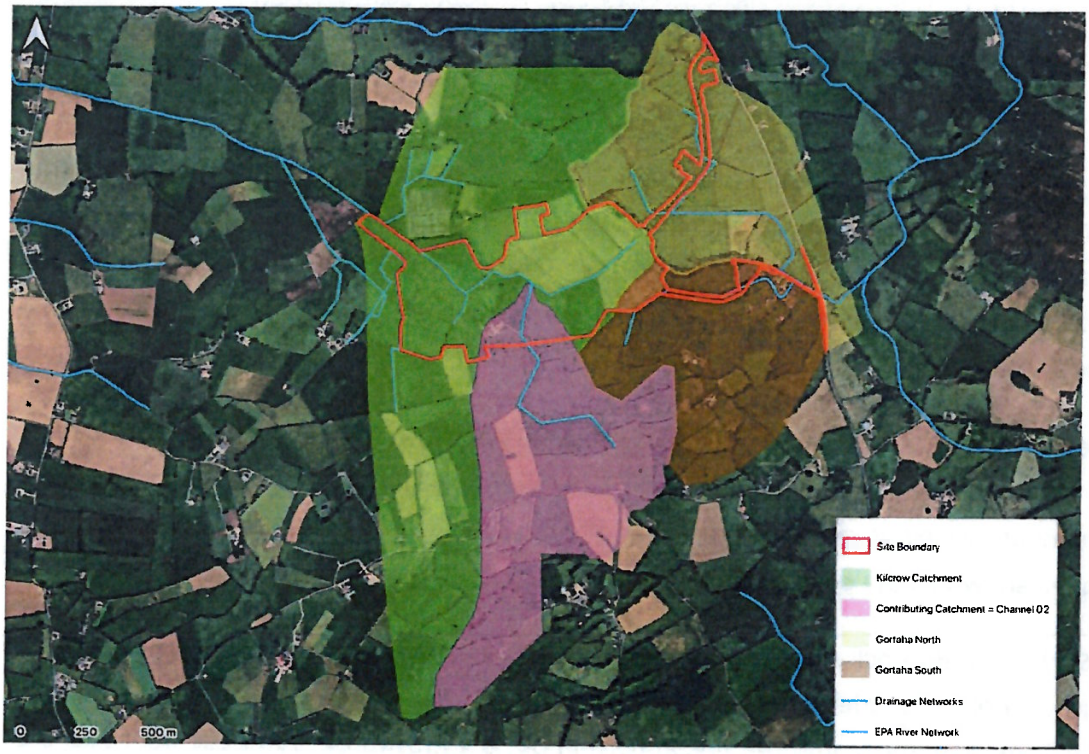
The two dominant sub-catchments in the area are the Gortaha (Catchment 025B), which drains to the east, and the Kilcrow (Catchment 025C), which drains to the west. These rivers are both part of the Lower Shannon Hydrometric Area.

The EPA River Network database suggests that the divide between the Gortaha and Kilcrow river catchments lies within the site boundary, near the current Oldstreet Substation. Subsequent ground truthing and consultation of the OPW Drainage Maps indicate however that the catchment divide is just east of the main site area and that all rainfall-runoff generated on the site drains westwards, outfalling to the Kilcrow River, 2km to the west.

8.3.3.2 Kilcrow Catchment

The drainage network serving the site is dominated by an east to west flowing central channel which itself becomes the Treananearla Stream (first order stream) a short distance downstream of the site. This central channel originates at the eastern end of the central site area, stopping just short of the local road. This catchment was delineated by topographical contours, reference to the OPW and EPA drainage network maps, and ground truthing as part of the site walkover. The catchment area contributing run-off to the downgradient site boundary has an area of 2.0km^2 (see Figure 8.2).

Figure 8.2 Contributing Catchments to Local Watercourses



8.3.3.3 Gortaha Catchment

The eastern extents of the site (through which the proposed alternative construction access road will route) lie within the Gortaha catchment (see Figure 8.2), which has an area of 1.06km^2.

There are two EPA mapped streams within this area. The Sheeaunrush stream, which drains what will be referred to as the Gortaha South catchment, flows from agricultural land to the south of the application site and joins the Ballynaheskeragh Stream as it flows along the original site access route. The Ballynaheskeragh network is mapped incorrectly on the EPA database. The correct flow network following groundtruthing is presented in Figure 8.2. It will be referred to herein as draining the Gortaha North catchment.

There are two structures present in the Gortaha North catchment. The culvert which crosses the N65 and a small field crossing culvert along the Ballynaheskeragh Stream which consists of a 0.3m diameter pipe. A 0.45 m diameter circular culvert transmits water under the L8763 road and marks the confluence of the Sheeaunrush and Ballynaheskeragh streams.

There are several field boundary drains present in the Gortaha North catchment. During the site walkover it was noted that the upper reaches had no discernible flow direction, with standing water noted at multiple locations. Blockages were common, either from silted up channels or infilled areas allowing field crossings.

8.3.4 HYDROGEOLOGY

Similar as to what is presented in Chapter 8 of July 2024 EIAR, the catchments falls within the Tynagh groundwater body (European Code IE_SH_G_236). According to the EPA, the GWB is classed as *"not a risk"* and of *"Good"* status (EPA 2022). The Tynagh GWB is bounded to the west, north and northeast by surface water catchments, to the southeast and south by Lough Derg.

The Geological Survey of Ireland (GSI) Quaternary sediments map for the area (GSIa, 2019) indicates the site is in an area of till derived from limestones. An area of eskers comprised of gravels is shown to the east of the site and an area of bedrock outcrop or subcrop is shown to the southwest

The GSI 1:100k Bedrock Geology map (GSI, 2018) indicates that the site is underlain by dark grey to black bedded limestone and shale of the Lucan Formation ('Calp'). Though karst features are atypical in the Lucan Formation, the GSI Karst Database indicates the nearest karst feature within this formation is a spring >13 km north of the site.

The groundwater vulnerability rating (GSIb, 2019) for the site is classified "Moderate" to "High" across the proposed development (as amended). The Lucan Formation is classified (GSIc, 2019) as a "locally important aquifer – bedrock which is moderately productive only in local zones".

8.3.4.1 Ground Investigation - August to October 2024

A ground investigation was carried out within the original planning site boundary on behalf of the applicant between August and October 2024. Further summary details are presented in Chapter 7 of this EIAR Addendum. Findings of the ground investigation carried out are consistent with the original EIAR findings.

8.3.5 GEOLOGICAL HERITAGE

There are no sites of geological interest within or close to the development boundary. The Killimor Esker (Code GY078), a moderate-sized ridge comprised of esker sands and gravels, deposited under the ice sheet and trending east west is located 2.1km north of the proposed development (as amended) at its nearest point.

8.3.6 FLOODING

The Stage 3 Flood Risk Assessment (FRA) prepared and lodged with the three planning applications has been revised and updated to reflect the proposed development (as amended) and is provided in Appendix 8.3 to this EIAR Addendum. The FRA considers the Proposed Development as Amended including rerouting of part of an existing stream (Treananearla) which traverses the site (decommissioning of 370m of existing channel and creation of 170m of new channel) and new crossings of the stream with internal roads within the development lands.

8.4 ASSESSMENT OF POTENTIAL ENVIRONMENTAL EFFECTS

8.4.1 CONSTRUCTION PHASE

The Construction Phase Potential Environmental Effects are presented in Table 8.7 of the July 2024 EIAR. Construction of the proposed alternative construction access road does not alter the type, extent, or likely significance of construction-phase effects on the water environment as previously assessed. Accordingly, there is no change to the impact significance ratings or the supporting discussion presented in the original EIAR.

8.4.2 OPERATIONAL PHASE

The proposed alternative construction access road is required for construction-stage activities only and will be removed following completion of the relevant works. As such, there are no operational phase impacts associated with the proposed alternative construction access arrangement.

8.5 MITIGATION MEASURES

8.5.1 CONSTRUCTION PHASE

Mitigation is presented in Table 8.11 of the July 2024 EIAR for the construction phase. No additional mitigation measures are proposed specifically in respect of the construction, use, and removal of the proposed alternative construction access road. The construction-phase mitigation set out in the July 2024 EIAR (including pollution prevention measures, runoff management, sediment control, materials handling, and inspection/maintenance procedures) will apply equally to the alternative access works.

Agricultural lands and field infrastructure, including drainage functionality, are considered of medium sensitivity. The magnitude of change is assessed as slight, reflecting short-term disturbance associated with the works and the intended reinstatement of pre-existing conditions. The likely significant effect is therefore assessed as minor adverse (short term) during decommissioning works, with negligible residual effects anticipated subject to implementation of an appropriate reinstatement method statement and post-works verification of surface condition and drainage performance.

The following method statement is presented to mitigate potential effects associated with realignment of the local drainage network near the main works area.

8.5.1.1 Stream Realignment (Refer to EIAR Addendum Appendix 8.3, Envirologic Stage 3 FRA, dated 17 December 2025)

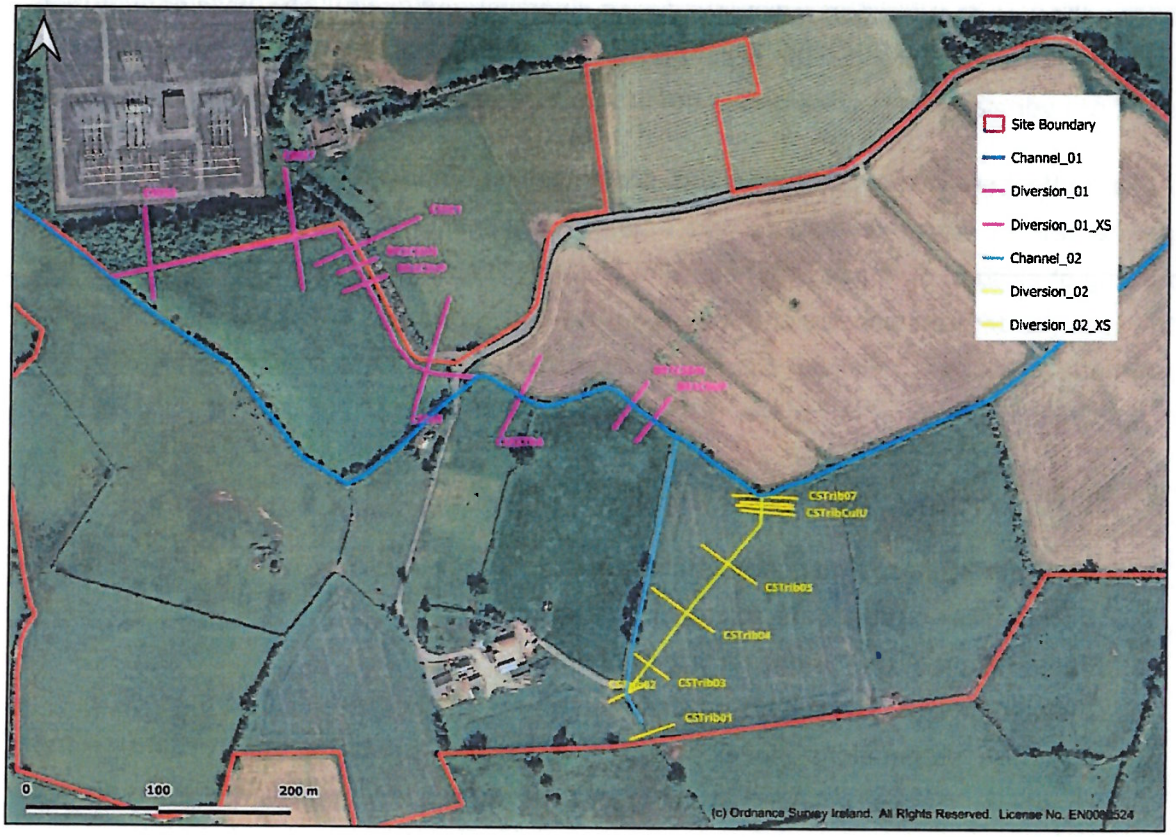
In order to facilitate the site layout (for the Proposed Development as Amended). realignment of the local drainage network is required at two separate channel reaches (see Figure 8.3). This is described as follows:

1. Realignment 01 – Channel 01. The reach between CS016 and CS020 will be diverted north and then west for 350 m. The culvert currently in place at CS016 shall be decommissioned.
2. Realignment 02 – Channel 02. The southern drainage tributary will be diverted north-eastwards from where it currently flows past the on-site dwelling. The culverts currently in place at CS102 and CS110 shall be decommissioned. A new

culvert will be installed to facilitate a proposed access road just before the southern tributary outfalls to the central channel.

3. Invert levels along the realigned drainage channels have been derived at the cross sections shown in Figure 9, based on a uniform bed gradient between the start and end of each realigned channel reach.

Figure 8.3 Location of diverted channels and cross sections



As part of the Proposed Development as Amended, the Treananearla Stream will be realigned, with a new channel dug, prior to the diversion of the watercourse. The Treananearla Stream is of relatively low biodiversity value in terms of its topography being a relatively shallow watercourse with no potential for fisheries value. It has a variable course ranging from drainage ditch type to semi-natural. The realignment of the stream will be achieved by constructing a new landscaped watercourse with a more naturalised bed and enhancement features such as pea-gravel and increased meandering to create riffle and glide areas. The old water course will be diverted to the newly landscaped course with no significant loss of aquatic habitat. The diversion will be carried out having regard to the pathway to the Kilcrow River.

As specified in the July 2024 EIAR (Table 8.11), realignment of the water channel will be undertaken at the start of development work. Works will be sequenced, i.e. the new channel will be dug in accordance with an agreed specification and best practice, and the

water will be redivert ed. The redundant channel (once isolated from the downstream watercourse) will then be infilled. As the stream is a part of an arterial drainage scheme, OPW will be consulted in advance of the proposed works. The method statement will be further developed and agreed with all stakeholders. Silt fencing and other controls will be installed to prevent any impact on the downstream receptor.

In the absence of mitigation measures during diversion and overall site development near watercourses, the potential for pollution for elevated suspended solids and/or chemical spills or hydrocarbons is uncertain in the absence of construction management measures.

As a mitigation measure, a method statement is provided below to describe the programme of works relating to two drainage channel diversions and the subsequent infilling of existing drainage channels. The statement outlines in broad terms the manner in which the different aspects of the work will be undertaken. The method statement shall be made available to Galway County Council, National Parks and Wildlife Service, and Inland Fisheries Ireland for review prior to works commencing.

The aim of this programme of works are as follows:

a. Excavate proposed realignment channels;
b. Decommission redundant stretches and structures;
c. Construction of two bridges along Channel 01
d. Installation of a new culvert on Channel 02;
e. Maximise potential for development of ecological habitat in the recommissioned channels. This will include suitability for fish passage, and provision of areas suitable for spawning;
f. Minimise the amount of damage to existing habitat when diverting flow from channel currently in use to new channel reach.

Cleaning original channels

The banks and bed of the original channel are heavily overgrown and require cleaning. This is necessary to ensure the cross-sectional area provides adequate conveyance capacity to transmit flood flows. All vegetation and excess silt in the original channel will be removed using an excavator.

It is acknowledged that there will be a temporary adverse impact to habitat associated with the removal of this vegetation. Once new vegetation is established, the longer-term impact will be positive.

Channel 01 Realigned Section Invert Levels

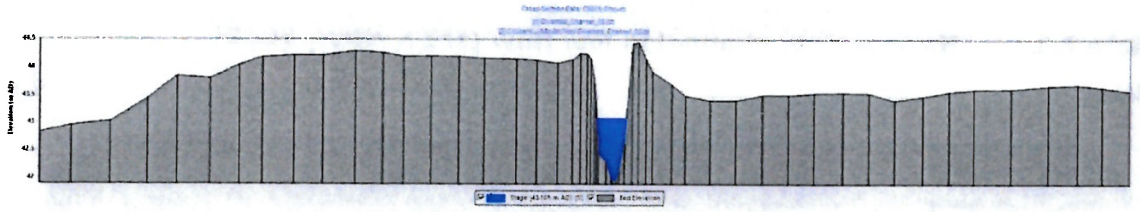
The gradient for the realigned channel in Channel 01 is 1.4%. Proposed inverts for each cross section along this reach are shown in Table 8.1.

Table 8.1 Proposed Invert Levels on Specified Sections on Channel 01 Realigned Reach

Cross Section	Proposed Invert Elevation (mOD)
CS014	53.18
CS050	52.85
BRCSUP	52.46
BR2CSDN	52.09
CS051	52.04
CS057	51.94
CS058	51.93
CS020	51.93

The realigned Channel 01 will have a general cross section profile as shown in Figure 8.4.

Figure 8.4 Proposed cross section dimensions in realigned section of Channel 01



Channel 02 Realigned Section Invert Levels

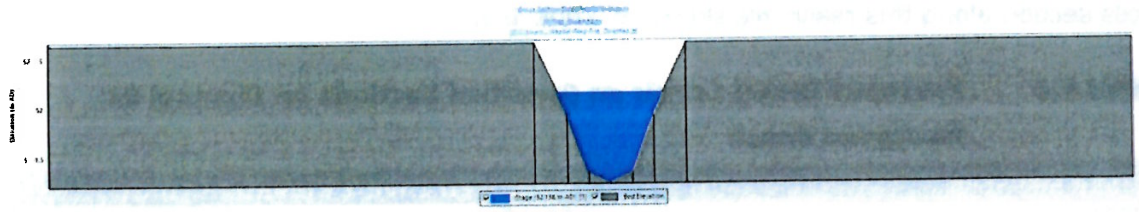
Proposed inverts for each cross section along Channel 02 reach are shown in Table 8.2

Table 8.2 Proposed Invert Levels on Specified Sections on Channel 01 Realigned Reach

Cross Section	Proposed Invert Elevation (mOD)
CSTrib01	52.80
CSTrib02	52.49
CSTrib03	52.10
CSTrib04	51.70
CSTrib05	51.25
CSTribCulUP	51.25
CSTribCulDN	51.25
CSTrib07	51.24

The realigned Channel 02 will have a general cross section profile as shown in Figure 8.5

Figure 8.5 Proposed cross section dimensions in realigned section of Channel 02



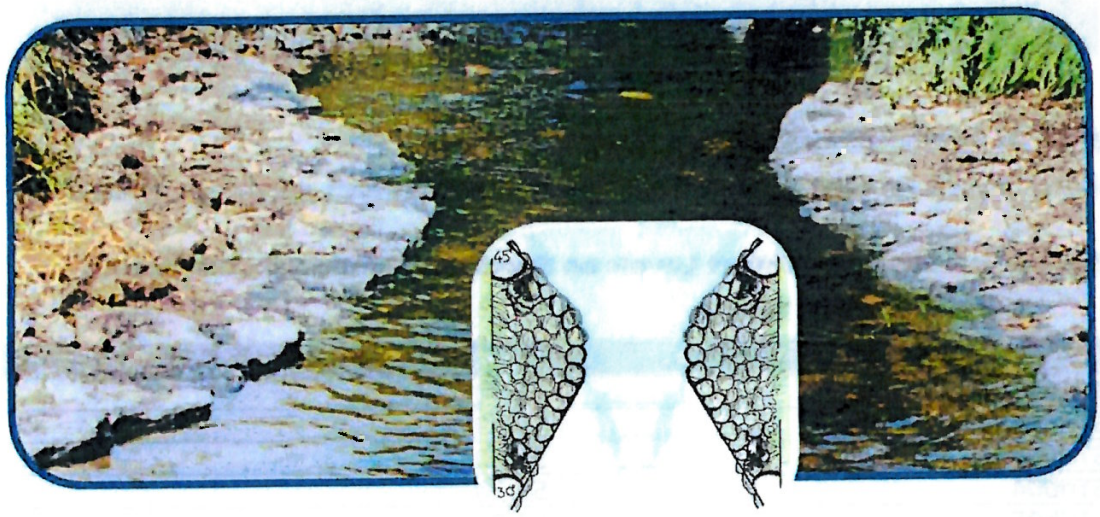
General Channel Modifications

The gradient across the Channel 01 route is moderate to high which means there is potential for introducing oxygen to the stream by way of cascades and turbulent zones. Velocity, and turbulence, can be increased slightly at minor narrowed sections in a low flow channel, as per Plate 8.1.

Rows of larger stones/boulders will be placed on the stream bed in flatter sections to create riffles. Where possible, the channel will be deepened on the outer side of any bends to create pools.

Plate 8.1 Narrow river channel in low flow (IFI & OPW, 2010)

Plate 8.1



Channel Cross Sections

The width of the river channel will be reduced from the river bed to a height of 300 mm. This reduced width will be around 0.5 – 1.0 m. This has the effect of maintaining higher velocities in the wetted channel during normal and low flow regimes. The upper section of the profile will be wider, to provide a conveyance capacity capable of transmitting flood flows. A schematic is presented in Plate 8.2. The inside of any channel bends will be landscaped with sloping marginal benches as show in Plate 8.3.

Plate 8.2 Schematic of stream cross sectional profile (ERFB, 2011)

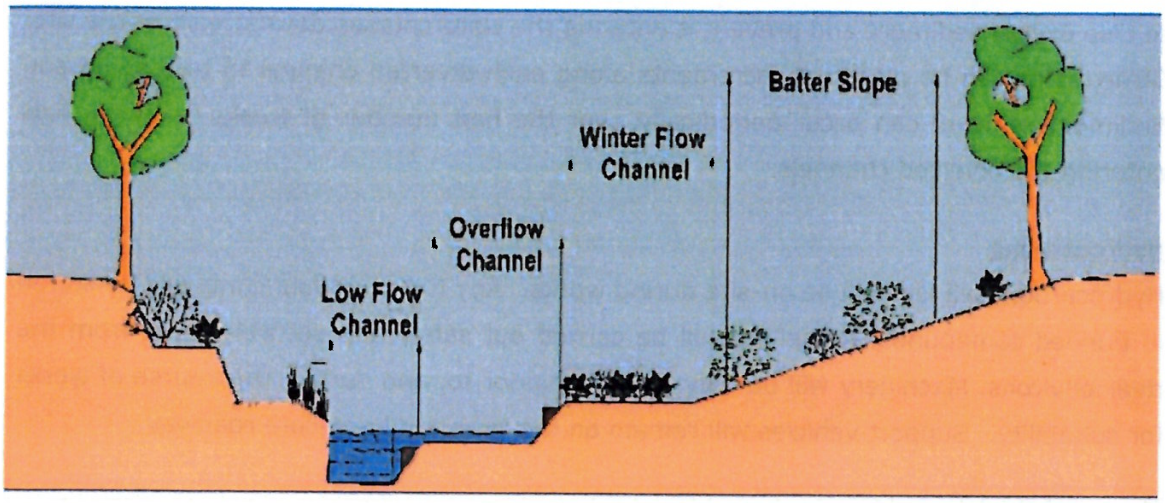


Plate 8.3 Example of stepped bend of river bend

Channel Bank Vegetation

Any excavated soils will be stockpiled temporarily and used to cap the banks of the rehabilitated channel. This will promote establishment of vegetation.

The rehabilitated channel bank will be planted with native species that can be controlled/maintained to ensure conveyance capacity of channel is not significantly reduced by overgrowth in future. Grass and juvenile, native trees are deemed suitable. Trees will provide cover to pooled sections of the river channel. Bank gradients should be such that no bank failure or slippages will occur in future.

Channel Opening

Works on the diverted channels will commence from the downstream end. Once the diverted channels and structures are fully complete, the existing channels can then be diverted and sealed off from any flow and infilled. Upon flow entering the diverted

channels, a cofferdam should be placed at the downstream end of each diverted channel to trap excess sediment and prevent it entering the watercourses downstream of the site. Straw bales can be placed at increments along each diverted channel to trap sediment. Sediment removal can occur periodically over the first number of weeks following flow entering the diverted channels.

Hydrocarbons

Hydrocarbon spill kits will be on-site during works. Any fuels and lubricants will be stored in bunded compounds. Refuelling will be carried out safely and securely away from the river environs. Machinery will be fully inspected prior to, and during, the course of works for suitability. Support vehicles will remain on the tarmac / hard-core roadway.

Timing of Works

All works within the river channel shall be carried out between the months of August to September, to coincide with low stream flows and to avoid interference with spawning runs. Bank maintenance works on existing sections, primarily involving the removal of scrub, should take place between October and March.

Following opening of the diverted channels, water flow will be maintained in the existing channels for a minimum period of 24 hours, to facilitate downstream migration of any insects/fish.

Invasive Species

Standard precautionary measures to be practiced for protection against risk of invasive species. Any machinery, including excavator and dumper will be cleaned with a pressure washer prior to arriving on site, and upon leaving site.

8.5.2 OPERATIONAL MITIGATION

No additional proposed.

8.5.3 DECOMMISSIONING

Where decommissioning is undertaken following commissioning of the overall development, the proposed alternative construction access road would be removed and the lands reinstated. This would typically involve:

- removal of surfacing and granular layers as appropriate;
- removal of temporary drainage features not required in the long term, reinstatement of any affected field drainage, and

- replacement of stored subsoil and topsoil and reinstatement of agricultural use through cultivation and reseeding.

8.6 RESIDUAL IMPACTS OF THE DEVELOPMENT

With implementation of the mitigation measures identified in the July 2024 EIAR (and applied to the alternative access works), the proposed development (as amended) is not predicted to give rise to significant residual effects on the water environment. The alternative construction access arrangement is temporary and will be removed and reinstated; therefore, any construction-stage effects are short-term and reversible. Following reinstatement, the receiving environment and existing drainage regime will be restored as far as practicable, and no long-term pathway for effect is introduced beyond that already assessed in the original EIAR.

8.7 CUMULATIVE EFFECTS

Cumulative effects were assessed in the July 2024 EIAR with regard to the overall development and other relevant plans/projects. The proposed alternative construction access road introduces an additional, temporary area of construction activity and a revised red-line boundary, but it does not change the operational characteristics of the development or introduce new operational emissions or discharges.

Potential cumulative interactions are therefore limited to the construction period, primarily relating to temporary disturbance, runoff generation, and the risk of sediment-laden runoff in combination with other construction activities associated with the overall development and any concurrent third-party works in the locality. These interactions are of the same nature as those already assessed for the construction phase in the original EIAR and are controlled through the existing suite of mitigation measures (including management of surface water, sediment control, pollution prevention, and inspection/maintenance).

Therefore, the proposed alternative construction access arrangement is not predicted to materially alter the cumulative effects conclusions of the July 2024 EIAR. Residual cumulative effects on the water environment are anticipated to remain not significant, subject to the implementation and monitoring of construction-phase mitigation measures.

8.8 MONITORING AND FURTHER WORK

Monitoring commitments set out in the July 2024 EIAR will apply to the proposed alternative access works. In addition, the following shall be incorporated (as applicable) within the Construction Environmental Management framework for the amended works:

- Pre-works walkover of the proposed alternative access route and adjacent drainage features to confirm locations /condition of field drains, ditches, and any nearby water features, and to inform protection measures.
- Routine inspection and maintenance of surface water controls and any temporary drainage measures along the access route, with increased frequency during /after heavy rainfall events.
- Construction-stage water quality observation/monitoring at agreed locations where relevant (e.g., visual checks for discoloration/sediment and hydrocarbons; and, where required, basic parameters such as turbidity/SS, pH), with clear trigger/action procedures in the event of exceedances or incidents.
- Decommissioning /reinstatement verification, including inspection of reinstated ground levels, surface condition, and drainage performance (including field drain functionality) and rectification where required.

9 AIR QUALITY

9.1 INTRODUCTION

This section provides an update of Chapter 9 of the July 2024 EIAR which considers the potential air quality impacts associated with the proposed development. The chapter considers a proposed alternative construction access road to allow for construction of the three Coolpowra Energy Projects – Reserve Gas Fired Generator (An Coimisiún Pleanála; Ref. 320095), GIS Substation (An Coimisiún Pleanála; Ref. 320094), and ESS (An Coimisiún Pleanála; Ref 32091).

This report does not replace the EIAR it is an updated assessment of the potential air quality impacts of the proposed alternative construction access road.

9.2 DESCRIPTION OF THE PROPOSED DEVELOPMENT AS AMENDED

The overall proposed development (as amended) for which planning permission is sought comprises three elements – the Reserve Gas-Fired Generator, the GIS Electrical Substation and the proposed Energy Storage System (ESS) using long duration energy storage (LDES) battery technology and synchronous condenser technology. A single Environmental Impact Assessment Report (EIAR) has been prepared for all three projects proposed as part of the development. The potential environmental impacts from each project are assessed individually and cumulatively (with each other and with any other identified projects) within the EIAR.

The proposed development (as amended) includes a proposed alternative construction access road which will route through lands under the control of the applicant. The alternative construction access will route from the N65 and provide vehicular access to the main development site (south of the L8763). From a new junction along the N65, the proposed alternative construction access road will traverse three undulating grassed fields. The access route will cross the L8763 by staggered junction and extend from here into the main development lands, before connecting to the proposed access lane which will serve the site during operation (i.e. that which was originally applied for).

9.3 METHODOLOGY

9.3.1 INTRODUCTION

This updated assessment uses the same methodologies outlined in Chapter 9 of the EIAR. The report meets the requirements of the relevant regulations and has been prepared in

accordance with the EPA Guidelines on Information to be contained in Environmental Impact Assessment Reports (EPA, 2022).

9.3.2 STUDY AREA

The Study Area for the assessment is shown in Figure 9.1 of the July 2024 EIAR. The study area includes all areas that could potentially be affected by the emissions from the proposed development. The study area was determined using professional judgement and from a consideration of the potential impacts on receptors located near the proposed development. Construction Phase impacts are assessed in accordance with guidance at distances up to 250m from the proposed site boundary.

In addition to the general description of the Study Area, specified Receptors are selected for detailed study as representative receptors to assess impacts of the proposed development. Sensitive receptors across the study area were identified for detailed study as shown in Figure 9.2 (human receptors) and in Figure 9.3 (ecological receptors) of the July 2024 EIAR.

There is no change to the Study Area or to the receptors assessed since the proposed alternative access route lies well within the boundaries of the Study Area selected for the original proposed access route.

9.3.3 CONSTRUCTION PHASE IMPACT ASSESSMENT METHODOLOGY

The Institute of Air Quality Management (IAQM, 2024) *Guidance on the Assessment of Dust from Demolition and Construction* was used for the assessment of potential construction phase air quality impacts of the proposed development. A detailed assessment was carried out and there is no new requirement introduced as a result of the proposed new access route.

The threshold distance for ecological sensitivity to dust is within 50m of the site boundary or 50m of the routes of construction vehicles on the public road within 250m of the site entrance. There are no European or Designated Sites within 50m of the site boundary or 50m of the routes of construction vehicles on the public road within 250m of the site entrance. Therefore, there are no significant Construction Phase air quality impacts predicted for ecological sites from the construction works, and this element is not assessed further. This is the same finding as determined in the EIAR.

9.3.4 OPERATIONAL PHASE IMPACT METHODOLOGY

The proposed alternative construction access road is for construction phase only so there is no associated operational phase air quality impact.

9.3.5 METHODOLOGY FOR ASSESSING IMPACTS DUE TO ASPERGILLUS

There is no change in this section of the EIAR.

9.3.6 METHODOLOGY FOR ASSESSING CUMULATIVE IMPACTS

The cumulative impacts of known permitted and proposed developments with the proposed development were considered using the same methodologies outlined in the EIAR and the same considerations are applied here.

9.3.7 AIR QUALITY IMPACT ASSESSMENT CRITERIA

There is no change to this section of the EIAR.

9.4 AIR QUALITY IMPACT IDENTIFICATION

9.4.1 AIR QUALITY IMPACTS OF EXISTING ACTIVITIES

The subject site is currently a greenfield site and in agricultural use. There is no change to this element of the assessment relative to the information presented in the EIAR.

9.4.2 AIR QUALITY IMPACT IDENTIFICATION OF PROPOSED ACTIVITIES

9.4.2.1 Construction Phase Air Quality Impacts

The potential air quality impacts during Construction were detailed in Section 9.4.2.1 of the July 2024 EIAR. There is no change to the type of emissions or air quality impacts that could arise as a result of the proposed alternative route relative to the proposal in the EIAR.

9.4.2.2 Operational Phase Air Quality Impacts

The proposed alternative access route will not be in place during the Operation Phase so there is no change in the operational phase air quality impact assessment presented in the July 2024 EIAR.

9.4.2.3 Transport Air Quality Impacts

The traffic associated with the proposed development during construction will lead to emissions to atmosphere which are considered in the assessment. There is no change to either the nature or quantity of the emissions associated with the alternative access route.

9.5 DESCRIPTION OF THE RECEIVING ENVIRONMENT

There is no change to this section of the July 2024 EIAR.

9.6 ASSESSMENT OF LIKELY SIGNIFICANT IMPACTS

9.6.1 EXISTING ACTIVITIES

There is no change to this section of the July 2024 EIAR.

9.6.2 CONSTRUCTION PHASE IMPACTS

The proposed alternative access route will generate the same type of emissions as for the original proposed access route and there is no quantifiable difference in either the nature or quantum of emissions associated with the alternative proposal.

9.6.3 OPERATION PHASE IMPACT ASSESSMENT

The proposed alternative construction access road is for construction phase only so there is no associated operational phase air quality impact.

9.7 MITIGATION MEASURES

A Dust Management Plan will be formulated for the construction phase of the project, as construction activities are likely to generate some dust emissions. The principal objective of the Plan is to ensure that dust emissions do not cause significant nuisance at receptors in the vicinity of the site. The most important features of the Dust Management Plan are summarised in Table 9.24 Table of Mitigation Measures in the July 2024 EIAR and these remain unchanged for the proposed alternative access route.

9.8 CUMULATIVE IMPACTS

The cumulative impacts of the proposed development in conjunction with current and future developments in the vicinity of the subject site were considered. There is no discernible difference in the emissions or potential air quality impacts associated with the proposed alternative construction access road and therefore there is no difference in this section of the assessment relative to the July 2024 EIAR.

9.9 DO NOTHING SCENARIO

There will be no significant change in air quality impacts if the proposed development does not proceed.

9.10 HUMAN HEALTH IMPACTS

There is no change to this section of the July 2024 EIAR.

9.11 RESIDUAL IMPACTS

There is no change to this section of the July 2024 EIAR.

9.12 INTERACTIONS ARISING

There is no change to this section of the July 2024 EIAR.

9.13 MONITORING

There is no change to this section of the July 2024 EIAR.

9.14 ACCIDENTS OR UNPLANNED EVENTS

There is no change to this section of the July 2024 EIAR R.

9.15 REFERENCES

There is no change to this section of the July 2024 EIAR.

10 MATERIAL ASSETS

10.1 INTRODUCTION

This chapter assesses the likely significant effects, if any, of the Proposed Development (as amended) on Material Assets, and sets out mitigation and residual effects.

For the purposes of this EIAR Addendum, the Proposed Development (as amended) refers to the development assessed in the July 2024 EIAR together with:

1. The alternative construction access road and associated temporary works; and
2. The revised planning application boundary to incorporate these amendments.

Only sections of the EIAR where relevant changes or updates have been identified are provided in this EIAR Addendum. All other elements of the Proposed Development remain as assessed in the July 2024 EIAR unless otherwise stated. The baseline and assessment findings contained in the July 2024 EIAR Material Assets chapter remain valid except where updated below.

10.2 DEFINITIONS AND SCOPE

In accordance with the EPA EIAR Guidelines (2022), *"material assets"* are taken primarily to mean built services and infrastructure, including the transport network (as traffic consumes transport infrastructure). Natural resources (air, water, biodiversity, soils, landscape etc.) are addressed in the relevant specialist EIAR chapters; similarly, population and human health topics are addressed elsewhere.

Accordingly, this chapter focuses on material assets that could realistically be affected by the amendment, including:

- Transport infrastructure (national and local roads, junctions, and construction access arrangements),
- Built services / utilities infrastructure (electricity, water supply, wastewater arrangements, communications, and any other buried/overhead services where relevant),
- Drainage and flood-related assets insofar as they are built components associated with infrastructure (not hydrology/ecology, which are addressed in the relevant chapters), and
- Ownership, access and rights-of-way where they relate to the functioning and use of built assets.

The objective of the assessment is to ensure that these assets are used in a sustainable manner, so that they will be available for future generations, after the development of the project.[38]

10.3 METHODOLOGY

The assessment is based on:

- Review of the July 2024 EIAR baseline and assessment for Material Assets,
- Review of the amendment description and design information for the proposed alternative construction access road as presented in Chapter 2 of this report, and
- Professional judgement informed by site context described in the July 2024 EIAR.

10.3.1 SIGNIFICANCE CRITERIA

The assessment describes effects by reference to:

- Sensitivity of the material asset receptor (very low to high),
- Magnitude of change (no change to substantial),
- Resulting significance (negligible to major), consistent with the EPA (2022) approach adopted in the July 2024 EIAR chapter.

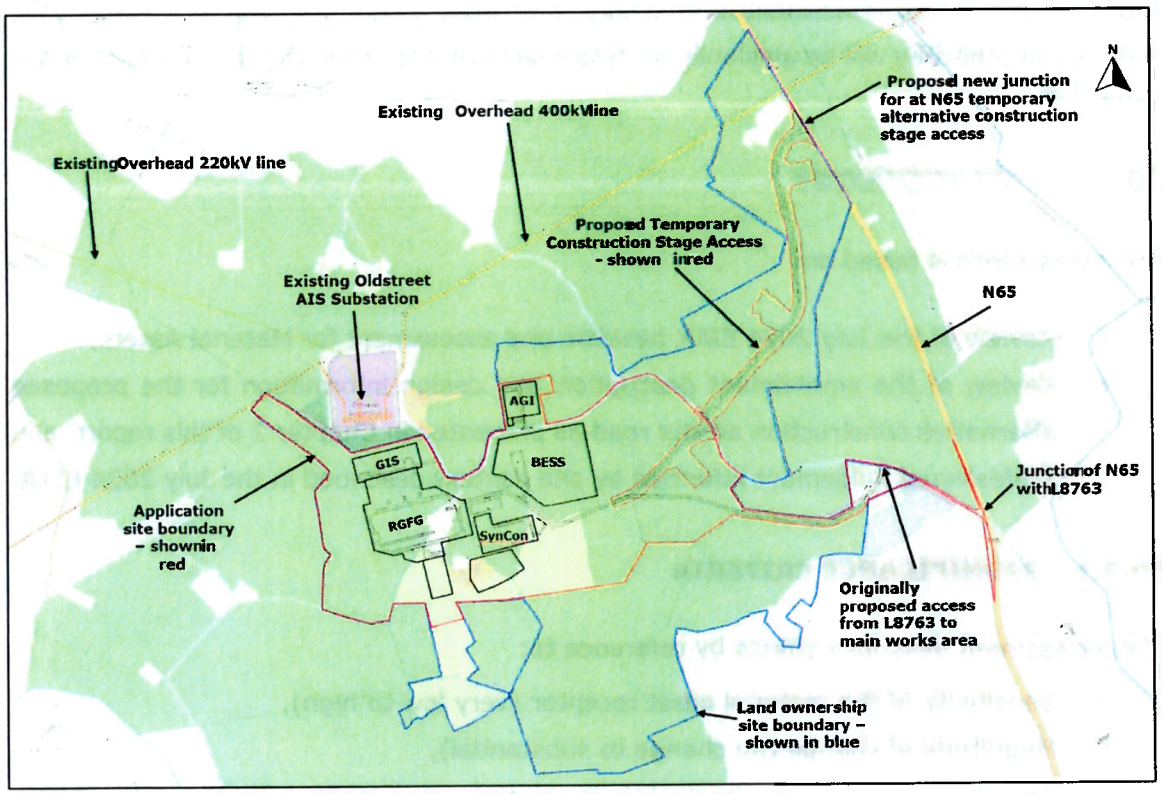
10.4 DESCRIPTION OF THE RECEIVING ENVIRONMENT

10.4.1 OVERVIEW

As set out in the July 2024 EIAR, the development is located in the townlands of Coolpowra, Cooldorragha, Ballynaheskeragh, Gortlusky and Sheeaunrush, County Galway. The development lands are accessed via the N65 and the L8763 local road network in the vicinity of the site. The development lands are privately owned and the proposed location for the energy related development was chosen due to type of development (grid connected electricity generation and electricity storage) and the existence of the existing Oldstreet 400kV AIS substation adjacent to the site (see Figure 10.1). Existing on-site services associated with the former farm holding include a groundwater well and on-site wastewater arrangements (relevant for baseline context, though the Proposed Development as Amended primarily relates to changes to construction stage access arrangements.

[38] Note: This Addendum chapter corrects a minor drafting issue in the original text (which inadvertently referred to a "population assessment" in the significance section) and applies the same criteria specifically to material assets

Figure 10.1 Proposed Development Layout as amended



10.4.2 MATERIAL ASSETS RELEVANT TO THE AMENDMENT

The Proposed Development as Amended introduces a new alternative construction access road corridor and new interfaces with existing infrastructure. The key material assets relevant to the Addendum assessment are therefore the following:

- N65 national road (and the proposed new temporary construction access junction),
- L8763 local road (and the proposed staggered junction arrangement / crossing and tie-in),
- Existing internal access arrangements south of the L8763 (connection to the originally proposed site access road that will serve operation), and
- Any existing field drainage / water feature crossings requiring temporary bridge/clear-span structures and associated temporary drainage measures (as built components).

An alternative, purpose-designed construction access road is proposed to connect the N65 to the main development works area (see Figure 10.1). The objective is to reduce construction-stage effects by providing a direct, controlled route for HGV deliveries, abnormal loads (where required), and site traffic, reducing interaction with local roads and

reducing construction disturbance at sensitive receptors. Notwithstanding the fact that the access as originally proposed remains a reasonable and viable access option, the Proposed Development as Amended also address the withdrawal of relevant third-party agreements and consents by private landowners beside the N65/L8763 junction to facilitate sightlines as per TII guidelines.

10.5 ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS

10.5.1 DO-NOTHING SCENARIO

If the proposed alternative access road is not implemented, the construction of it along with associated junctions works would not occur. The baseline transport network and built services would remain unchanged, and the construction traffic would continue to rely on the access strategy assessed in the July 2024 EIAR. The overall effect is neutral / no change.

10.5.2 CONSTRUCTION PHASE

During the construction phase, the formation of the temporary construction access road and the associated junction interfaces will necessitate short-term works on and in the vicinity of the N65 and the L8763. These works will introduce temporary disturbance to the operation of the public road network, including localised disruption during tie-in activities. This will necessitate traffic management measures and short-term construction safety interfaces for road users.

Setting aside these temporary effects, the provision of a purpose-designed, controlled access route will deliver a clear construction-period benefit for the proposed development by routing HGV movements and site traffic onto a dedicated access road to the main development site and thereby removing, or substantially reducing, interactions with more sensitive local routes and receptors.

In this context, the transport infrastructure is considered a high-sensitivity receptor, given the importance of maintaining the safety and functionality of both the national and local road network. The magnitude of change is assessed as slight to moderate adverse in the short term during junction construction and commissioning, but moderate beneficial during the construction period once the temporary access is operational. The proposed alternative construction access road will improve routing to the site and deliver greater control over construction traffic movements and reduced reliance on alternative local roads. Overall, the likely significant effect on transport infrastructure is assessed as minor

adverse in the short-term during tie-in works and commissioning, reducing to moderate beneficial on a temporary basis during construction-stage operation of the access road

The revised planning application boundary incorporates the temporary access corridor across agricultural fields and includes new interfaces with the public road network. Temporary control of the access corridor and junction tie-in areas will be required to facilitate construction and operation of the temporary access. The works will not remove any public rights of way or permanently sever access to third-party lands, subject to detailed design, appropriate construction management and agreement with the landowners where required. In material asset terms, private property and access arrangements are considered of medium sensitivity, as there is limited tolerance for disruption. Any impacts can generally be managed through agreed working methods and reinstatement. The magnitude of change is assessed as slight, reflecting the temporary nature of the works and the potential for short-term access disruption during construction only. The likely significant effect is therefore assessed as minor adverse in the short term, reducing to negligible with the implementation of mitigation and reinstatement measures.

Buried or overhead services (such as rural LV electricity, telecommunications water supplies, or service crossings) maybe encountered where the access route intersects with the public roads. The principal risk relates to accidental damage to services, which could result in temporary outages, alongside the potential for temporary constraints on access for routine maintenance during construction. Service continuity is considered important and therefore sensitivity is assessed as medium to high. With appropriate service searches, verification and protection measures, the magnitude of change is expected to be negligible to slight, noting that unmitigated service strikes could otherwise result in more pronounced effects. On this basis, the likely significant effect is assessed as minor adverse in the short term at worst, and negligible where standard management controls are implemented.

The proposed alternative construction access road requires the crossing of two water features and the installation of roadside filter drains. The proposed clear-span crossing approach reduces in-channel works relative to culverting and therefore reduces the risk of damage to drainage conveyance and flood-related functions associated with the channels.

The filter drains are designed to provide treatment and attenuation of runoff and promote controlled infiltration. This will reduce the potential for uncontrolled discharge from the access corridor and associated risks to local drainage features. Drainage conveyance features and built crossing elements are considered of medium sensitivity due to their susceptibility to blockage or damage during construction. The magnitude of change is

assessed as slight adverse in the short-term during installation, with a slight to moderate beneficial effect during construction-period operation arising from improved runoff management and reduced reliance on culverting. Overall, the likely significant effect is assessed as minor adverse in the short term during the construction works, and minor beneficial during construction-period operation of the temporary access, subject to appropriate inspection and maintenance of the drainage features.

10.5.3 OPERATIONAL PHASE

The proposed alternative construction access road will be used for construction-stage use only. Operational access arrangements for the main development remain as assessed in the July 2024 EIAR, via the originally proposed site access[39]. Where the temporary road is decommissioned following completion and commissioning of the overall development, no long-term operational effects on material assets are anticipated to arise from the temporary access. Where retention is proposed, any operational implications for material assets, such as ongoing maintenance responsibility for the road and drainage features and the performance of the junction arrangements from a road safety perspective, would require confirmation against the permitted development and would be managed through operational procedures. In that scenario, the operational effect is anticipated to be neutral to minor beneficial, depending on the demonstrated operational benefit and the final arrangement.

10.5.4 DECOMMISSIONING

Where decommissioning is undertaken following commissioning of the overall development, the alternative construction access road would be removed and the lands reinstated. This would typically involve

- the removal of surfacing and granular layers as appropriate,
- the removal of temporary drainage features not required in the long term, reinstatement of any affected field drainage, and
- replacement of stored subsoil and topsoil and reinstatement of agricultural use through cultivation and reseeding.

Agricultural and field infrastructure, including drainage functionality, is considered of medium sensitivity. The magnitude of change is assessed as slight, reflecting short-term disturbance associated with the works and the intended reinstatement of pre-existing

[39] unless the alternative construction access road, as is proposed and pending detailed design and agreement with governing bodies (GCC or TII), is retained in a manner consistent with a planning permission consent (e.g. a condition of consent issued by the planning authority)

conditions. The likely significant effect is therefore assessed as minor adverse in the short term during decommissioning works, with negligible residual effects anticipated subject to appropriate.

10.6 MITIGATION

Mitigation measures are focused on avoiding damage to infrastructure, maintaining the safe operation of the public road network, protecting utilities and drainage assets and ensuring full reinstatement where works are temporary.

Transport-related mitigation will be delivered through the preparation and implementation of a Construction Traffic Management Plan which shall be prepared and agreed with the planning authority in advance of construction. The Construction Traffic Management Plan The will address traffic control and signage, delivery scheduling, driver management requirements and temporary speed management at tie-in locations, together with protocols for abnormal loads where required. Junction design, visibility, geometry and associated road safety measures for the N65 junction and the L8763 staggered junction will be delivered to the appropriate standards and agreed with the relevant road authority. Road condition surveys will be undertaken, as appropriate, prior to and following construction, and any damage attributable to construction activities will be made good.

Utilities protection will be achieved through desk based utility searches, consultation with statutory undertakers, supported by on-the-ground verification using CAT and Genny or ground penetrating radar (GPR) tools where appropriate, in advance of intrusive works. A permit-to-dig system will be implemented, with service exclusion zones and trial holes used where required to confirm service location and depth. Any protection or diversion measures will be agreed in advance with the relevant utility owners and implemented in accordance with their requirements.

Drainage infrastructure and crossing measures will include construction of the clear span crossings in accordance with supports set back from banks where feasible, and with temporary works designed to avoid blockage and maintain channel conveyance. Filter drains will be installed for the construction-period operation of the temporary access and will be subject to inspection and maintenance, including targeted checks following heavy rainfall events and during periods of heightened construction traffic. Erosion and sediment control measures will be implemented at crossings and drainage interfaces to protect drainage assets, with detailed measures addressed in the relevant water and environmental chapters but applied in a manner that safeguards built drainage infrastructure.

Upon completion of construction activities associated with the Coolpowra development, a Decommissioning and Reinstatement Method Statement will be prepared and implemented. This will address removal of temporary structures (where necessary and appropriate), reinstatement of drainage and the restoration of soils and land use. Reinstatement will be confirmed through post-decommissioning inspection and, where applicable, landowner sign-off.

10.7 RESIDUAL EFFECTS

With the above mitigation measures in place, residual effects on transport infrastructure are expected to comprise a minor adverse short-term effect during junction tie-ins and road construction activities, together with a moderate beneficial temporary effect during the construction period as a result of improved routing and control of construction traffic.

Residual effects on utilities are anticipated to be negligible to minor adverse in the short term, reflecting the controlled risk of service interactions where utility management measures are implemented. Residual effects on drainage infrastructure and crossings are expected to be minor adverse in the short-term during installation works and minor beneficial during construction-period operation due to controlled runoff management and reduced reliance on culverting. In the long-term, residual effects are anticipated to be negligible where the temporary access is decommissioned and reinstated as described.

10.8 CUMULATIVE EFFECTS

Cumulative effects on material assets remain as assessed in the July 2024 EIAR. The amended construction access strategy is specifically intended to reduce construction-stage interaction with local roads and sensitive receptors. Therefore, cumulative construction traffic pressures on the local road network are reduced. Other cumulative considerations identified in the July 2024 EIAR, including other enabling works or nearby consented infrastructure activities, remain applicable unless altered by the revised boundary and the temporary access works.

10.9 SUMMARY OF SIGNIFICANT EFFECTS

Overall, the proposed development (as amended) is not predicted to give rise to significant adverse long-term effects on material assets. The principal outcomes are short-term, localised adverse effects during construction of the temporary access and junction tie-ins, generally within the range of minor to moderate adverse and temporary in nature, and a temporary beneficial effect during the construction stage arising from the provision of a purpose-designed construction access route that reduces pressure and interaction on other

local roads and receptors.. This is assessed as a moderate beneficial impact for the construction period. Long-term effects on material assets are anticipated to be negligible where the temporary access is decommissioned and reinstated as proposed, or neutral to minor beneficial, if the alternative construction access road is retained in a manner consistent with consented development.

11 NOISE

11.1 INTRODUCTION

This chapter identifies and assesses the potential noise and vibration impacts and related effects arising from both the construction and short-term operational phase of the proposed development i.e. the construction of an alternative access road to allow for the construction of the three Coolpowra energy projects.

Key issues to be addressed in this chapter include identification and assessment of potential temporary to short-term noise and vibration impacts and effects arising from the construction and use of the temporary access route at nearby Noise Sensitive Receptors (NSRs). The in-combination and cumulative impacts and effects have also been assessed.

11.2 ASSESSMENT METHODOLOGY & SIGNFICANCE CRITERIA

11.2.1 CHARACTERISATION OF THE RECEIVING ENVIRONMENT

The receiving sound environment or existing soundscape in the study area has been characterised by field survey using standard methodology. Refer to the July 2024 EIAR for a detailed description of the field survey methodology.

In addition, existing road traffic noise has been predicted for NSRs along the N65 potentially affected by the proposed alternative construction access route using existing road traffic flow data as provided by the traffic consultants and the Single Exposure or Event Level (SEL) for vehicle type as shown in Table 11.1 below.

Table 11.1 SELs at 5m used to Predict Road Traffic Noise

	Car	LGV	HGV
SEL (dB(A))	72	75	85

The following equation has been used to predict traffic noise at roadside NSRs:

$$L_{Aeq} = 10\log_{10}\left(\sum_{i=1}^{n} 10^{\frac{SEL_i}{10}}\right) - 10\log_{10}(T)$$

Where:

- L_{Aeq} is the equivalent continuous sound leve lover the measurement period.
- SEL is the Sourd Exposure Level, w hich is the total so undenergy of the event normalized toa 1-second duration.
- T is the total duration of the mea surementi nseconds. Since t he reference duration (T_0) is 1 second, the formula s implifies to $10\ \log_{10}(T/1)$, or $10 \log_{10}(\ T)$
- n is the num ber of events.

11.2.2 IMPACT ASSESSMENT

Refer to Section 11.2.3.1 of the July 2024 EIAR for a list of the standards used to assess short-term site development and construction impacts and effects. Short-term construction traffic related noise on the N65 has been predicted using the SEL values and equation described in 11.2.1 above and proposed traffic flow data provided by the traffic consultants. Refer to Appendix 13 of the July 2024 EIAR.

11.2.3 DEFINITIONS

Refer to the July 2024 EIAR for definitions with the following addition:

- **SEL** – Sound Exposure (Event) Level, which is the total energy of a noise event normalized to a 1-second duration. Also known as L_{Ae}.

11.3 DESCRIPTION OF RECEIVING ENVIRONMENT

11.3.1 SITE CONTEXT

Refer to the July 2024 EIAR for a description of the site context in terms of overall soundscape. In summary, the study area is a quiet rural location. The N65 is the main anthropogenic noise source affecting the area. The proposed construction route is distant from the NSRs listed in Table 11.4 and Figure 11.2 of the July 2024 EIAR. The nearest NSRs identified in Table 11.4 and Figure 11.2 of the July 2024 EIAR are 37/38 to the west and 28-36 to the southeast at approximately 500m distance. However, there are several additional NSRs located on the eastern side of the N65 which are in closer proximity to the proposed route as indicated on Figure 11.1 below.

Figure 11.1 Nearest Noise Sensitive Receptor Locations to the Proposed Construction Route

NSR43, a dormer bungalow, is located approximately 145m from the proposed alternative construction access road at its nearest point and approximately 72m from the N65. It is located approximately 118m from the proposed construction compound which will be the hub for management of the site and staff parking.

NSR44, a bungalow, is located approximately 17m from the N65 roadside and 225m from the proposed route.

NSR45, also a dormer bungalow is located approximately 90m from the N65 and >300m from the proposed route.

NSR46, a dormer bungalow, is partially screened from the N65 by a hillock and >300m from the proposed route.

11.3.2 AMBIENT SOUND SURVEY SUMMARY RESULTS

Refer to the July 2024 EIAR for details of the overall field survey results. Baseline noise levels at the nearest representative NSR 43 and NSRs within 20m of the N65 potentially affected by the proposed alternative construction route have been predicted using SELs and traffic flow data and are presented in the following section.

11.4 ASSESSMENT OF POTENTIAL ENVIRONMENTAL EFFECTS

The development of the proposed alternative construction access road can potentially give rise to significant noise and vibration impact and effects at the nearest NSRs through the use of mobile and non-mobile heavy machinery and equipment during site development and construction and secondly, through use in the short-term by construction traffic accessing the overall project development area via the route/ N65. Sections 11.4.5.1 and 11.4.5.2 of the July 2024 EIAR describe the criteria used to assess noise and vibration impacts associated with construction activities and traffic.

11.4.1 NOISE

The proposed short-term alternative construction access route will be constructed initially. (This is distinct from the assessment of the long-term access route which will also be built out and was assessed in the July 2024 EIAR). Refer to Chapter 2 indicating the location of the alternative construction route to the north of the site, linking it directly to the N65.

Typical stages of road construction include earthworks, laying of sub-base and base, paving and landscaping. The development of the short-term access route and associated construction compound will typically only involve the first two steps of road construction, namely;- earthworks and the laying of base for construction traffic access.

Equipment needs can include the following:

- Earthworks - excavators, crawler loaders, dozers, scrapers, dump trucks and motor graders.
- Aggregate (laying of sub and base layers) – truck delivery of aggregate, motor graders, crawler loaders, dump truck, dozer.

Table C.5. of BS5228 provides sound level data on equipment in use for road construction. As some of data in Table C.5. is provided only as an L_{Amax} values arising from vehicle pass-bys, other values are also used from Table C.2 on site preparation and Table C.4. on general site activities. Refer to Table 11.1Table 11.2 below for source details used in the prediction of construction noise impact.

Table 11.2 Source Data Used for Road Construction Noise Impact

Source	Frequency (Hz)								SPL@ 10m
	63	125	250	500	1k	2k	4k	8k	
	dB(A)								
Earthworks									
Tracked Excavator	50	63	66	72	76	74	71	64	80
Tracked Excavator loading lorry	54	63	67	74	73	71	67	58	78
Articulated Dump Truck Tipping Fill	54	60	64	67	69	67	64	57	74
Spreading Aggregate									
Dozer Spreading Fill	56	68	67	72	78	77	71	61	82
Articulated Dump Truck Tipping Fill	54	60	64	67	69	67	64	57	74

The proposed alternative construction access route is a single carriageway and the footprint of the proposed route is small (>500m < 1km). It should therefore be noted that not all of the above equipment will be used or be in use at the same time for each stage. Due to logarithmic noise calculation methodology, predicted noise levels at NSRs will generally be as a result of the closest and/or noisiest piece of equipment for that activity.

The calculated noise levels at NSR43, using the data above from BS5228:1, taking account of geometric divergence or distance attenuation, are presented in Table 11.3 for each phase during a typical 1-hour period and without mitigation. It is important to note that the construction process is subject to change e.g. through a tendering process. Therefore, with regards to prediction of construction noise at NSRs the following factors are relevant:

The sound power ratings (or sound pressure levels at known distance) used in the assessment may vary from the ratings for the actual equipment chosen by the contractor and used on site;

Depending on conditions encountered in real-time, different types of equipment may be chosen and the number of units may vary. Usage may also vary in terms of length of time operating or in terms of intensity, character and location.

The predicted values are conservative as only geometric divergence (attenuation with distance) is considered.

Table 11.3 Calculated noise l evds at NSR43

NSR43		
Source & Assumptions	**Source Data from BS5228 $L_{Aeq,t}$ @10m**	**Predicted $L_{Aeq,1hour}$ (dB)**
Earth works		
Tracked Excavator,66% of time on @30m	80	58
Articulated Dump Truck, tipping fill, 20% of time on @60m	74	
Tracked excavator loading a lorry, 10% of time on @30m	78	
Spreading Aggregate		
Dozer spreading aggregate, 66% of time on @30m	82	59
Articulated Dump Truck, tipping fill, 20% of time on @30m	74	

As can be seen from **Error! Reference source not found.**, the TII acceptable limit of 70 d B ($L_{Aeq,1hr}$) will not be exceeded during works associated with the construction of the alternative short-term route for construction traffic. The impact magnitude rating, based on the criteria in the July 2024 EIAR is temporary minor negative and therefore not significant.

11.4.1.1 Construction Phase Traffic

The estimated number of HGVs accessing the construction site is 30 per day or 60 trips on the N65 to and from the direction of Loughrea (located to the northwest). Construction worker cars are expected to arrive to the site from the opposite direction (southeast) off the N65. The proposed alternative construction route will support the construction of subsequent phases of development, i.e. Projects 1 -3 as described in the July 2024 EIAR. Project 1 is expected to generate the largest volume of construction traffic and is therefore assessed as a worst-case scenario.

The total number of cars and HGVs expected to arrive during the AM peak and during the busiest time in the construction of Project 1 is 50 and 9 respectively.

Weekday peak hour traffic (refer to Appendix 13.1 of the July 2024 EIAR) was measured in 2024 at the existing N65/L8760/L8763 junction. The total number of cars/LGV and HGV/PSV on the N65 during the AM and PM peaks were recorded as 259 and 284 respectively with approx. 10 and 6% HGV/PSV content. As noted earlier, ambient monitoring was not completed along the N65. However, an estimate of traffic noise levels can be calculated based on AM peak hour flows using typical SEL values of 85 dB(A) and

72 dB(A) for HGV and car pass-bys respectively at 5m. The predicted $L_{Aeq,1hr}$ for baseline traffic noise at a set-back distance of 20m from the carriageway is 53 dB.

The predicted $L_{Aeq,1hr}$ value for construction related HGVs at roadside NSRs (located between Loughrea and the construction site entrance and at 20m from roadside) plus baseline is 54 dB and therefore short-term negligible negative and the effect is deemed to be insignificant.

The predicted $L_{Aeq,1hr}$ value for construction related cars at roadside NSRs (located southeast of the construction site entrance and at 20m from roadside) plus baseline is 53 dB and therefore short-term negligible negative and the effect is deemed to be insignificant.

Overall, construction traffic noise on the N65 is considered negligible in the context of existing traffic flows on the N65 where the total number of vehicles in a 24-hour period is 3,172 (refer to Chapter 13).

11.4.2 VIBRATION

No potential vibration impacts are expected due to the intervening distance between the proposed alternative construction route and NSRs.

11.5 MITIGATION MEASURES

There are no additional mitigation measures proposed for the alternative construction route. The general measures for all site development and construction works listed under Section 11.5.1 of the July 2024 EIAR shall apply.

11.6 RESIDUAL IMPACTS OF THE DEVELOPMENT

The residual impacts and effects are as described earlier in Sections 11.4.1 and 11.4.2.

11.7 CUMULATIVE EFFECTS

11.7.1 CONSTRUCTION PHASE

Potential construction impacts at NSRs are greatest within 40m of development works, after which they reduce as noise attenuates over distance. As addition of sources is logarithmic, the highest contributing sources i.e. generally those at close distances to NSRs predominate and tend to define the noise impact magnitude. The proposed alternative construction traffic route is expected to be built out first and separately to the development

of the 3 projects described in the July 2024 EIAR. Therefore, there are no cumulative impacts to consider with the construction of the alternative route.

Cumulative HGV traffic is expected to increase to 15 arrivals during the peak hour. The predicted $L_{Aeq,1hr}$ value for HGVs at roadside NSRs (located between Loughrea and the construction site entrance and at 20m from roadside) plus baseline is 55 dB and therefore short-term minor negative based on the ratings in Table 11.13. The effect is deemed to be insignificant.

Cumulative car traffic is expected to increase to 95 arrivals during the peak hour. The predicted $L_{Aeq,1hr}$ value for cars at roadside NSRs (located south of the construction site entrance and at 20m from roadside) plus baseline is 54 dB and therefore short-term negligible negative and the effect is deemed to be insignificant.

11.8 MONITORING AND FURTHER WORKS

No additional monitoring requirements are proposed to those listed in the July 2024 EIAR.

11.9 SUMMARY OF SIGNIFICANT EFFECTS

11.9.1 SHORT-TERM CONSTRUCTION PHASE

No significant adverse effects are expected during the short-term construction phase of the proposed alternative construction access road or through it's use in the short-term by construction traffic.

11.10 REFERENCES

As described in the July 2024 EIAR, Chapter 11.0.

12 LANDSCAPE AND VISUAL

12.1 INTRODUCTION

This chapter has been prepared in response to modifications to the proposed development located in the townlands of Coolpowra, Cooldorragha, Ballynaheskeragh, Gortlusky and Sheeaunrush, Co. Galway.

12.2 SITE CONTEXT

The surrounding local landscape comprises relatively flat terrain intersected by small, shallow, winding river valleys. However, there is one moderately sized hillock, Church Hill, in the southern half of the study area, which peaks at 91m AOD. Otherwise, elevations begin to gradually decline in the western half of the study area, in the direction of the river valley associated with the Kilcrow River, which skirts past the study area in a north/south direction some c. 1.8km west of the site at its nearest point. In terms of land use, the principal form of land cover within the study area and wider landscape is pastoral farmland bound by mixed mature hedgerow vegetation. Small blocks of forestry are dotted throughout the study area, whilst small pockets of mature woodland are also located throughout the surrounding local landscape. Some of the most notable areas of vegetation occur along the periphery of the existing peat bogs within the study area, which are also prominent land uses within the study area and are contained to the north and east of the site. The existing Oldstreet 400kV substation is one of the more notable single land uses within the study area and is located on lands immediately north of the proposed development.

The principal settlements in the study area are located along its periphery. Portumna is some 4km to the south of the site, whilst Killimor is situated some 3.5km north of the site. Aside from these two settlements, the study area comprises a modest but dispersed rural population that comprises a combination of linear clusters of residential dwellings, small cross-road settlements and isolated farmsteads. The most notable transport route within the study area is the N65, which passes through the eastern half of the study area at a distance of approximately c. 150m east of the main site entrance. All other major routes within the study area are located in its wider periphery. The nearest local road to the proposed development is the L8763 local road, which is situated immediately east and north of the site. The L8805 local road also occurs a short distance to the south of the site, whilst an unnamed local road is situated just over 200m to the west of the site.

Whilst the central study area is not highly synonymous with tourism or outdoor recreation, some aspects of the wider study area encompass some notable tourism values and assets.

Due to the location of the settlement of Portumna to Lough Derg and the River Shannon, it is a popular destination for boating enthusiasts and encompasses several harbours and marinas in addition to local swimming areas.

Within the current Galway County Development Plan the proposed development is contained within the 'Eastern Plains Region' whilst the proposed development is entirely contained within the 'Central Galway Complex Landscape' landscape type. In terms of landscape units, the proposed development is contained within 'Kilcrow Basin' unit where the character is described as a "working landscape, locally elevated. Larger areas of bog and forestry. Elevated concentrations of settlements and infrastructure".

With regard to landscape sensitivity, the 'Kilcrow Basin' landscape unit are classified with a "Low' landscape sensitivity highlighting the robust and settled nature of much of the surrounding landscape.

In terms of scenic designations, two scenic views are located on the wider periphery of the study area but are oriented in the opposite direction to the site. Similarly, a scenic route designation occurs in the southwest periphery of the proposed development, however, there is little clear visibility in the site's direction from sections of this scenic route within the study area.

12.2.1 SUBMITTED LVIA ASSESSMENT SUMMARY

A landscape and visual impact assessment is provided in Chapter 12 of the EIAR. Supporting information including the Landscape Mitigation Plan and Photomontages are presented in Appendix 12.1 and 12.2 in Volume 3 of the EIAR.

Overall, due to the sizable scale and intensity of the proposed development, the operational phase significance of residual effect was deemed *Substantial*, which is considered *"significant"* in EIA terms. Nevertheless, it is important to note that these effects are heavily localised to the site and its immediate surrounding landscape. Indeed, the significance of landscape effects reduces considerably to below significant beyond 200m from the site as the surrounding existing and proposed screening will heavily dimmish its perceived effect on the character of the surrounding landscape.

As per the Notes and Clarifications on aspects of the 3rd Edition Guidelines on Landscape and Visual Impact Assessment (GLVIA3), it states, *"It should be noted that judgements of significance are not judgements of acceptability considering the policy context, which is a matter for decision-makers. For example, it may be the case that the LVIA concludes that a proposal would result in 'significant' adverse effects on a receptor, but the proposal could still be consistent with policy"*. In this instance, it is considered that the proposed

development is suitably sited in this landscape context and is not contrary to landscape and visual-related policies in the current Galway County Development Plan.

In terms of Visual Impacts, the proposed development was assessed at 15 no. viewpoint locations throughout the study area, representing a range of viewing angles, distances, and visual receptors. The majority of views were contained in the near and immediate local surroundings of the development, as this is where the most potential for significant visual effects are likely to occur. The sensitivity of visual receptors ranged from Medium to Medium-low, which reflects the robust nature of the study area. Those receptors identified with a Medium-low sensitivity represent typical rural views, whereas views identified with Medium sensitivity are typically related to slightly elevated or more open views across the rolling countryside. The most notable residual effects will occur along the local road that traverses the rolling lands immediately east and north of the site. Indeed, whilst visibility from this local road is heavily contained in some areas, it also affords open, near-distant views of the proposed development. Viewpoint VP5 affords one of the clearest and nearest views of the proposed development, where a considerable extent of the site will be visible in the pre-mitigation scenario. It is important to note that this view does not represent any local residential dwelling but represents local community receptors travelling along this local road context. Due to the extensive scale and intensity of the development, which represents a marked degree of visual change in comparison to the baseline scenario, the significance of effect was deemed Substantial, which is considered 'significant' in EIA terms.

Nevertheless, once the proposed mitigation screen planting has full established, the intensity and perceived scale of the development will notably reduce. Thus, the residual significance of visual effect will reduce to *'Substantial-moderate'* (below EIA significant effect threshold) once the proposed mitigation has fully established. The residual significance of effect at viewpoint VP8 was also deemed *'Substantial-moderate'* due to its near distance to the proposed energy centre. Nonetheless, the perceived scale and extent of the development are heavily diminished from this landscape context as the entire eastern extent of the development will be entirely screened. The residual significance of effect ranged between Moderate to Imperceptible at all other representative viewpoints within the study area. Indeed, what is most notable is that effects will reduce considerably beyond 500-1000m from the site, and in many instances, receptors in the wider surrounds of the study area will have very little clear visibility of the proposed development.

12.2.1.1 Response to Third Party Submissions

As part of the proposed application, numerous mitigation measures were employed to diminish the visual effect of the development. The main mitigation by avoidance measure

utilised is the selection of the proposed site and siting of the proposed development in a robust landscape context classified with a *"low"* landscape sensitivity in the current Galway County Development Plan. Other mitigation-by-design measures include the design and form of the development, the materiality, tone, and texture of the proposed structures, and comprehensive landscape mitigation measures, which screen and soften the development.

The LVIA assessment notes that existing Oldstreet 400kV substation is one of the more notable single land uses within the study area and is located on lands immediately north of the proposed development. It should also be noted that Eirgrid plc was granted planning permission (Galway County Council Ref. 23/60849) to construct *"Series Compensation Equipment"* on a 12.5ha site to the east of the existing Oldstreet substation. Works include for demolition of the existent vacant farmhouse and all associated farm outbuildings. The proposed development does not affect or impact this consented development but does further underline the ability of the site to accommodate complimentary electricity infrastructure at the site. We understand that ESBN, in its capacity as Transmission Asset Owner (TAO) has commenced construction of this project.

Within the current Galway County Development Plan the proposed development is contained within the *"Eastern Plains Region"* whilst the proposed development is entirely contained within the *"Central Galway Complex Landscape"* landscape type. In terms of landscape units, the proposed development is contained within *"Kilcrow Basin"* unit where the character is described as a *"working landscape, locally elevated. Larger areas of bog and forestry. Elevated concentrations of settlements and infrastructure*".

With regard to landscape sensitivity, the "Kilcrow Basin" landscape unit is classified with a *"Medium-Low"* landscape sensitivity highlighting the robust and settled nature of much of the surrounding landscape.

The submitted LVIA notes the presence of designated scenic amenity within the wider study area, most notably the protected view in the northern extent of the study area and the scenic route in the wider southern extent. It also notes, in Section 12.3.3.1 of the submitted assessment, that the current Galway CDP states:

> *"A scenic route is not and cannot be a comprehensive protection for the entire landscape. It does provide an instrument for predicting and assessing representative measurement of what effects would be experienced by the majority of potential public viewers in the majority of circumstances."*

Both scenic designations within the study area were investigated during fieldwork in 2024. With regard to the scenic view to the north, the view is a localised view of a cemetery from the N65 overbridge of the River Kilcrow. It is a pleasant but heavily contained view of a local cemetery, oriented to the southwest, and is described in the current CDP as a view of "*Killimor Old Graveyard and church ruins. The River Kilcrow is an important feature of the view*". Due to its localised and contained nature, and its orientation offset from the proposed development, it was not considered relevant to the assessment, and therefore a view was not included for assessment in the visual impact appraisal.

With regard to the scenic route in the wider southern extent of the study area[40], located approximately 3.5 km south of the site at its nearest point, the bare-ground Zone of Theoretical Visibility (ZTV) mapping indicated that large sections of this route within the study area (its nearest sections to the site) would be fully screened by intervening terrain. Nonetheless, as noted Galway County Council[28], the ZTV also indicated some potential for visibility of the proposed structures in both the southeast and southwest periphery of the study area. As with the protected view to the north, this scenic route was investigated during fieldwork, and it was noted that there was very limited potential for any visibility of the proposed development, even where the bare-ground ZTV identified potential for theoretical visibility.

To the southeast, much of this scenic designation along the R352 regional route is located on the outskirts of the settlement of Portumna, where the road is bound by linear clusters of residential development that enclose views to the north. While some sections of this route within the ZTV pattern pass adjacent to pastoral fields, even here it was noted that the low, rolling nature of the terrain combined with layers of intervening vegetation in the direction of the site would result in very limited potential for any visibility of the proposed development. In fact, as evidenced by VP14, which is located further to the north of the scenic route and just under 2 km from the proposed development, the degree of intervening screening heavily limits visibility of the proposed development even at relatively close distances to the site, with VP14 classified as having a residual Slight visual effect.

Similarly, to the southwest, the degree of intervening screening results in very limited potential visibility of the proposed development at distances of over 4 km. It is also important to note that the sections of this scenic route designation within the study area

[40] Galway County Council's report, dated 18 September 2024, to the Commission as required by Section 37E (4) & (5) of the Planning and Development Act 2000 (as amended) "*A viewshed reference point along the scenic route to the south of the site was not considered, notwithstanding the Bare Ground ATV Map indicated that structures up to 45m may be visible from some areas of this route that fell within the 5km radius from the site.*"

do not present any strong sense of scenic amenity, with visibility often limited to the nearest surrounding pastoral fields. Views from the scenic route within the study area tend to be typical rural views with no strong sense of openness, naturalness, or other highly susceptible visual qualities. As a result of the overall limited potential for visibility from this scenic route, no representative viewpoint was included for assessment within the visual impact appraisal.

Supporting Photomontages and Viewpoints

The assessment of visual impacts was aided by preparation of photomontages from representative viewpoints (see Figure 12.1). The LVIA recorded some localised high effects at a small number of near-road viewpoints, but these are almost entirely confined to short stretches of local roads used by local community receptors (Medium to Medium-low sensitivity), not homes or designated scenic vantage points. With mitigation, residual visual effects are substantial-moderate at VP5, VP8 and VP12; all other assessed viewpoints are moderate to imperceptible, and effects diminish markedly beyond 500-1,000m from the site, and in many instances, receptors in the wider surrounds of the study area will have very little clear visibility of the proposed development. In terms of landscape character, the residual effect is substantial (at site level /immediate surrounds) but drops below significant beyond c.200m from the site as the surrounding existing and proposed screening will heavily dimmish its perceived effect on the character of the surrounding landscape.

It should be noted that VP5 (see Figure 12.2) provides one of the clearest near views from a brief open section of an otherwise contained local road northeast of the site. However, it should be noted that this is not from a residence. The view from VP8 (local road approximately 300m west of the site, see Figure 12.3) is partially screened, side-on appreciation with the eastern extent of the site entirely screened. The view from VP12 (Figure 12.4) is prominent but not spatially dominant with many lower-lying elements entirely screened, so the perceived overall scale is diluted.

Figure 12.1 Viewpoint Location Map

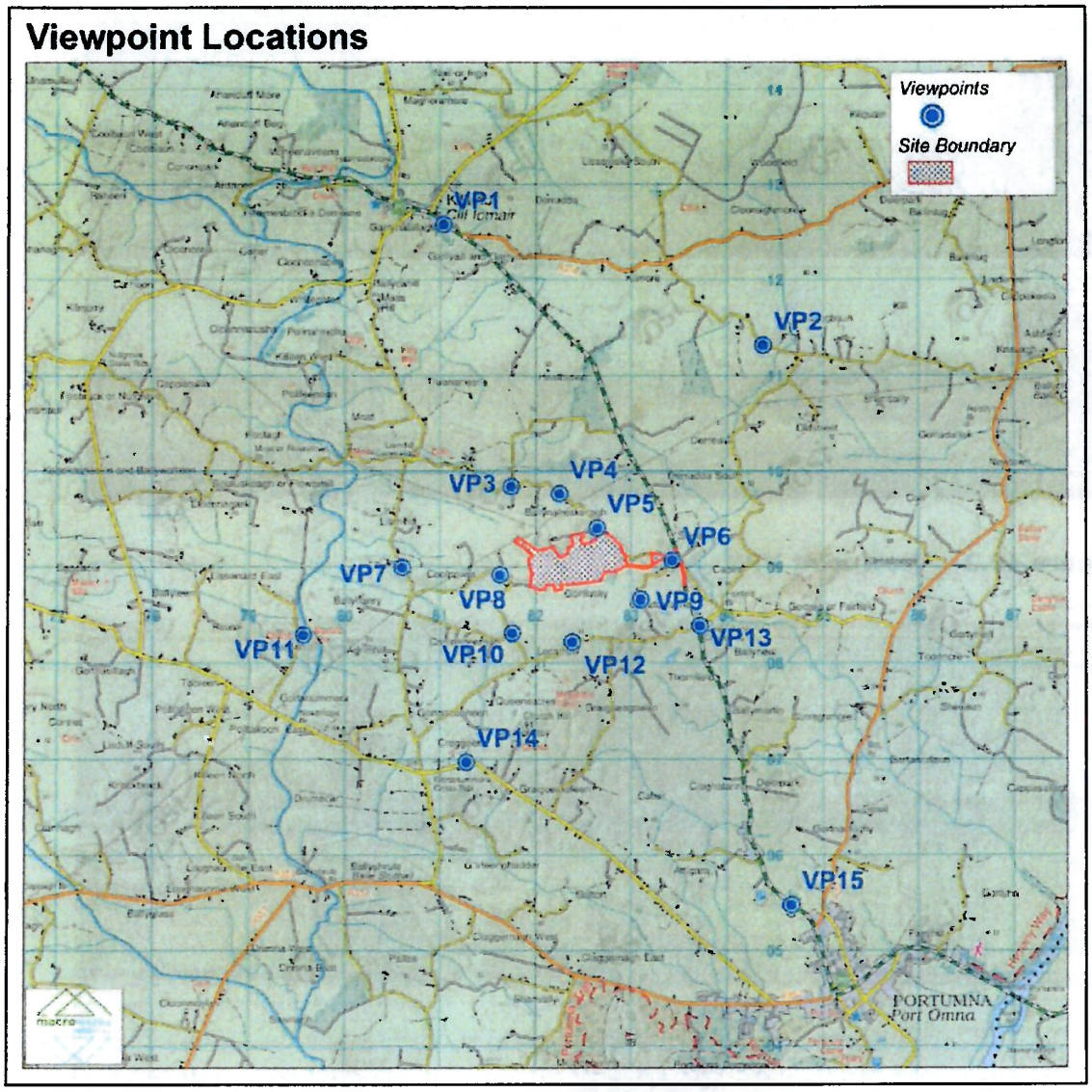


Figure 12.2 Viewpoint VP 5

Figure 12.3 Viewpoint VP8

Figure 12.4 Viewpoint VP12

Coolpowra
Imagery depicting the view towards the site (Montage pre- and post-mitigation establishment) L8805 local road at Lecarrow south of the site VP12 Page 2 of 2

The characterisation of widespread *"significant and moderate"* visual impact on sensitive receptors in third-party observation submitted and suggestions that the development will be visible from a host of landmarks, including Lough Derg, River Shannon, Terryglass Harbour, Portumna Forest Park and Castle, is therefore not aligned with the evidence presented in the LVIA chapter of the EIAR.

The proposed development is well offset from some of its nearest surrounding visual receptors and avails of a notable degree of screening in the form of surrounding rolling terrain and dense layers of intervening hedgerow vegetation. In addition to retaining the existing hedgerows within and around the site, it is also proposed to bolster existing perimeter and internal hedgerows with under-planting and inter-planting of whip transplants in order to ensure dense and consistent screening of the site in perpetuity. This will be undertaken where required to thicken and fill gaps in the existing hedgerow network prior to the construction phase, thus allowing for any growth in the period between a grant of planning permission and construction of the development.

Building Materials

The proposed development will also utilise an array of contemporary building materials and finishes that move away from the typical industrialised presentation of other older industrial developments. The array of proposed cladding textures will be finished in varied

muted tones of green/grey, whilst the proposed energy centre building incorporates curved forms to mimic the low rolling nature of the surrounding landscape. Furthermore, the proposed OCGT stacks will be finished in a much lighter tone than the main building as they are predominately viewed against the sky and will present against it with a low degree of visual contrast. The variations in tone and texture, in addition to the variation in the built form of the proposed development, will all help diminish its perceived height and massing. When feasible, ancillary structures and buildings will be finished in a green tone or muted shades to help blend them in with the surrounding pastoral landscape context.

We do not believe that any changes to the subject application are required in response to the landscape and visual concerns raised, however, during our consideration of alternatives/alternative mitigation, we did explore different options regarding the use of materials and finishes as a means of either breaking up the mass of the structure/buildings or selecting a singular colour palette so that no one element stood out. The studies were undertaken to help diminish the perceived scale of the reserve gas-fired generator building and extent when viewed from the surrounding landscape. Whilst the more organic form of the building aids in assimilating the development into the low, rolling surrounding landscape, a varied mix of tones and textures was incorporated into the building's design to further reduce its perceived scale.

In this regard, several concepts were assessed to understand how the development would present within the receiving landscape context (refer to the submitted comparative photomontage booklet attached as Appendix B to this submission). This is provided as information to assist with understanding of our analysis and selection of mitigation. The Commission may consider that these alternatives result in a less visually obtrusive intrusion in this rural landscape and may wish to seek further information or a revision to the EIAR and design proposal to reflect this view.

Initially, the proposal included finishing the entire Reserve Gas-Fired Generator Building and its stacks in the same grey tone (Option 2 in the submitted comparative photomontage booklets). However, on review, it was considered that introducing further variations in tone and texture could help reduce its perceived visual mass, particularly as the development would most often be viewed against the skyline. In this regard, two further options were presented: a gradated lighter grey/off-white tone applied to the uppermost portions of the proposed stacks (Option 1 in the submitted comparative photomontage booklets), and an alternative option of finishing the entire stacks in a lighter grey/off-white tone.

Following this review, it was decided to proceed with finishing the entire stacks in an off-white/grey tone. This approach ensured that, when the uppermost portions of the stacks were viewed against the sky, they presented a low degree of contrast, thereby reducing the overall perceived visual mass of the development. Furthermore, when viewed from the south, the variation in tone and texture of the full stacks finished in an off-white/grey, contrasted against the darker grey tones of the reserve gas-fired generator building, helps to further break up the perceived visual mass of the development.

Overall, the combined mitigation measures employed help to assimilate the development into the receiving landscape context and reduce its visual presence at surrounding visual receptors. In this regard, whilst there will still be some notable residual visual effects in the immediate surrounding landscape, these effects are highly localised and are deemed to be *Not Significant* once the proposed mitigation measures are implemented and the proposed screen planting has fully established.

12.3 SUMMARY OF THE PROPOSED DEVELOPMENT AS AMENDED

The overall proposed development (as amended) for which planning permission is sought comprises three elements – the Reserve Gas-Fired Generator, the GIS Electrical Substation and the proposed Energy Storage System (ESS) using long duration energy storage (LDES) battery technology and synchronous condenser technology. A single EIAR has been prepared for all three projects proposed as part of the development. The potential environmental impacts from each project are assessed individually and cumulatively (with each other and with any other identified projects) within the EIAR.

The proposed development (as amended) includes a proposed alternative construction access road which will route through lands under the control of the applicant. The alternative construction access will route from the N65 and provide vehicular access to the main development site (south of the L8763). From a new junction along the N65, the proposed alternative construction access road will traverse three undulating grassed fields. The access route will cross the L8763 by staggered junction and extend from here into the main development lands, before connecting to the proposed access lane which will serve the site during operation (i.e. that which was originally applied for).

12.4 ASSESSMENT OF POTENTIAL EFFECTS

The proposed new access track will extend outside the existing boundary of the development and traverse predominantly rural lands, connecting the N56 to the eastern extent of the current site compound. It will intersect the local road that traverse along sections of the eastern boundary of the site. The landscape in this area is defined by

agricultural fields, established hedgerow patterns, and a generally open rural character with limited residential presence. The primary physical alteration associated with the works is the removal of several sections of existing hedgerow where the access track intersects field boundaries and the local road. Although these removals introduce a change to the established linear vegetation structure, the access road has been positioned at a substantial offset from surrounding dwellings, and the proposed planting of new native hedgerows along its full extent will assist in re-establishing vegetative continuity. Over time, this planting will contribute to restoring the characteristic field pattern and integrating the new access route into the receiving landscape.

At the landscape level, the introduction of the new access track represents a localised modification to the existing rural environment due mainly to the removal of hedgerow sections and stripping of existing ground covers. These hedgerows contribute to the landscape structure by defining fields and reinforcing the prevailing pattern of enclosure. Whilst the removal of these brief sections of hedgerow will interrupt the current localised structure of the landscape, the overall rural character will remain intact due to the limited spatial extent of the proposed access tracks and the avoidance of significant landform alteration. The incorporation of new native hedgerow planting along the full length of the access road will, as it matures, re-establish the linear vegetation framework characteristic of the area. This will reduce the magnitude of landscape change in the medium to long term and ensure that the development becomes increasingly assimilated into the surrounding context. Indeed, this part of the surrounding landscape is not highly visible, which further diminishes the proposed development from generating any undue landscape effects on the local rural character.

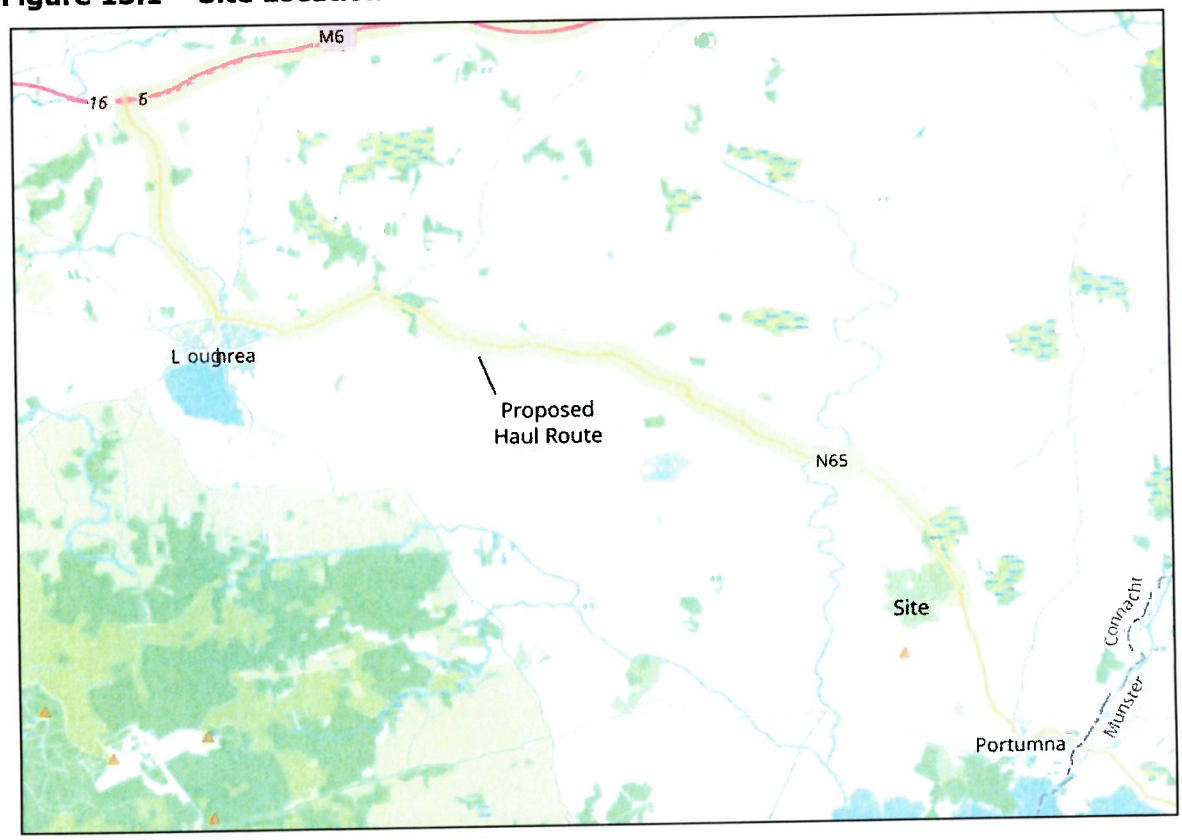
In terms of visual effects, the effects are restricted by the access road's separation from residential properties and by intervening landform and vegetation. Views from surrounding dwellings are expected to be limited or almost screened, resulting in only slight or negligible magnitude of visual change for most local receptors. Road users along the local road that the new access intersects will experience noticeable short-term change due to the removal of hedgerows and the introduction of the new junction. These effects will diminish over time as the replacement hedgerow planting establishes and softens the appearance of the access route. Indeed, it should be noted that there is no residential dwellings located within the immediate context of the proposed access road intersection. Wider public views from the N56 and surrounding rural roads will likely register only minor visual change due to distance, existing screening, and the small scale of the intervention within the broader landscape. Overall, visual effects are expected to be low and further reduced in the long term with the maturation of native planting intended to integrate the access track into its rural surroundings.

On balance of the reasons outlined above, it is not considered that the proposed new access tracks will generate landscape and visual effects any greater than Slight. Indeed, for most surrounding local receptors, there will be little to no residual visibility of the proposed access tracks. In this regard, the landscape and visual effects associated with the proposed access tracks are assessed as Not Significant.

13 TRAFFIC AND TRANSPORT

This chapter provides an assessment of the traffic and transport related impacts of the proposed development (proposed alternative construction access road) in the townlands of Ballynaheskeragh and Gortlusky Co. Galway. The proposed development site (Figure 13.1) is located off the L8763 local road to the west of the N65 national road approximately 5km to the north of Portumna and 25km to the south-east of Loughrea.

Figure 13.1 Site Location



13.1 OVERVIEW OF THE COOLPOWRA DEVELOPMENT

The proposed development consists of three separate projects that are considered individually, and in combination, within this chapter:

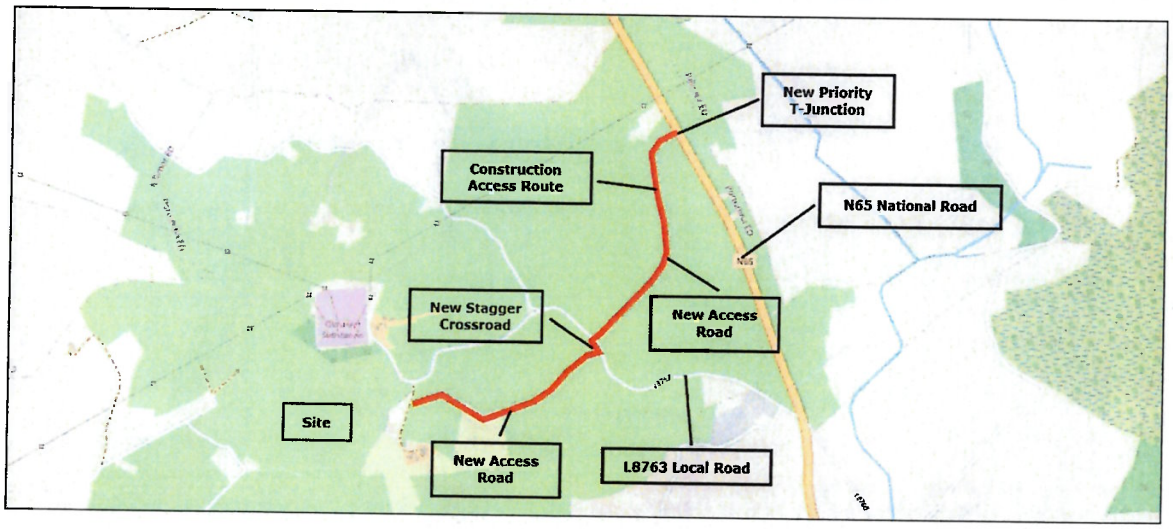
- a Reserve Gas-Fired Generator (hereafter Generator) (Project 1),
- a grid-connected Energy Storage System (ESS) facility (Project 2), and
- a Gas Insulated Switchgear (GIS) Electricity Substation (Project 3).

13.2 DEVELOPMENT OVERVIEW

A detailed description of the proposed development is provided in Chapter 2 of this EIAR Addendum. For ease of reference, and to avoid repetition in subsequent chapters, the term "Proposed Development" used throughout this EIAR refers to the project as described in Chapter 2, together with all associated and ancillary works, enabling works, temporary works, construction activities, operational components, and any mitigation measures that form part of the project design. Where relevant to a topic-specific assessment, any additional detail is provided in the corresponding chapter, however the scope and nature of the Proposed Development remain as set out in Chapter 2.

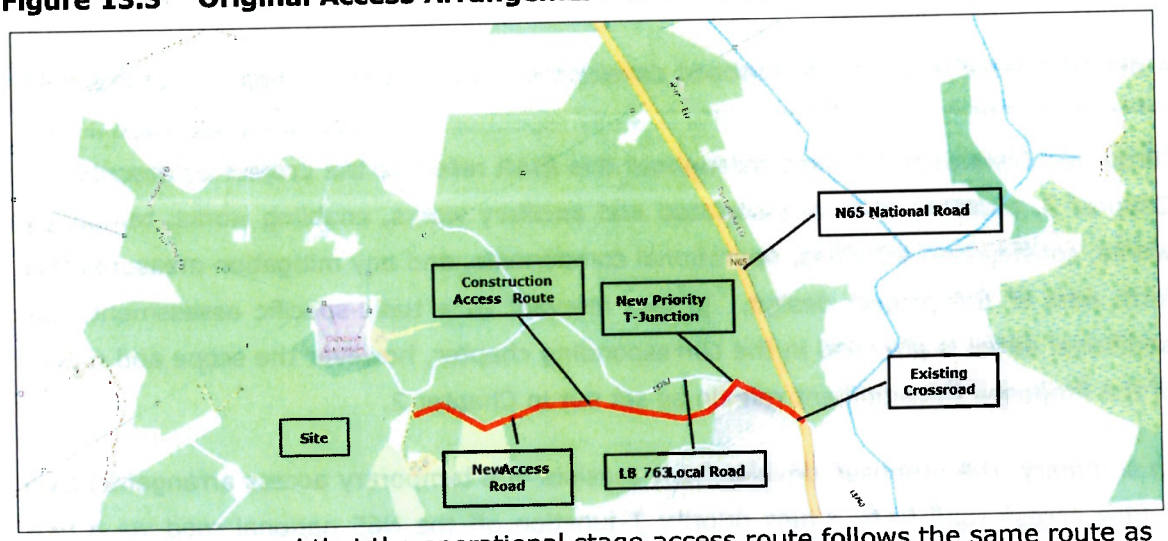
In summary, the proposed development consists of a temporary access arrangement via a new access road from a new priority T-junction off the N65 national road via a new staggered crossroad of the L8763 local road and along new access road into the proposed development site – see Figure 13.2.

Figure 13.2 Proposed Alternative Construction Access Road



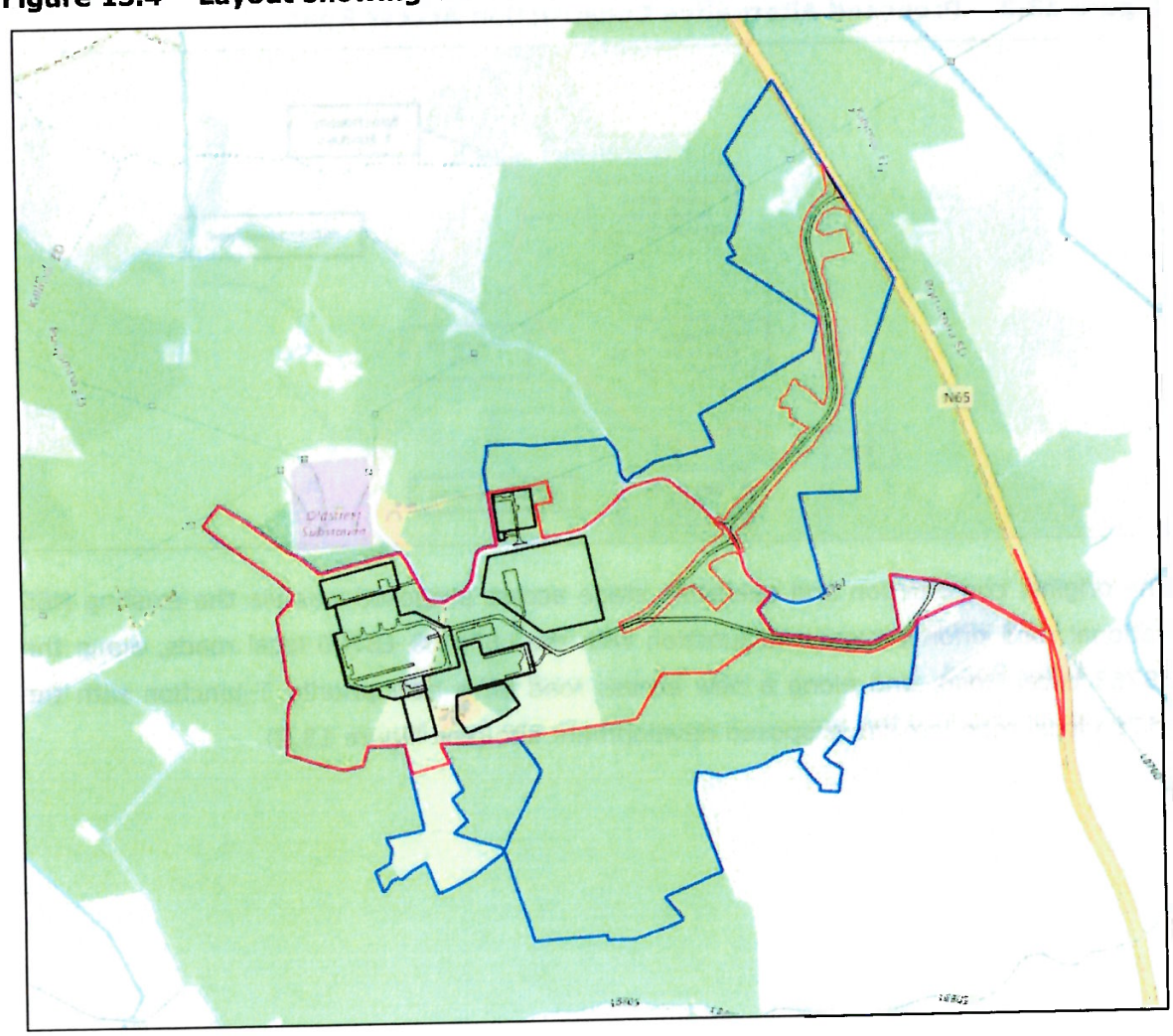
The original construction and operation stage access proposed was via the existing N65 national road priority crossroad junction with the L8763 & L8760 local roads, along the L8763 Local Road, and along a new access road off a new priority T-junction with the L8763 local road into the proposed development site (see Figure 13.3).

Figure 13.3 Original Access Arrangements



Note 1 It is proposed that the operational stage access route follows the same route as that depicted above (Figure 13.3)

Figure 13.4 Layout showing both Access Arrangements to the Development



13.3 ASSESSMENT METHODOLOGY & SIGNIFICANCE CRITERIA

This chapter includes an assessment of the construction phase impacts associated with:

(i) the Access Route [N65/L8763] as originally proposed and detailed in the July 2024 EIAR,
(ii) construction phase impacts Impact of the Alternative Construction Access Road as described in Chapter 2 of this EIAR addendum, and
(iii) operational phase impacts of development proposals.

The methodology adopted for the preparation of this chapter is detailed below.

13.3.1 LEGISLATION AND GUIDANCE

Relevant guidance on assessing the impact of a development on roads, traffic and transport is contained within: the TTA guidelines produced by Transport Infrastructure Ireland (TII)[41] and, the Environmental Protection Agency (EPA) Guidelines on the information to be contained in Environmental Impact Assessment Reports[42]. The latter states that traffic impact should be assessed for the construction phase, operational phase, and for unplanned events such as traffic collisions (road safety).

13.3.2 APPROACH TO ASSESSMENT

The roads, traffic and transport impacts of the proposed development have been assessed by utilising the following approach based on the prevailing (TII) guidelines on Traffic and Transport Assessment (TTA) (May 2014). The assessment combines:

- Desktop study, for example, reviewing any neighbouring development;
- Undertaking site-based field work including traffic count surveys;
- Undertaking traffic modelling of the operation of the potentially impacted junctions during construction and operational phases of the proposed development;
- Reviewing the environmental impact of traffic related to the construction and operation of the proposed development, including road safety, against significance criteria; and,
- Considering whether mitigation measures are required to ensure that any potential roads, traffic and transport effects are kept to a minimum.

[41] Transport Infrastructure Ireland (2014) PE-PDV-02045 Traffic and Transport Assessment Guidelines
[42] Environmental Protection Agency (2022) Guidelines on the information to be contained in Environmental Impact Assessment Reports

13.3.3 CONSULTATIONS

An informal request in relation to the intended content of this chapter was issued to Galway County Council on 30 April 2024 and agreed with Galway County Council Infrastructure and Operations Units on 16 May 2024. The content of the chapter is consistent with this. No additional technical scoping was undertaken in relation to the proposed development.

13.3.4 SIGNIFICANCE CRITERIA

The main significance criteria when assessing traffic and transport impacts of a proposed development is the impact of the development on the operation of the road network in the vicinity of the development. Other criteria include, for example: any increase in road traffic collisions (which may result in environmental impacts due to spillage); likely damage to the road structure; and measurable increases in atmospheric pollutants and noise.

13.3.4.1 Traffic Impact

Traffic impact is typically assessed in terms of the impact of the traffic generated by a development on the operation of the local road network. A *'material increase'* is considered to have occurred where a development exceeds threshold values including where: traffic to and from the development exceeds 10% of the traffic flow on adjoining local and regional roads; and traffic to and from the development exceeds 10% of turning movements at junctions with and on National Roads. Exceeding these threshold values does not mean that the development results in a significant traffic or environmental impact but does mean that the impact of the development requires further assessment using traffic modelling software.

The traffic modelling software predicts Ratio of Flow to Capacity (RFC) values which are a measure of junction performance in terms of saturation. A value of 1.00, which can also be considered as 100% saturation, represents an arm of the junction operating at maximum capacity, in that any increase in the rate of vehicles arriving on the link will result in significant additional queue lengths. Traditionally a figure of 0.85 or 85% is the maximum acceptable degree of saturation when assessing priority junctions, with anything above this level considered to be congested. The assessment also takes account of queue lengths, measured in Passenger Car Units (PCUs) which are primarily used to check for blocking back through, and therefore impact on, adjacent junctions.

13.3.4.2 Road Structure Impact

Road structure impact is initially assessed by a simple visual inspection for cracking, deformation and disintegration in the vicinity of the site.[3][4] If following this visual assessment, (taking account of the types and volumes of traffic likely to be generated

from a proposed development) the structural ability of the road to carry the traffic is in question, tests can be undertaken to determine the structural strength of the carriageway. Current guidance for such testing is detailed in the TII publication 'Pavement Assessment, Repair and Renewal Principles' Ref. AM-PAV-06050[5] published in March 2020.

13.3.4.3 Road Safety Impact

Road safety impact is typically assessed in terms of the collision record on the local road network in the vicinity of a development. Safety related geometric measurements are also assessed, for example, visibility to and from access points and junctions. In certain circumstances, such as the provisions of alterations to existing roads and provision of new junctions, a Road Safety Audit can also be undertaken. Current guidance is detailed in the TII publication *"Road Safety Audit"* (standard) Ref. GE-STY-01024 [6] published in December 2017.

13.3.4.4 Traffic Noise Impact

Traffic noise is generated by a combination of noise sources including vehicle engines and the interactions between vehicles and the road surface. Noise and vibration impacts related to the proposed development are covered in more detail in Chapter 11 of the EIAR.

13.3.4.5 Traffic Related Air Quality and Climate Impact

Traffic related atmospheric pollutant emissions cause impacts at both the local and national/ international level. TII state in their publication *"Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes"* that *"empirical evidence has shown that there is no risk of emissions from road traffic leading to exceedances of the relevant air quality standards for any other pollutants, at even the most heavily-trafficked locations"*. The impact of the increased traffic volume from the proposed development is not significant in terms of traffic volume required to cause exceedances of these critical levels. Air quality and Climate impacts related to the development are covered in more detail in Chapters 9 and 15 of the EIAR.

13.4 DESCRIPTION OF RECEIVING ENVIRONMENT

The construction and operational access routes are described within Section 13.2 of the EIAR. In the vicinity of the N65/L8763/L8760 junction, the N65 is formed from a single carriageway with a width of approximately 7.2m, bounded by shoulders. The posted speed limit on this section of the N65 is 100km/h which is consistent with current national guidelines on setting speed limits [9], but as a national secondary road may be reduced to 80km/h following the implementation of the Road Traffic Act 2024 [10].

In the vicinity of the proposed N65 new priority T-junction with the access road, the N65 is formed from a single carriageway with a width of approximately 6m, bounded by verges. The posted speed limit on this section of the N65 is 100km/h which is consistent with current national guidelines on setting speed limits [9], but as a national secondary road may be reduced to 80km/h following the implementation of the Road Traffic Act 2024 [10].

In the vicinity of the L8763 new priority T-junction with the access road, the L8763 is formed from a single carriageway with a width of approximately 3.5m, bounded by narrow verges. The posted speed limit on the L8763 is currently 60km/h, as implemented on 7th February 2025 in accordance with provisions of the Road Traffic Act 2024.

Loughrea is located approximately 25km to the north-west of the Coolpowra site and Portumna is located approximately 5km to the south of the proposed development lands. The traffic consultant was informed that the intended haul route (as shown on Figure 13.1) is via the M6 to Junction 16 (Kiltullagh) and N65 and therefore does not pass through either Loughrea or Portumna. Should permission be granted for the development, a specialist haulage contractor will be engaged to liaise with relevant highway authorities and secure appropriate permits for the transport of any abnormal loads.

13.4.1 TRAFFIC VOLUMES

An automatic traffic count survey was undertaken on 28 May 2024 on the N65 immediately to the south of the N65/L8763/L8760 junction. This traffic count survey was undertaken by TTRSA using a Metrocount RoadPodVT vehicle classifier. In a 24-hour period, the traffic count recorded 1588 vehicles in a northbound direction and 1584 vehicles in a southbound direction.

A video-based manual classified turning count survey was also undertaken on the same day at the N65/L8763/L8760 junction, for the AM traffic peak hour of 08:30-09:29 and PM traffic peak hour of 17:15-18:14.

The Traffic count data is provided within Appendix 13.1 of the July 2024 EIAR.

Figure 13.5 The N65 National Road at the N65/L8763/L8760 Junction

13.4.2 COMPARISON OF PERMANENT TRAFFIC COUNT DATA FOR FACTORING PURPOSES

Data from the permanent Transport Infrastructure Ireland (TII) traffic counter site (TII traffic counter reference TMU N65 050.0 W) located on the N65 at Ballycasey, Co. Tipperary (13km to the south of Portumna) was compared for the traffic survey date of 28 May 2024, and average weekday traffic volumes over the previous 12 months (May 2023 to April 2024 inclusive). Traffic levels recorded on 28 May 2024 were approximately 1.8% higher than the average weekday traffic. On this basis, the data collected on 28 May 2024 is considered to be robust and no additional factoring has been applied to take account of seasonality.

13.4.3 BACKGROUND TRAFFIC GROWTH

The peak construction traffic impact for the Generator and GIS projects is predicted to be in December 2027, and for the ESS project is predicted to be in April and May 2028. Whilst it is predicted that the reserve gas-fired generator and GIS projects will be operational in the second half of 2028, the ESS would not be operation until Q1 of 2029. Traffic count survey data has been factored from the base year of 2024, to peak construction years of 2027 and 2028, the opening year of 2029, and future assessment years of 2034 and 2044, using central growth rates for County Galway, taking account of 10.2% heavy commercial vehicles, as included within the TII publication 'Travel Demand Projections' Ref. PE-PAG-02017 [11] published in October 2021. The growth rates applied being:

- 2024 to 2027, a growth factor of 1.086;
- 2024 to 2028, a growth factor of 1.116;
- 2024 to 2029, a growth factor of 1.147;
- 2024 to 2034, a growth factor of 1.217; and,

- 2024 to 2044, a growth factor of 1.372.

13.5 ASSESSMENT OF POTENTIAL ENVIRONMENTAL EFFECTS

13.5.1 RESERVE GAS-FIRED GENERATOR (PROJECT 1)

This section assesses the impact of the reserve gas fired generator (Project 1) in isolation from the ESS (Project 2) and GIS (Project 3).

13.5.1.1 Construction Phase Impact - Access Route [N65/L8763 as per July 2024 EIAR]

Traffic Impact

Construction and related personnel vehicle movements associated with the Reserve Gas Fired Generator project have been assigned 100% to/from the east at the Coolpowra Flex Gen site access onto the L8763 and assigned at the N65/L8763/L8760 junction based on existing proportional traffic movements on the N65. A vehicle occupancy of 1.5 persons per vehicle has been assumed for construction related personnel and 75% of arrivals and departures have been assumed to occur within the peak hour. Heavy goods vehicle movements have been assigned as per the intended haul route depicted in Table 13.1, and 15% of such movement have been assumed to occur within the peak hour. As the traffic modelling is based on PCUs, heavy goods vehicles are factored by 2.3 within the data input into the traffic model. The trip generation of the construction and operational phases of the Generator project are detailed in Appendix 13.2 of the July 2024 EIAR, and the assigned peak hour turning movements are detailed in Appendix 13.3 of the July 2024 EIAR. The modelling output for the site access junction in the 2027 AM and PM peak hours with Reserve Gas-Fired Generator construction is summarised in Table 13.1, and for the N65/L8763/L8760 junction is summarised on Table 13.2 below. Traffic modelling output files are included within Appendix 13.4 of the July 2024 EIAR. The output shows that the proposed Generator project construction will have no material impact on the operation of the L8763 or N65 at these junction locations, and that both junctions will operate with a large amount of spare capacity and minimal queuing.

Table 13.1 L8763/access junction operation in 2027 with Generator construction traffic

	AM				PM			
	Set ID	Queue(PCU)	Del ay (s)	RFC	SetID	Queue (PCU)	Delay (s)	RFC
	2027 with Max Generator Construction Trips							
Stream B-AC	D1	0.0	0.00	0.00	D5	0.2	9.21	0.10
Stream C-AB		0.0	0.00	0.00		0 .0	0.00	0.00

Table 13.2 N65/L8763/L8760 junction operation in 2027 with Generator construction traffic

	AM				PM			
	Set ID	Queue (PCU)	Delay (s)	RFC	Set ID	Queue (PCU)	Delay (s)	RFC
	2027 with Max Generator Construction Trips							
Stream B-ACD	D1	0.0	0.00	0.00	D5	0.0	0.00	0.00
Stream AB-CD		0.1	7.18	0.06		0.0	6.80	0.01
Stream D-AB		0.0	7.15	0.01		0.1	7.35	0.05
Stream D-C		0.0	9.57	0.01		0.1	10.13	0.07
Stream CD-AB		0.0	0.00	0.00		0.0	6.44	0.00

Road Structure Impact

The N65 national road has been constructed to be capable of withstanding higher than current traffic volumes. No significant visual defects within the immediate vicinity of the N65/L8763/L8760 junction were observed during a site visit on 29 May 2024. The level of traffic anticipated to be generated by the Generator project would not be anticipated to result in a measurable impact on the road structure of the N65. The pavement formation on the L8763 is unknown, and as such construction traffic may result in short term localised degradation to the L8763 carriageway and bordering residential frontage strips.

Road Safety Impact

Collision data is not currently publicly available due to ongoing issues in relation to GDPR and associated data-sharing agreements between An Garda Síochána and the Road Safety Authority. A Stage 1 Road Safety Audit (Appendix 13.5 of the July 2024 EIAR) has been undertaken on the highway related works related to Construction Access Route including the Coolpowra Flex Gen project L8763 site access and alterations to the N65/L8763/L8760 junction. The main recommendations included within this Road Safety Audit report and agreed by the design team and client for the Coolpowra Flex Gen project are:

- Control of the speed of vehicles entering the L8763 from the proposed site access junction;
- Ensuring appropriate construction, widening and drainage of the L8763;
- Ensuring road user awareness of the revised alignment of the L8763 at the tie-in with the widened section of this local road; and,
- Minimising the impact of construction traffic on the residential frontage strips on the southern side of the L8763.

Following implementation of the recommendations of the Stage 1 Road Safety Audit and following subsequent completion of Stage 2 and Stage 3 Road Safety Audits, the impact of the proposed development on road safety is predicted to be not significant.

Traffic Noise Impact

The noise impact associated with Project 1 has been considered and is detailed in Chapter 11 of the July 2024 EIAR.

Traffic Related Air Quality and Climate Impact

Due to the relatively low traffic volumes generated by the project during the construction phase, and the dispersed nature of access over the road network, no measurable impact is anticipated in relation to atmospheric pollutants from traffic.

13.5.1.2 Construction Phase Impact – Alternative Construction Access Road

Traffic Impact

Construction and related personnel vehicle movements associated with the Reserve Gas Fired Generator project have been assigned 100% from the Coolpowra Flex Gen site to/from the north through the proposed new L8763/Access Road stagger junction and assigned at the proposed new N65/Access Road T-junction based on existing proportional traffic movements on the N65. A vehicle occupancy of 1.5 persons per vehicle has been assumed for construction related personnel and 75% of arrivals and departures have been assumed to occur within the peak hour. Heavy goods vehicle movements have been assigned as per the intended haul route depicted in Figure 13.1, and 15% of such movement have been assumed to occur within the peak hour.

As the traffic modelling is based on PCUs, heavy goods vehicles are factored by 2.3 within the data input into the traffic model. The trip generation of the construction and operational phases of the Generator project are detailed in Appendix 13.2 (of the July 2024 EIAR), and the assigned peak hour turning movements are detailed in Appendix 13.6 (included with this EIAR Addendum). The modelling output for the proposed L8763/Access Road stagger junction in the 2027 AM and PM peak hours with Reserve Gas-Fired Generator construction is summarised in Table 13.3, and for the proposed N65/Access Road T-junction is summarised on Table 13.4 below. Traffic modelling output files are included within Appendix 13.7 (of the July 2024 EIAR). The output shows that the proposed Generator project construction will have no material impact on the operation of the L8763 or N65 at these junction locations, and that both junctions will operate with a large amount of spare capacity and minimal queuing.

Table 13.3 L8763/Access Road stagger junction operation in 2027 with Generator construction traffic

	AM									PM								
	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
2027 - Generator Construction																		
Stream B-ACD	D1	0.0	~1	0.00	0.00	A	6.94	A	770 % [Stream CD-AB]	D5	0.1	0.5	5.75	0.09	A	5.27	A	810 % [Stream AB-CD]
Stream AB-CD		0.0	~1	0.00	0.00	A					0.1	~1	6.34	0.09	A			
Stream D-ABC		0.1	0.6	6.56	0.09	A					0.0	~1	0.00	0.00	A			
Stream CD-AB		0.1	~1	7.30	0.09	A					0.0	~1	0.00	0.00	A			

Table 13.4 N65/Access Road T-junction operation in 2027 with Generator construction traffic

	AM									PM								
	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
2027 - Generator Construction																		
Stream B-AC	D1 *	0.0	~1	0.00	0.00	A	0.52	A	671 % [Stream C-AB]	D5	0.1	0.6	8.33	0.09	A	1.02	A	310 % [Stream B-AC]
Stream C-AB		0.1	0.6	6.62	0.05	A					0.0	0.5	6.36	0.01	A			

Road Structure Impact

The N65 national road has been constructed to be capable of withstanding higher than current traffic volumes. No significant visual defects within the immediate vicinity of the proposed N65/Access Road T-junction were observed during a site visit on 28 October 2025 by Trasky. The level of traffic anticipated to be generated by the reserve gas-fired generator project would not be anticipated to result in a measurable impact on the road structure of the N65. The pavement formation on the L8763 is unknown, and as such construction traffic may result in short term localised degradation to the L8763 carriageway in the vicinity of the proposed L8763/Access Road stagger junction.

Road Safety Impact

Collision data is not currently publicly available due to ongoing issues in relation to GDPR and associated data-sharing agreements between An Garda Síochána and the Road Safety Authority. A Stage 1 Road Safety Audit (Appendix 13.8 and included with this EIAR Addendum) has been undertaken on the highway related works related to the proposed alternative construction access road) including the proposed access road, the proposed L8763/Access Road stagger junction, and the proposed N65/Access Road priority T-junction related. The main recommendations included within this Road Safety Audit report and agreed by the design team and client for the Coolpowra Flex Gen project are provided within this report:

Following implementation of the recommendations of the Stage 1 Road Safety Audit and following subsequent completion of Stage 2 and Stage 3 Road Safety Audits, the impact of the proposed development on road safety is predicted to be not significant.

Traffic Noise Impact

The noise impact associated with Project 1 has been considered and is detailed in Chapter 11 of the EIAR.

Traffic Related Air Quality and Climate Impact

Due to the relatively low traffic volumes generated by the project during the construction phase, and the dispersed nature of access over the road network, no measurable impact is anticipated in relation to atmospheric pollutants from traffic related to Project 1.

13.5.1.3 Operational Phase Impact

As there will be minimal traffic movements associated with the 15-20 operatives (employed over three shifts) related to the operation of the reserve gas-fired generator project (assuming that the access road and access junction are maintained), there will be no measurable traffic related environmental impacts during the operational phase of the project. This level of trip generation would not result in a measurable traffic capacity impact at either the L8763 site access or N65/L8760/L8763 junctions.

13.5.2 ESS ASSESSMENT (PROJECT 2)

This section assesses the impact of the ESS project (Project 2) in isolation from Projects 1 and 3.

13.5.2.1 Construction Phase Impact - Access Route [N65/L8763 as per July 2024 EIAR]

Traffic Impact

Construction related personnel vehicle movements associated with the ESS project have been assigned 100% to/from the east at the proposed development site access onto the L8763 and assigned at the N65/L8763/L8760 junction based on existing proportional traffic movements on the N65. A vehicle occupancy of 1.5 persons per vehicle has been assumed for construction related personnel and 75% of arrivals and departures have been assumed to occur within the peak hour. Heavy goods vehicle movements have been assigned as per the intended haul route depicted in Figure 13.1 , and 15% of such movement have been assumed to occur within the peak hour. As the traffic modelling is based on PCUs, heavy goods vehicles are factored by 2.3 within the data input into the traffic model. The trip generation of the construction and operational phases of the ESS project are detailed in Appendix 13.2 (of the July 2024 EIAR), and the assigned peak hour turning movements are detailed in Appendix 13.3 (of the July 2024 EIAR). The modelling output for the Coolpowra Flex Gen project site access junction in the 2028 AM and PM peak hours with ESS construction is summarised in Table 13.5 below, and for the N65/L8763/L8760 junction is summarised on Table 13.6 below. Traffic modelling output files are included within Appendix 13.4 (of the July 2024 EIAR). The output shows that

the proposed ESS project construction will have no material impact on the operation of the L8763 or N65 at these junction locations, and that both junctions will operate with a large amount of spare capacity and minimal queuing.

Table 13.5 L8763/access junction operation in 2028 with ESS

	AM				PM			
	Set ID	Queue (PCU)	Delay (s)	RFC	Set ID	Queue (PCU)	Delay (s)	RFC
	2028 with Max ESS Construction Trips							
Stream B-AC	D3	0.0	8.37	0.01	D7	0.1	8.85	0.07
Stream C-AB		0.0	0.00	0.00		0.0	0.00	0.00

Table 13.6 N65/L8763/L8760 junction operation in 2028 with ESS construction traffic

	AM				PM			
	Set ID	Queue (PCU)	Delay (s)	RFC	Set ID	Queue (PCU)	Delay (s)	RFC
	2028 with Max ESS Construction Trips							
Stream B-ACD	D3	0.0	0.00	0.00	D7	0.0	0.00	0.00
Stream AB-CD		0.1	7.05	0.05		0.0	6.79	0.01
Stream D-AB		0.0	7.13	0.01		0.0	7.16	0.03
Stream D-C		0.0	9.58	0.01		0.1	10.04	0.05
Stream CD-AB		0.0	0.00	0.00		0.0	6.47	0.00

Road Structure Impact

The N65 national road has been constructed to be capable of withstanding higher than current traffic volumes. No significant visual defects within the immediate vicinity of the N65/L8763/L8760 junction were observed during a site visit on 29 May 2024. The level of traffic anticipated to be generated by the ESS project would not be anticipated to result in a measurable impact on the road structure of the N65. The pavement formation on the L8763 is unknown, and as such construction traffic may result in short term localised degradation to the L8763 carriageway and bordering residential frontage strips.

Road Safety Impact

The road safety impact of the ESS project in isolation will be as detailed in relation to Project 1 construction route option 1,no measurable road safety impact is predicted to result from the ESS project subject to implementation of the recommendations of the Stage 1 Road Safety Audit (APPENDIX 13.5) and following subsequent completion of Stage 2 and Stage 3 Road Safety Audits.

Traffic Noise Impact

The noise impact associated with Project 2 has been considered and is detailed in Chapter 11 of the EIAR.

Traffic Related Air Quality and Climate Impact

Due to the relatively low traffic volumes generated by the project during the construction phase, and the dispersed nature of access over the road network, no measurable impact is anticipated in relation to atmospheric pollutants from traffic related to Project 2.

13.5.2.2 Construction Phase Impact - Alternative Construction Access Road

Traffic Impact

Construction and related personnel vehicle movements associated with the ESS project have been assigned 100% from the ESS project site to/from the north through the proposed new L8763/Access Road stagger junction and assigned at the proposed new N65/Access Road T-junction based on existing proportional traffic movements on the N65. A vehicle occupancy of 1.5 persons per vehicle has been assumed for construction related personnel and 75% of arrivals and departures have been assumed to occur within the peak hour. Heavy goods vehicle movements have been assigned as per the intended haul route depicted in Figure 13.1 , and 15% of such movement have been assumed to occur within the peak hour. As the traffic modelling is based on PCUs, heavy goods vehicles are factored by 2.3 within the data input into the traffic model. The trip generation of the construction and operational phases of the ESS project are detailed in Appendix 13.2 (of the July 2024 EIAR), and the assigned peak hour turning movements are detailed in Appendix 13.6 (included with this EIAR Addendum). The modelling output for the proposed L8763/Access Road stagger junction in the 2028 AM and PM peak hours with ESS project construction traffic is summarised in Table 13.7, and for the proposed N65/Access Road T-junction is summarised on Table 13.8 below. Traffic modelling output files are included within Appendix 13.7 (included with this EIAR Addendum). The output shows that the proposed ESS project construction will have no material impact on the operation of the L8763 or N65 at these junction locations, and that both junctions will operate with a large amount of spare capacity and minimal queuing.

Table 13.7 L8763/Access Road stagger junction operation in 2028 with ESS construction traffic

	AM									PM								
	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
2028 - ESS Construction																		
Stream B-ACD	D3	0.0	0.5	5.27	0.01	A	5.80	A	900 % []	D7	0.1	0.5	5.56	0.06	A	4.84	A	900 % []
Stream AB-CD		0.0	~1	5.80	0.01	A					0.1	~1	6.12	0.06	A			
Stream D-ABC		0.1	0.5	5.54	0.06	A					0.0	0.5	5.27	0.01	A			
Stream CD-AB		0.1	~1	6.13	0.06	A					0.0	~1	5.82	0.01	A			

Table 13.8 N65/Access Road T-junction operation in 2028 with ESS construction traffic

	AM									PM							
	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
2028 - ESS Construction																		
Stream B-AC	D3	0.0	0.5	6.41	0.01	A	0.45	A	793 % [Stream C-AB]	D7	0.1	0.6	7.84	0.07	A	0.79	A	359 % [Stream B-AC]
Stream C-AB		0.0	0.5	6.53	0.03	A					0.0	0.5	6.38	0.01	A			

Road Structure Impact

The N65 national road has been constructed to be capable of withstanding higher than current traffic volumes. No significant visual defects within the immediate vicinity of the proposed N65/Access Road T-junction junction were observed during a site visit on 28th October 2025. The level of traffic anticipated to be generated by the ESS project would not be anticipated to result in a measurable impact on the road structure of the N65. The pavement formation on the L8763 is unknown, and as such construction traffic may result in short term localised degradation to the L8763 carriageway in the vicinity of the proposed L8763/Access Road stagger junction.

Road Safety Impact

The road safety impact of the ESS project in isolation will be as detailed in relation to Project 1 construction route option 2, no measurable road safety impact is predicted to result from the ESS project subject to implementation of the recommendations of the Stage 1 Road Safety Audit (Appendix 13.8 and included with this EIAR Addendum) and following subsequent completion of Stage 2 and Stage 3 Road Safety Audits.

Traffic Noise Impact

The noise impact associated with Project 2 has been considered and is detailed in Chapter 11 of the EIAR.

Traffic Related Air Quality and Climate Impact

Due to the relatively low traffic volumes generated by the project during the construction phase, and the dispersed nature of access over the road network, no measurable impact is anticipated in relation to atmospheric pollutants from traffic related to Project 2.

13.5.2.3 Operational Phase Impact

As there will be minimal traffic movements associated with the single operative (person) involved in the operation of the ESS project (assuming that the access road and access junction are maintained), there will be no measurable traffic related environmental impacts during the operational phase of the project.

13.5.3 GIS ELECTRICITY SUBSTATION ASSESSMENT (PROJECT 3)

This section assesses the impact of the GIS project in isolation from the Project 1 and Project 2.

13.5.3.1 Construction Phase Impact - Access Route [N65/L8763 as per July 2024 EIAR]

Traffic Impact

Construction related personnel vehicle movements associated with the GIS project have been assigned 100% to/from the east at the proposed development site access onto the L8763 and assigned at the N65/L8763/L8760 junction based on existing proportional traffic movements on the N65. A vehicle occupancy of 1.5 persons per vehicle has been assumed for construction related personnel and 75% of arrivals and departures have been assumed to occur within the peak hour. Heavy goods vehicle movements have been assigned as per the intended haul route depicted in Figure 13.1, and 15% of such movement have been assumed to occur within the peak hour. As the traffic modelling is based on PCUs, heavy goods vehicles are factored by 2.3 within the data input into the traffic model. The trip generation of the construction and operational phases of the GIS project are detailed in Appendix 13.2 (of the July 2024 EIAR), and the assigned peak hour turning movements are detailed in Appendix 13.3 (of the July 2024 EIAR). The modelling output for the project site access junction in the 2027 AM and PM peak hours with GIS construction is summarised in Table 13.9 below, and for the N65/L8763/L8760 junction is summarised on Table 13.10 below. Traffic modelling output files are included within Appendix 13.4 (of the July 2024 EIAR). The output shows that the proposed GIS construction will have no material impact on the operation of the L8763 or N65 at these junction locations, and that both junctions will operate with a large amount of spare capacity and minimal queuing.

Table 13.9 L8763/access junction operation in 2027 with GIS construction traffic

	AM				PM			
	Set ID	Queue(PCU)	De lay(s)	RFC	Set ID	Queue (PCU)	Delay (s)	RFC
	2027 with Max GIS Construction Trips							
Stream B-AC	D2	0.0	0.00	0.00	D6	0.1	872	0.05
Stream C-AB		0.0	0.00	0.00		0.0	0.00	0.00

Table 13.10 N65/L8763/L8760 junction operation in 2027 with GIS construction traffic

	AM				PM			
	Set ID	Queue (PCU)	Delay (s)	RFC	Set ID	Queue (PCU)	Delay (s)	RFC
	2027 with Max GIS Construction Trips							
Stream B-ACD	D2	0.0	0.00	0.00	D6	0.0	0.00	0.00
Stream AB-CD		0.1	7.02	0.04		0.0	6.80	0.01
Stream D-AB		0.0	7.24	0.01		0.0	7.12	0.03
Stream D-C		0.0	9.29	0.01		0.1	9.86	0.04
Stream CD-AB		0.0	0.00	0.00		0.0	6.49	0.00

Road Structure Impact

The N65 national road has been constructed to be capable of withstanding higher than current traffic volumes. No significant visual defects within the immediate vicinity of the N65/L8763/L8760 junction were observed during a site visit on 29 May 2024. The level of traffic anticipated to be generated by the GIS project would not be anticipated to result in a measurable impact on the road structure of the N65. The pavement formation on the L8763 is unknown, and as such construction traffic may result in short term localised degradation to the L8763 carriageway and bordering residential frontage strips.

Road Safety Impact

The road safety impact of the GIS project in isolation will be as detailed in Section 13.5.1 in relation to Project 1, no measurable road safety impact is predicted to result from the GIS project subject to implementation of the recommendations of the Stage 1 Road Safety Audit and following subsequent completion of Stage 2 and Stage 3 Road Safety Audits.

Traffic Noise Impact

The noise impact associated with Project 3 has been considered and is detailed in Chapter 11 of the EIAR.

Traffic Related Air Quality and Climate Impact

Due to the relatively low traffic volumes generated by the project during the construction phase, and the dispersed nature of access over the road network, no measurable impact is anticipated in relation to atmospheric pollutants from traffic related to Project 3.

13.5.3.2 Construction Phase Impact - Alternative Construction Access Road

Traffic Impact

Construction and related personnel vehicle movements associated with the GIS project have been assigned 100% from the GIS project site to/from the north through the proposed new L8763/Access Road stagger junction and assigned at the proposed new N65/Access Road T-junction based on existing proportional traffic movements on the N65.

A vehicleoccupancy of 1.5 persons per vehicle has been assumed for construction related personnel and 75% of arrivals and departures have been assumed to occur within the peak hour. Heavy goods vehicle movements have been assigned as per the intended haul route depicted in Figure 13.1, and 15% of such movement have been assumed to occur within the peak hour. As the traffic modelling is based on PCUs, heavy goods vehicles are factored by 2.3 within the data input into the traffic model. The trip generation of the construction and operational phases of the GIS project are detailed in Appendix 13.2 (of the July 2024 EIAR), and the assigned peak hour turning movements are detailed in Appendix 13.6 (included with this EIAR Addendum). The modelling output for the proposed L8763/Access Road stagger junction in the 2027 AM and PM peak hours with GIS project construction traffic is summarised in Table 13.11, and for the proposed N65/Access Road T-junction is summarised on Table 13.12 below. Traffic modelling output files are included within Appendix 13.7 (included with this EIAR Addendum). The output shows that the proposed GIS project construction will have no material impact on the operation of the L8763 or N65 at these junction locations, and that both junctions will operate with a large amount of spare capacity and minimal queuing.

Table 13.11 L8763/Access Road stagger junction operation in 2027 with GIS construction traffic

	AM									PM								
	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
2027 - GIS Construction																		
Stream B-ACD	D2	0.0	~1	0.00	0.00	A	5.76	A	900 % []	D6	0.0	0.5	5.50	0.04	A	4.49	A	900 % []
Stream AB-CD		0.0	~ 1	0.00	0.00	A					0.1	~1	6.04	0.05	A			
Stream D-ABC		0.0	0.5	5.48	0.04	A					0.0	~1	0.00	0.00	A			
Stream CD-AB		0.1	~ 1	6.05	0.05	A					0.0	~1	0.00	0.00	A			

Table 13.12 N65/Access Road T-junction operation in 2027 with GIS construction traffic

	AM									PM								
	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
2027 - GIS Construction																		
Stream B-AC	D2	0.0	~1	0.00	0.00	A	0.31	A	900 % []	D6	0.1	0.6	7.69	0.05	A	0.64	A	40 % [Stream B-AC]
Stream C-AB		0.0	0.5	6.46	0.03	A					0.0	0.5	6.36	0.01	A			

Road Structure Impact

The N65 national road has been constructed to be capable of withstanding higher than current traffic volumes. No significant visual defects within the immediate vicinity of the proposed N65/Access Road T-junction junction were observed during a site visit on 28 October 2025 by Trasky. The level of traffic anticipated to be generated by the ESS project would not be anticipated to result in a measurable impact on the road structure of the

N65. The pavement formation on the L8763 is unknown, and as such construction traffic may result in short term localised degradation to the L8763 carriageway in the vicinity of the proposed L8763/Access Road stagger junction.

Road Safety Impact

The road safety impact of the ESS project in isolation will be as detailed in relation to Project 1 construction route option 2, no measurable road safety impact is predicted to result from the ESS project subject to implementation of the recommendations of the Stage 1 Road Safety Audit (Appendix 13.8 and included with this EIAR Addendum) and following subsequent completion of Stage 2 and Stage 3 Road Safety Audits.

Traffic Noise Impact

The noise impact associated with Project 3 has been considered and is detailed in Chapter 11 of the EIAR.

Traffic Related Air Quality and Climate Impact

Due to the relatively low traffic volumes generated by the project during the construction phase, and the dispersed nature of access over the road network, no measurable impact is anticipated in relation to atmospheric pollutants from traffic related to Project 3.

13.5.3.3 Operational Phase Impact

As there will be negligible traffic movements associated with the operation of the GIS project, there will be no measurable traffic related environmental impacts during the operational phase of the project.

13.6 MITIGATION MEASURES

As the proposed project site access and project access junction are common to all projects presented as part of the proposed development, the mitigation measures proposed are also consistent between the individual projects.

13.6.1 RESERVE GAS-FIRED GENERATOR (PROJECT 1)

The following mitigation measures are proposed should the Generator project be granted permission:

- The recommendations contained with the Stage 1 Road Safety Audits contained in Appendix 13.5 (of the July 2024 EIAR) and Appendix 13.8 (of this EIAR Addendum) should be implemented in full; and,
- Undertaking visual inspections prior to, during and post construction, and make good any localised degradation observed.

13.6.2 ENERGY STORAGE SYSTEM (PROJECT 2)

The following mitigation measures are proposed should the ESS project be granted permission:

- The recommendations contained with the Stage 1 Road Safety Audits contained in Appendix 13.5 (of the July 2024 EIAR) and Appendix 13.8 (of this EIAR Addendum) should be implemented in full; and,
- Undertaking visual inspections prior to, during and post construction, and make good any localised degradation observed.

13.6.3 GIS SUBSTATION (PROJECT 3)

The following mitigation measures are proposed should the GIS project be granted permission:

- The recommendations contained with the Stage 1 Road Safety Audits contained in Appendix 13.5 (of the July 2024 EIAR) and Appendix 13.8 (of this EIAR Addendum) should be implemented in full; and,
- Undertaking visual inspections prior to, during and post construction, and make good any localised degradation observed.

13.7 RESIDUAL TRAFFIC IMPACTS OF THE PROPOSED DEVELOPMENT

Assuming that the mitigation measures detailed in Section 13.6 are implemented, no residual traffic impact is anticipated from the development of:

- the Reserve Gas-Fired Generator (hereafter Generator) (Project 1)
- the Energy Storage System (ESS) facility (Project 2); or,
- the Gas Insulated Switchgear (GIS) Electricity Substation (Project 3)

13.8 CUMULATIVE EFFECTS INCLUDING GAS PIPELINE CONNECTION

This section assesses the cumulative impact of all of the elements of the proposed development progressing simultaneously, including the gas pipeline connection to Project 1.

13.8.1 CONSTRUCTION PHASE IMPACT (ACCESS ROUTE [N65/L8763 AS PER JULY 2024 EIAR]

13.8.1.1 Gas Pipeline Connection

As part of the Reserve Gas-Fired Generator project, natural gas will be supplied to the site from the Gas Networks Ireland (GNI) transmission system. GNI will separately manage the process of delivering the underground natural gas pipeline to the proposed site. The traffic and transport impact of the delivery of the pipeline (utility works) is considered to be negligible as any utility works of this type involving for example road crossings, would be undertaken in accordance with the terms of an agreed road opening licence, and appropriate Temporary Traffic Management, which should be designed and operated in accordance with prevailing national guidance.[12, 13, 14]

Traffic Impact

The modelling output for the proposed development site access junction in the 2027 AM and PM peak hours with cumulative construction is summarised in Table 13.13 below, and for the N65/L8763/L8760 junction is summarised on Table 13.14 below. Traffic modelling output files are included within Appendix 13.4 (of the July 2024 EIAR). The output shows that the proposed cumulative construction will have no material impact on the operation of the L8763 or N65 at these junction locations, and that both junctions will operate with a large amount of spare capacity and minimal queuing.

Table 13.13 L8763/access junction operation in 2027 with cumulative construction traffic

	AM				PM			
	Set ID	Queue (PCU)	Delay (s)	RFC	Set ID	Queue (PCU)	Delay (s)	RFC
	2027 with Max Cumulative Construction Trips							
Stream B-AC	D4	0.0	8.65	0.03	D8	0.3	10.48	0.21
Stream C-AB		0.0	0.00	0.00		0.0	0.00	0.00

Table 13.14 N65/L8763/L8760 junction operation in 2027 with cumulative construction traffic

	AM				PM			
	Set ID	Queue (PCU)	Delay (s)	RFC	Set ID	Queue (PCU)	Delay (s)	RFC
	2027 with Max Cumulative Construction Trips							
Stream B-ACD	D4	0.0	0.00	0.00	D8	0.0	0.00	0.00
Stream AB-CD		0.2	7.63	0.12		0.0	6.76	0.00
Stream D-AB		0.0	7.03	0.02		0.1	7.71	0.09
Stream D-C		0.0	10.78	0.01		0.2	10.70	0.11
Stream CD-AB		0.0	0.00	0.00		0.0	6.34	0.00

Road Structure Impact

The N65 national road has been constructed to be capable of withstanding higher than current traffic volumes. No significant visual defects within the immediate vicinity of the N65/L8763/L8760 junction were observed during a site visit on 29 May 2024. The level of traffic anticipated to be generated cumulatively by the project would not be anticipated to result in a measurable impact on the road structure of the N65. The pavement formation on the L8763 is unknown, and as such construction traffic may result in short term localised degradation to the L8763 carriageway and bordering residential frontage strips.

Road Safety Impact

No measurable road safety impact is predicted to result from the combination of the elements of the proposed development subject to implementation of the recommendations of the Stage 1 Road Safety Audit and following subsequent completion of Stage 2 and Stage 3 Road Safety Audits.

Traffic Noise Impact

The noise impact associated with proposed development has been considered and is detailed in Chapter 11 of the EIAR.

Traffic Related Air Quality and Climate Impact

Due to the relatively low traffic volumes generated by the project during the construction phase, and the dispersed nature of access over the road network, no measurable impact is anticipated in relation to atmospheric pollutants from traffic related to the proposed development.

13.8.2 CONSTRUCTION PHASE IMPACT - ALTERNATIVE CONSTRUCTION ACCESS ROAD

13.8.2.1 Gas Pipeline Connection

As part of the Reserve Gas-Fired Generator project, natural gas will be supplied to the site from the Gas Networks Ireland (GNI) transmission system. GNI will separately manage the process of delivering the underground natural gas pipeline to the proposed site. The traffic and transport impact of the delivery of the pipeline (utility works) is considered to be negligible as any utility works of this type involving for example road crossings, would be undertaken in accordance with the terms of an agreed road opening licence, and appropriate Temporary Traffic Management, which should be designed and operated in accordance with prevailing national guidance.[12, 13, 14]

Traffic Impact

The modelling output for the proposed L8763/Access Road stagger junction in the 2027 AM and PM peak hours with cumulative construction traffic is summarised in Table 13.15, and for the proposed N65/Access Road T-junction is summarised on Table 13.16 below. Traffic modelling output files are included within Appendix 13.7 (included with this EIAR Addendum). The output shows that the proposed cumulative construction will have no material impact on the operation of the L8763 or N65 at these junction locations, and that both junctions will operate with a large amount of spare capacity and minimal queuing.

Table 13.15 L8763/Access Road stagger junction operation in 2027 with cumulative construction traffic

	AM									PM								
	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
2027 - Cumulative Construction																		
Stream B-ACD	D4	0.0	0.5	5.35	0.02	A	6.60	A	344 % [Stream CD-AB]	D8 *	0.2	0.7	6.36	0.17	A	6.21	A	347 % [Stream AB-CD]
Stream AB-CD		0.0	~1	5.89	0.02	A					0.2	~1	7.09	0.19	A			
Stream D-ABC		0.2	0.7	6.33	0.17	A					0.0	0.5	5.35	0.02	A			
Stream CD-AB		0.2	~1	7.11	0.19	A					0.0	~1	5.92	0.02	A			

Table 13.16 N65/Access Road T-junction operation in 2027 with cumulative construction traffic

	AM									PM								
	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
2027 - Cumulative Construction																		
Stream B-AC	D4	0.0	0.5	6.54	0.02	A	1.11	A	415 % [Stream C-AB]	D8	0.3	1.5	9.39	0.21	A	2.43	A	170 % [Stream B-AC]
Stream C-AB		0.1	0.6	6.93	0.10	A					0.0	0.5	6.42	0.02	A			

Road Structure Impact

The N65 national road has been constructed to be capable of withstanding higher than current traffic volumes. No significant visual defects within the immediate vicinity of the proposed N65/Access Road T-junction junction were observed during a site visit on 28th October 2025. The level of traffic anticipated to be generated by the project would not be anticipated to result in a measurable impact on the road structure of the N65. The pavement formation on the L8763 is unknown, and as such construction traffic may result in short term localised degradation to the L8763 carriageway in the vicinity of the proposed L8763/Access Road stagger junction.

Road Safety Impact

No measurable road safety impact is predicted to result from the project subject to implementation of the recommendations of the Stage 1 Road Safety Audit (Appendix 13.8 included with this EIAR Addendum) and following subsequent completion of Stage 2 and Stage 3 Road Safety Audits.

Traffic Noise Impact

The noise impact associated with proposed development has been considered and is detailed in Chapter 11 of this EIAR.

Traffic Related Air Quality and Climate Impact

Due to the relatively low traffic volumes generated by the project during the construction phase, and the dispersed nature of access over the road network, no measurable impact is anticipated in relation to atmospheric pollutants from traffic related to the proposed development.

13.8.3 OPERATIONAL PHASE

The traffic impact of the combination of all projects of the proposed development is considerably reduced during the operational phase of the project when compared to the construction phased of the project. Therefore, no significant traffic and transport related environmental impacts are predicted.

13.9 MONITORING AND FURTHER WORKS

13.9.1 MONITORING

No specific monitoring is recommended beyond mandatory health and safety monitoring required for any workplace. Depending on the axle loading of construction related vehicles and/or abnormal loads, further tests to determine the structural strength of the L8763 carriageway, or further visual inspections prior to and post construction, should be undertaken, if necessary, in agreement with Galway County Council.

13.10 SUMMARY OF SIGNIFICANT EFFECTS AND RESIDUAL IMPACTS

Based on the predicted trip generation, assessment contained within this chapter, and implementation of the recommended mitigation measures, no significant environmental effects or residual impacts are predicted as a result of the traffic and transport associated with the proposed development.

13.11 TRANS-BORDER/INTERNATIONAL IMPACTS

Whilst all traffic and transport related activity generates emissions in terms of exhaust gases and particulate matter (including trans-border emissions), due to the small number of such additional daily trips resulting from the proposed development, the traffic related environmental impact is not anticipated to be at measurable level.

13.12 DIFFICULTIES ENCOUNTERED IN COMPILING INFORMATION

No difficulties (technical deficiencies or lack of know-how) were encountered in compiling this chapter. The traffic assessment contained within this chapter uses a fixed demand matrix which reflects current travel behaviour. Changes in the nature of existing trips such as re-timing, re-routeing, and/or changes in the mode of transport used, may result in a lesser impact than stated within this chapter.

13.13 REFERENCES

- [1] Transport Infrastructure Ireland (2014) PE-PDV-02045 Traffic and Transport Assessment Guidelines [https://www.tiipublications.ie/library/PE-PDV-02045-01.pdf]
- [2] Environmental Protection Agency (2022) Guidelines on the information to be contained in Environmental Impact Assessment Reports [https://www.epa.ie/publications/monitoring--assessment/assessment/EIAR_Guidelines_2022_Web.pdf]
- [3] DTTAS (2013) Urban Flexible Roads Manual : Pavement Surface Condition Index Volume 2 of 3 [https://www.rmo.ie/uploads/8/2/1/0/821068/psci_manual_urban_flexibleroads_04112013_lowres.pdf]
- [4] DTTAS (2014) Pavement Asset Management Guidance Section 5.0: Condition Surveying and Rating – Overview [https://www.rmo.ie/uploads/8/2/1/0/821068/ipag_-_pamg_-_section_5.0_-_condition_surveying_and_rating_-_overview.pdf]
- [5] Transport Infrastructure Ireland (2020) AM-PAV-06050 Pavement Assessment, Repair and Renewal Principles
- [6] Transport Infrastructure Ireland (2017) GE-STY-01024 Road Safety Audit' (standard)
- [7] Transport Infrastructure Ireland (2011) Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes
- [8] WHO (2021) WHO global air quality guidelines [https://iris.who.int/bitstream/handle/10665/345329/9789240034228-eng.pdf]
- [9] DTTAS (2015) Guidelines for Setting and Managing Speed Limits in Ireland [https://www.speedlimits.ie/_files/ugd/971679_1d14f0eefdcc426785d3dd1058a33ae6.pdf]
- [10] Road Traffic Act 2024 [https://www.irishstatutebook.ie/eli/2024/act/10/enacted/en/html]

- [11] Transport Infrastru cture Ireland (2021) PE-PAG-02017 Travel Demand Projections [https://www.tiipublications.ie/library/PE-PAG-02017-03.pdf]
- [12] DTTAS (2024) Traffic Signs Manual - Chapter 8 Temporary Traffic Measures and Signs for Roadworks [https://bit.ly/4c112VI]
- [13] DTTAS (2019) Temporary Traffic Management Design Guidance [https://dttassupportoffice.sharepoint.com/:b:/s/DTTASSupportOffice/EVkg7eHZV4FCj2kpCwFfP-IBrhi8Euqu14TQFrF3G3oFKA]
- [14] DTTAS (2019) Temporary Traffic Management Operations Guidance (Part 2) [https://www.trafficsigns.ie/_files/ugd/f378bf_9f2342a1a0074b71a0e530d2b5d5d8ce.pdf]

14 ARCHAEOLOGICAL AND CULTURAL HERITAGE

14.1 INTRODUCTION

This Chapter presents the findings of an Archaeological and Cultural Heritage Impact Assessment for development which will provide construction stage vehicular access to the development located within the townlands of Coolpowra, Cooldorragha Ballynaheskeragh, Gortlusky and Sheeaunrush.

Originally, the proposed access to the site was to be via the existing L8763 road located in the townlands of Sheeaunrush and Cooldorragha. Following an invitation from An Coimisiún Pleanála (the Commission) regarding third-party submissions received on the planning file, the client has acquired land adjacent to and east of the application site, allowing for alternative access to facilitate the construction traffic.

The new land acquired for the vehicular access is located to the east of the site. The new vehicular access is to the east of the existing L8763 road. It traverses three undulating grassed fields, and will connect to L8763 road to N65 (National Road), which runs between Portumna and Killimor in County Galway. This section of the route measures c. 813m in length and 7.0m in width and traverses two streams.

The corridor of the vehicular access does not traverse within or in the proximity of any archaeological monuments as listed in the Record of Monuments and Places for Galway (1997), or Sites and Monuments Record. There are no Protected Structures as listed in the Galway County Development Plan 2022-2028. There are no Architectural or Cultural Heritage sites located within the proposed vehicular access route.

14.1.1 SIGNIFICANCE CRITERIA

The main purpose of this chapter is to identify, describe and present an assessment of the likely significant effects of the proposed vehicular access on archaeological and cultural heritage remains (known and unknown if present). An effect can be positive, negative, or neutral/none, direct and indirect. The effect may result from the construction phase and/or the operation phase of the project.

The potential effects will be assessed for the access route only (Section 14.1).

This chapter aims to present a precise, concise, accurate, and credible description of the likely and significant effects of archaeological and cultural heritage and offer mitigation measures where a likely significant effect is predicted. The description of effects follows the EPA Guidelines (2022, table 3.4, fig. 3.4), whereby comparing the character of the

predicted effect to the sensitivity of the receiving environment can determine the significance.

14.2 DESCRIPTION OF RECEIVING ENVIRONMENT

14.2.1 INTRODUCTION

The proposed vehicular route corridor is located in the townland of Ballynaheskeragh. The proposed road will connect the proposed development with the N65 road, using a small section of the existing L8763 road, with the new route measuring c. 813m in length and 7.0m in width, traversing three undulating grassed fields and two streams

The primary purpose of this vehicular route is to serve the construction traffic during the development of a site that is principally located within three townlands: the east side of Coolpowra, the south side of Ballynaheskeragh and the north side of Gortlusky. This newly proposed access will replace the previously proposed access using the existing road (L8763).

The vehicular road corridor has an elevation of c. 54–57m Ordnance Datum (O.D.). The underlying geology consists of dark limestone and shale and is part of the Lucan Formation. It is covered by deep, well drained mineral (mainly basic) soils (Geological Survey of Ireland). The road traverses two minor streams, and the terrain is undulating as it includes several drumlins.

Cultural Heritage is considered here to include all recorded monuments listed in the *Record of Monuments and Places* (RMP) and in the *Sites and Monuments Record* (SMR), National Monuments (i.e. those in the ownership/guardianship of the state), Protected Structures, National Inventory of Architectural Heritage (NIAH) sites, previously unrecorded sites, sites reported in the Excavations Database if not included in the RMP/SMR, find spots or sites listed in the Topographical Files of the National Museum of Ireland, and finally sites identified during a site visit, through examination of cartographic sources and aerial imagery (for full methodology see the original chapter).

14.3 ASSESSMENT OF POTENTIAL ENVIRONMENTAL EFFECTS

14.3.1 ARCHAEOLOGICAL HERITAGE

There will be no effects, direct or indirect, on recorded archaeological monuments as no such monuments are located within the proposed vehicular access road corridor.

A potential direct effect on the archaeological resource lies in the uncovering of sub-surface archaeological features during groundworks associated with the proposed development and related infrastructure within all undisturbed areas of the site.

The road traverses two minor streams and portions of the site are indicated as wetland with rushes shown. Such locations, where there is a readily available water source but also an adjacent area of dry ground, frequently contain the remains of fulacht fia, also known as burnt mounds. They are usually identified as charcoal-rich mounds or spreads of heat-shattered stones; however, in many cases the sites have been disturbed by later agricultural activity and are no longer visible on the field surface. Disturbed spreads will nonetheless often preserve underlying associated features, such as troughs, pits, post/stake-holes and gullies. They represent the remains of prehistoric water heating sites, where people mainly gathered to cook food, although they could also have been used for bathing/sauna, brewing, textile working, etc. Burnt mounds are most commonly dated to the Bronze Age (c. 2200–800 BC), largely to the Middle–Late Bronze Age (Brindley et al. 1990; Corlett 1997), however, many examples are now also known to date from the Neolithic, Chalcolithic and Iron Age (Hawkes 2018, chapter 5).

Should previously unknown archaeological features be present, the proposed development will have a direct, negative, permanent and profound or very significant effect on such remains.

14.3.2 ARCHITECTURAL AND CULTURAL HERITAGE

There will be no effects, direct or indirect, on recorded architectural heritage as no Protected Structures or sites listed within the National Inventory of Architectural Heritage (NIAH) are located within the proposed development site.

The road corridor was designed to avoid any upstanding structures and any structures depicted on the examined mapping. The site traverses two field boundaries in the form of streams/wet ditches and hedges. No upstanding structures are located within the proposed road corridor. The 6-inch map of 1837 depicts a number of structures, including houses, wells and kilns. None of the structures are located within the corridor, and these are no longer shown on the subsequent 25-inch map of 1892. A number of field boundaries were removed by the 1892 map. Both maps depict the southern stream/wet ditch clearly, and the 1892 map clearly illustrates them both, with the southern indicated as more substantial. These are the only currently present field boundaries that the proposed vehicular access will impact upon. While an access road/path just off the local road is depicted within the very southwestern extent of the corridor on both maps, it appears that

by the 1892 map, it went out of use. This is likely due to the fact that the previously depicted farmyard is no longer illustrated.

A potential direct effect on any cultural heritage sites lies in the uncovering of sub-surface remains during groundworks associated with the vehicular access. However, none were identified as a result of this assessment within the corridor of the proposed route.

Should previously unknown cultural heritage features be present, the proposed vehicular access will have a direct, negative, permanent and profound or very significant effect on such remains.

14.3.3 INDIRECT EFFECTS

Indirect effects are those whereby the proposed development may have a negative (or positive) effect on the wider archaeological landscape or surrounding architectural and cultural heritage. Indirect effects may include a visual impact on the surrounding archaeological and/or architectural landscape.

The introduction of the proposed development to the area will not result in a change to the general setting of any recorded monuments, protected structures or architectural heritage as none are present within or in the immediate environs of the site.

The proposed development will therefore have no indirect effects, either temporary or permanent, on the wider cultural heritage of the area.

14.4 ADDITIONAL MITIGATION MEASURES

14.4.1 ARCHAEOLOGICAL HERITAGE

The predicted effects on the known archaeological heritage are regarded as being none. No effects on the recorded archaeological resource (SMRs/RMPs) were identified, and no indirect or visual effects on the nearest recorded monument outside the proposed development site boundary were noted.

A potential direct effect on previously unknown archaeological heritage lies in the uncovering of sub-surface remains. Accordingly, the following mitigation measures will be carried out subject to the approval of the National Monuments Service (NMS) of the Department of Housing, Local Government and Heritage (DHLGH) and further mitigation may be sought by the NMS.

Archaeological test trenching (minimum of 12% of the lands available/vehicular access route measuring 813m in length and 7.0m in width) will be carried out prior to any

groundworks commencing and will be undertaken by an experienced, licence-eligible archaeologist working under licence from the Department of Housing, Local Government and Heritage. If archaeological features or deposits are exposed, these shall be sufficiently sectioned in order to assess their extent, nature and significance. Once test trenching is complete, further mitigation might include preservation in situ (avoidance), excavation (preservation by record) and/or monitoring of topsoil stripping.

Adequate time and resources will be provided by the developer for the resolution of any archaeology identified within the development site and which will be directly impacted by groundworks. Time and resources will also be allowed for any post-excavation work and specialist analysis necessary following any archaeological excavation that takes place.

A report is required to be compiled on completion of any archaeological excavation and will be submitted to the relevant authorities.

14.4.2 ARCHITECTURAL AND CULTURAL HERITAGE

The predicted effects on the known architectural heritage are regarded as being none. No effects on Protected Structures (RPS) or sites in the National Inventory of Architectural Heritage (NIAH) were identified, and no indirect or visual effects on the nearest such site outside the proposed development site boundary were noted.

No potential direct effects on previously unknown architectural/cultural heritage were identified. However, should any previously unknown cultural heritage sites be present, the impact on these will be mitigated through the proposed test trenching of the corridor, which will allow for appropriate mitigation measures to be employed. These might include excavation and/or monitoring of groundworks.

14.4.3 RESIDUAL IMPACTS OF THE DEVELOPMENT

The residual impacts are likely to be neutral and none to imperceptible if the mitigation measures are implemented. Table 14.1 below summarises the residual effects of the proposed development on the archaeological and cultural heritage landscape. Residual impacts are defined as the overall effect of the development on archaeology and cultural heritage, on the basis of implementing the mitigation measures outlined in this report.

Table 14.1 Summary of Residual Effects

Potential Effects	Mitigation strategy	Residual impacts
Construction Effects		
Effects to Recorded Monuments and Protected Structures/NIAH sites - none	No mitigation required.	None
Effects to previously unknown archaeological and cultural heritage sites – Topsoil removal associated with development. Any groundworks, drainage, etc .	Assessment and photographic survey prior to building demolition. Archaeological test trenching of the footprint of the proposed vehicular access corridor. Consultation with Licensing Section of National Monuments Service should archaeological sites or features be uncovered. Excavation and recording of any archaeological features identified, thus preserving them byrecord.	None
Effects to Recorded Monuments - none	No mitigation required.	None
Operational Effects		
Effects to nearby Recorded Monuments and Protected Structures/NIAH sites - none	No mitigation required.	None

14.5 CUMULATIVE EFFECTS

There are no significant cumulative effects on the archaeological and cultural heritage resource of the area as a result of the proposed development of the vehicular access route. There are no predicted effects on the known archaeological, architectural and cultural heritage of the site and the surrounding landscape. Furthermore, an existing operational 400kV AIS electricity substation (Oldstreet) is already located directly adjacent and west of the proposed vehicular access route.

The indicative route for an associated gas pipeline has also been designed to avoid any known archaeological and architectural heritage constraints. All related due diligence will be undertaken by Gas Networks Ireland (GNI), who will complete an associated archaeological and cultural heritage assessment.

14.6 MONITORING AND FURTHER WORKS

Monitoring may be required during the construction phase and will be informed by archaeological test trenching that will be carried out prior to any groundworks

commencing. Following this, further mitigation may be required in the form of preservation in situ (avoidance), excavation (preservation by record) and/or monitoring of topsoil stripping. Such mitigation measures (as outlined in Section 14.5) should be conditioned within any planning permission for the site.

No monitoring is required during the operation phase.

14.7 SUMMARY OF SIGNIFICANT EFFECTS

Should previously unknown archaeological, architectural and cultural heritage features be present within the footprint of the proposed development, it will likely result in the permanent loss of these remains and, as such, the magnitude of the effect is profound or very significant.

14.8 REFERENCES

- Galway County Development Plan 2022–2028 https://consult.galway.ie/en/consultation/adopted-galway-county-development-plan-2022-2028, accessed November 2025).
- Geological Survey Ireland Spatial Resources, Department of the Environment, Climate and Communications(https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228, accessed May 2024).
- Historic Environment Viewer (https://heritagedata.maps.arcgis.com/apps/webappviewer/, accessed November 2025).
- Irish Townland and Historical Map Viewer (https://osi.maps.arcgis.com/apps/webappviewer/, accessed November 2025).
- National Inventory of Architectural Heritage Database (https://www.buildingsofireland.ie/, accessed November 2025).
- National Monuments Service (www.archaeology.ie, accessed November 2025).
- Record of Monuments and Places for County Galway (1997) (https://www.archaeology.ie/sites/default/files/media/pdf/Archaeology-RMP-Galway-Manual-(1997)-0015.pdf, accessed May 2024).

Figure 14.1 Location of proposed vehicular access (orange) and site (blue) and nearby Recorded Monuments.

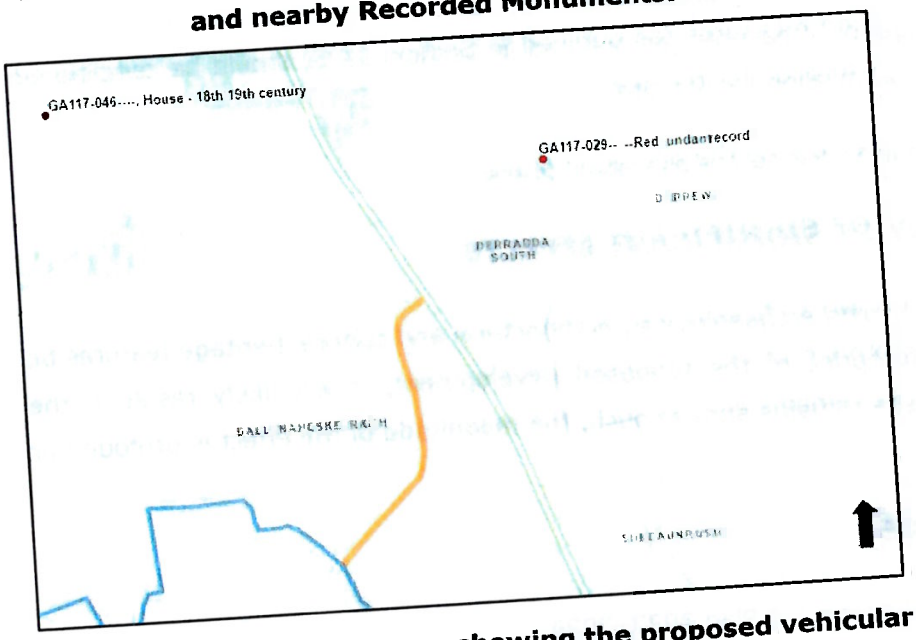


Figure 14.2 Aerial imagery, showing the proposed vehicular access.

Figure 14.3 **Extract from first edition OS 6-inch map (surveyed 1837 – published 1841), showing locations of the proposed vehicular access road (orange).**

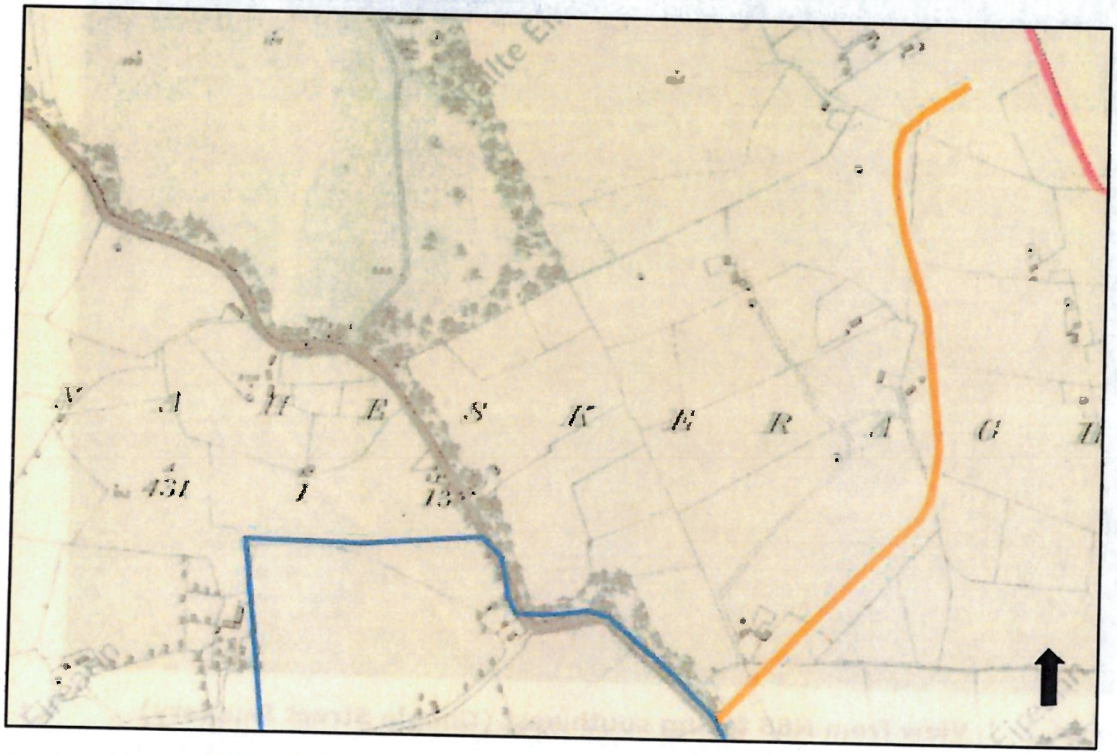


Figure 14.4 **Extract from third edition OS 25-inch map (surveyed 1892 – published 1894), showing locations of the proposed vehicular access road (orange)**

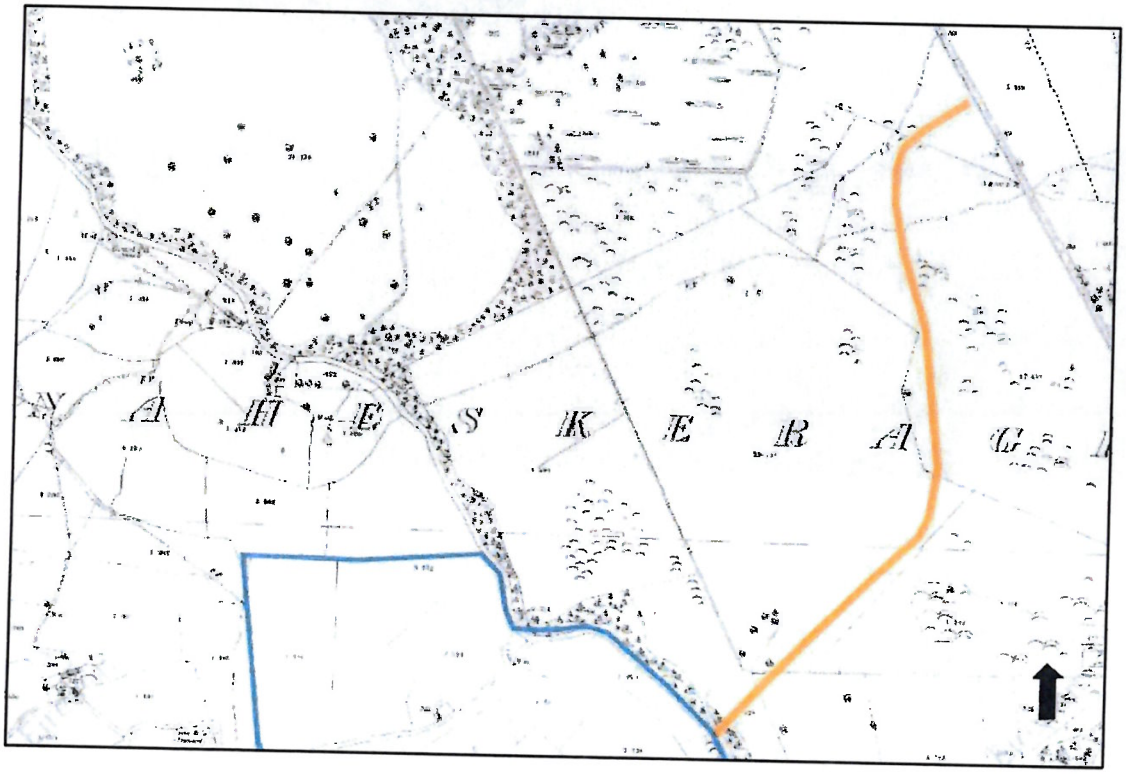


Plate 14.1 Aerial view of the proposed vehicular access

Plate 14.2 View from N65 facing southwest (Google Street Imagery)