

12. LANDSCAPE AND VISUAL

12.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) addresses the potential landscape and visual effects of the Proposed Development. The emphasis in this chapter is on the likely significant landscape and visual effects of the Proposed Development. It covers the assessment methodology, a description of the Proposed Development and the existing landscape as well as landscape policy and relevant guidance. It includes a description of County Cork and County Kerry landscape policy with specific reference to the area in which the Proposed Development is located.

The landscape of the area is described in terms of its existing character, which includes a description of landscape values and the landscape's sensitivity to change. The potential effects in both landscape and visual terms are then assessed, including potential cumulative effects. A full description of the Proposed Development is provided in Chapter 4 of this EIAR.

The Landscape and Visual Impact Assessment (LVIA) comprises the following sections:

- **Methodology and Assessment Criteria** - An outline of the methodology and guidance used to conduct the LVIA.
- **Landscape Baseline** – A review of the landscape policy context; a description of the baseline landscape conditions and character of the Proposed Development site and wider landscape setting; as well as identification of landscape context including landscape value and landscape sensitivities.
- **Visual Baseline** - An appraisal of likely visibility of the Proposed Development within the surrounding landscape, including visibility from designated scenic amenity designations and other sensitive visual receptors.
- **Likely and Significant Landscape and Visual Effects** – A determination of predicted landscape and visual effects using best practice guidance outlined in the methodology. Assessment of effects is informed by a site survey.

12.1.1 Statement of Authority

This chapter was written by Maria Inês Timóteo. Maria is a Project Landscape Architect with MKO and has over seven years' experience in landscape design, management and construction in Ireland and Portugal, with multiple projects across Europe. Her experience lies with several design typologies such as residential developments, open space, historical landscape, and others, for all project stages. Maria's primary role at MKO is preparing landscape packages for design implementation and producing Landscape and Visual Impact Assessment Reports for renewable energy projects including wind farms, solar farms, quarry extraction and strategic housing schemes. Maria holds a Master's in Landscape Architecture and is a Council Member with the Irish Landscape Institute.

This chapter was reviewed by Jack Workman and Michael Watson. Jack is the Landscape Team manager at MKO, he is a Landscape and Visual Impact Assessment Specialist with an academic background in the field of Environmental Science and Geography. Jack's primary role at MKO is conducting Landscape and Visual Impact Assessment (LVIA) for Environmental Impact Assessment reports. Jack is an Affiliate member with the British Landscape Institute and is currently completing their pilot charterhip program for the new Landscape Technician Membership grade. Since joining MKO in February 2020, Jack has conducted and project managed all aspects of LVIA for a broad range of commercial infrastructure developments including wind and solar energy projects, grid infrastructure, extraction industry and Strategic Housing Developments. Jack holds a membership with the Chartered Institute of Water and Environmental Management and is also a member of the Landscape Research Group.

Michael Watson is Project Director and head of the Environment Team in MKO. Michael has over 17 years' experience in the environmental sector. Following the completion of his Master's Degree in Environmental Resource Management, Geography, from National University of Ireland, Maynooth he worked for the Geological Survey of Ireland and then a prominent private environmental & hydrogeological consultancy prior to joining MKO in 2014. Michael's professional experience includes managing Environmental Impact Assessments, EPA License applications, hydrogeological assessments, environmental due diligence and general environmental assessment on behalf of clients in the wind farm, waste management, public sector, commercial and industrial sectors nationally. Michael's key strengths include project strategy advice for a wide range and scale of projects, project management and liaising with the relevant local authorities, Environmental Protection Agency (EPA) and statutory consultees as well as coordinating the project teams and sub-contractors. Michael is a key member of the MKO senior management team and as head of the Environment Team has responsibilities to mentor various grades of team members, foster a positive and promote continuous professional development for employees. Michael also has a Bachelor of Arts Degree in Geography and Economics from NUI Maynooth, is a Member of IEMA, a Chartered Environmentalist (CEnv) and Professional Geologist (PGeo).

12.1.2 'Do Nothing' Scenario

If the Proposed Development were not to proceed it would not be possible to access and construct the Permitted Development. The opportunity to generate renewable energy and electrical supply to the national grid would be lost. Commercial forestry operations and existing land-use practices would continue at the site.

12.1.3 Proposed Development Description

Knocknamork Ltd. intends to apply for planning permission to construct a 110kV electrical substation, underground cabling, access roads and associated works to facilitate the construction of the Permitted Development, located near Ballyvourney, Co. Cork.

The 'Proposed Development' in this chapter refers to the various items described in Chapter 4 of this EIAR. Each individual element of the Proposed Development will be assessed both independently and where necessary in combination with each other.

The Proposed Development is integrated with the Permitted Development and is located in close proximity to other existing and permitted wind farms (see Table 12-1 below). The proposed underground electrical cabling will be installed predominantly following existing forest roads / land, grasslands, and agricultural land within the landscape. Consequently, this landscape and visual assessment will be cognisant of the existing and permitted infrastructure, and when appropriate, assesses the Proposed Development in combination with them.

Table 12-1 – Existing and permitted windfarm infrastructures within 2 kilometres of the Proposed Development

Name	Status
Cydaghroe / Cummeennabuddoge Windfarm	Existing
Cummeennabuddoge Windfarm	Proposed
Clydaghroe Windfarm extension	Permitted
Gneeves Windfarm	Existing
Gneeves Windfarm Extension 2	Permitted

Name	Status
Curragh Windfarm	Existing
Coomacheo Windfarm	Existing
Caherdowney Windfarm	Existing
Knocknamork Windfarm	Permitted
Garrow Substation	Existing
Ballyvouskill Substation	Existing

It is proposed to construct a 110 kV electrical substation to accommodate the connection of the Permitted Development to the national grid. It is intended that the 110kV substation will replace the 38kV substation and battery storage compound permitted under Pl. Ref. 19/4972.

12.1.4 Pre-Planning Meetings

Pre-planning meetings were conducted with An Bord Pleanála (ABP), Cork County Council and Kerry County Council in preparation for the submission of the Proposed Development application. The following items were noted from each meeting:

08.03.2022 – Kerry Pre-App with Michael Lynch, Senior Executive Engineer and Fiona O’Sullivan, Area Planner

- Landscape was not a matter raised at the meeting

10.03.2022 – ABP Pre-App with Ciara Kellett, Assistant Director of Planning; Mairead Kenny, Senior Planning Inspector; Elaine Clarke, Planning Inspector and Kieran Somers, Executive Officer

- The prospective applicant also noted that the proposed works within the functional area of Kerry County Council occur within a rural secondary special amenity area; the prospective applicant added that the EIAR will consider all landscape aspects of the Proposed Development
- The prospective applicant also noted that works are proposed within a visually sensitive landscape under the current provisions of the Draft Kerry County Development Plan; it added that the EIAR will include a detailed assessment of the landscape aspects of the Proposed Development.

24.03.2022 – Cork Pre-App with Gregg Simpson, Senior Executive Planner and Carol Stack, Area Planner.

- Landscape was not a matter raised at the meeting

12.2 Methodology and Assessment Criteria

This section broadly outlines the methodology used to undertake the landscape and visual assessment of the Proposed Development, and the guidance used in the preparation of each section.

12.2.1 Guidance/Reference Documents

In 2000, the Department of the Environment and Local Government (DoEHLG) published *'Landscape and Landscape Assessment: Consultation Draft of Guidelines for Planning Authorities'*, which recommended that all local authorities adopt a standardised approach to landscape assessment for incorporation into development plans and consideration as part of the planning process. This document remains in Draft.

In 2002, Ireland signed and ratified the European Landscape Convention (ELC). This introduced a pan-European concept that centres on the quality of landscape protection, management, and planning. The Department of Arts, Heritage and the Gaeltacht published a National Landscape Strategy for Ireland in 2015. The strategy aims to ensure compliance with the ELC and contains six main objectives, including undertaking a National Landscape Character Assessment and developing landscape policies.

Although the DoEHLG 2000 guidance remains in draft form, this section of the LVIA has been informed by the landscape assessment guidelines presented in the DoEHLG document as well as a range of other guidelines and local policy, which include:

- *Guidelines for Landscape and Visual Impact Assessment*, Third Edition (GLVIA3), The Landscape Institute/Institute of Environmental Management and Assessment, UK, 2013 (LI & IEMA, 2013).
- *Guidelines on the information to be contained in Environmental Impact Assessment Reports* (EPA, 2022)
- Wind Energy Development Guidelines for Planning Authorities (Department of the Environment, Heritage and Local Government, 2006) and the Draft Revised Wind Energy Development Guidelines (Department of Planning, Housing and Local Government, 2019).
- The Cork County Development Plan 2014 – 2021 (Cork County Council, 2014).
- The Draft Cork Development Plan 2022-2028 (Cork County Council, 2022)
- The Kerry County Development Plan 2015 – 2022 (Kerry County Council, 2014).
- The Draft Kerry County Development Plan 2022-2028 (Kerry County Council, 2022)

12.2.2 Baseline Landscape Assessment

In order to establish the baseline landscape and visual conditions at the Proposed Development site, an initial desk study was undertaken which identified relevant policies and guidelines, both at national, county and local level. This includes any relevant Cork and Kerry County Council policies on landscape and landscape character, designated landscapes and scenic routes. Aerial images of the study area were also studied. A field visit was undertaken in October 2021 to assess the landscape character, landscape elements and visual receptors. The study area and surrounds are described in terms of landscape policy and landscape character.

12.2.3 Scope and Definition of Landscape and Visual Impact (LVIA) Study Area

The GLVIA3 (LI & IEMA, 2013) guidance refers to the identification of the area of landscape that is to be covered while assessing landscape and visual effects. The guidelines state:

“The study areas should include the site itself and the full extent of the wider landscape around it which the proposed development may influence in a significant manner.”

For the purposes of this LVIA, where the ‘Proposed Development site’ or ‘the site’ is referred to in the LVIA, this relates to the primary study area for the Proposed Development, as delineated in a black dash-dot line on the mapping figures in this report.

The landscape and visual baseline mapping and viewpoint selection are based on a wider study area, consisting of all the area within 2 kilometres from the Proposed Development site boundary. Considering the strategic siting of the Proposed Development, it is not likely to be identifiable from locations beyond 2 km, where significant effects are unlikely to occur. This area is referred to as the Landscape and Visual Impact (LVIA) Study Area or ‘study area’. This study area is described in terms of Landscape Policy and Landscape Character.

To provide context for this LVIA, County Cork and County Kerry landscape designations were considered within the 2 km LVIA Study Area. However, the differing components of the Proposed Development (substation; underground cabling; access roads; borrow pits) fall within differing LVIA Study Area parameters appropriate to the nature of each element. This follows the GLVIA3 guidance (LI & IEMA, 2013), which proposes that the level of detail in the landscape baseline studies should be *“appropriate and proportionate to the scale and development”*.

Proposed 110kV Substation

The construction of a 110kV substation located in the townland of Cummeennabuddoge will be the only above ground feature of the Proposed Development, and therefore the only potentially perceptible element of the proposal from local sensitive visual receptors. The LVIA Study Area extends to 2 km from the proposed 110kV substation location, beyond 2 km it is deemed that landscape and visual effects will not be significant.

Proposed Underground Electrical Cabling

Although the LVIA study area is 2km from the Proposed Development, visual and landscape effects are likely to be limited to the immediate vicinity of the underground cabling route (approximately 50 metres either side of the proposed route). The proposed underground cabling will require temporary and permanent widening of existing forestry tracks or the construction of new roads. The location of the proposed cabling is almost entirely restricted to existing forestry areas. Other land-uses are crossed by the cabling route such as agricultural land to the east.

Access Road (Upgrade and New) and Temporary Road

Although the LVIA study area is 2km from the Proposed Development, visual and landscape effects are likely to be limited to the immediate vicinity of the proposed and existing access roads (approximately 50 metres either side of the proposed route). The study area for the access road (from the N22 to the southwest of the Proposed Development site) is entirely restricted to a private access track and forestry tracks where road upgrade works are proposed. The entrance to this existing road off the old N22 alignment, which is also the main access to the Permitted Development, requires temporary widening works to facilitate the delivery of the construction materials and turbine components. Additionally, a temporary access road is proposed from the N22 to the old N22 alignment. This temporary access point is also located southwest of the site and LVIA Study Area, immediately east of the existing junction connecting the current N22 road to the old N22 alignment.

Borrow Pit and Extension of Permitted Borrow Pit

The Proposed Development includes a new borrow pit and an extension of the permitted borrow pit (Planning Permission Ref. No. 19/4972), which will include surface and below surface extraction activities. The study area for each borrow pit is 2km due to the extraction works associated with the borrow pits, and subsequent likely visual effects from close proximity within the existing upland

plateau. The proposed borrow pit is located approximately 50 metres southeast of the proposed 110kV substation. The permitted borrow pit extension is located to the west of the LVIA Study Area, circa 5km west of the proposed 110kV substation. It is intended that hardcore materials required for the construction of the Proposed Development will be sourced from the new and extended borrow pits on site.

12.2.4 Nature and Visibility of the Proposed Development

Proposed 110kV Substation: The proposed 110kV substation compound comprises a footprint of approximately 0.84 hectares. The proposed 110kV substation area, enclosed by a palisade fence, covers an area approximately 128m x 66m with an approximate height of 9 metres at its tallest building and circa 17 metres at its tallest point which relates to the proposed lighting masts. As an above ground feature, the proposed 110kV substation and associated infrastructure will be the most visually prominent feature of the Proposed Development. Plate 12-1 below shows an example of a substation compound of similar type and scale to the proposed 110kV substation at Cummeennabuddoge.

The proposed 110kV substation and associated infrastructure is located on an elevated and isolated plateau within an upland landscape. Topographical characteristics and existing forestry will provide substantial screening of the substation, limiting visibility to locations in close proximity to the substation itself. Although the land use in this area is composed of forestry, the area sited around the immediate vicinity of the proposed 110kV substation had been recently replanted at the time of this report. Forestry in this location is used for production purposes and may be subject to new forestry cycles in the future which will offer year-long screening when fully established. During periods of no trees and prior to new planting, there will be localised visibility from maintenance access trails immediately adjacent to the substation. A comprehensive description of the likely visibility of the proposed 110 kV substation is reported in Section 12.4 – *Visual Baseline*.

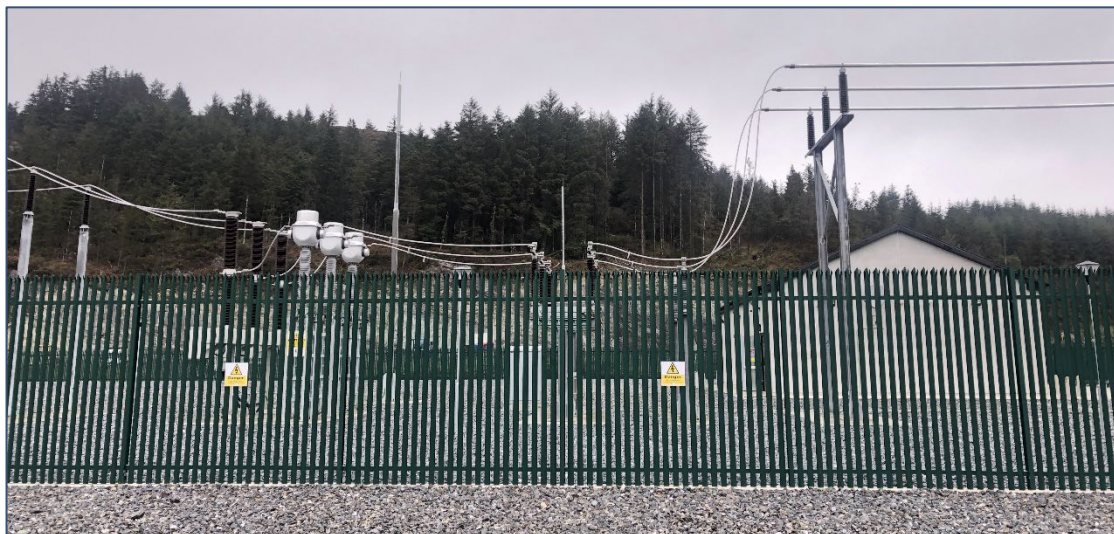


Plate 12-1 Example of a substation compound aesthetically similar to the proposed 110kV substation at Cummeennabuddoge

Proposed Underground Cabling: Due to the nature of the proposed underground electrical cabling, once in place, it will not be visible. From a landscape and visual perspective, effects relating to the cables themselves will be highly localised and will be most apparent during and just after the construction phase. Works carried out for the construction of the underground cabling will include road widening works and the construction of new roads. Effects of the works associated with the underground cabling are reported in Section 12.4– *Visual Baseline*.

Access Road & Temporary Road: The proposed road upgrade works for the turbine delivery route includes an access road within a tract of dense coniferous forestry where landscape and visual effects will be highly localised due to screening from the surrounding vegetation and localised topography.

The proposed temporary road access via the existing N22 road is a ground level element that will be constructed to assist site access traffic. From a landscape and visual perspective, effects will be highly localised to the site access via the old N22 alignment. The temporary N22 access road and temporary hardstanding will be most apparent during construction phase, until the surrounding vegetation regrows after the completion of the construction phase.

Proposed Borrow Pit and Extension of Permitted Borrow Pit: The proposed borrow pit and extension of the permitted borrow pit include ground and below ground extraction activities. Their locations within the LVIA Study area are within an isolated upland area, surrounded by conifer forestry plantations. Landscape and visual effects will be highly localised due to the below ground level nature of these pits and the existing surrounding vegetation and localised topography. Temporary visual effects will occur in close proximity to each borrow pit during their restoration phase after extraction works are completed. The area used for each borrow pit will be visually apparent in the landscape until the existing vegetation re-establishes post restoration works.

Considering the nature and visibility of all the Proposed Development components it is not deemed necessary to use additional tools such as ZTV maps and photomontages to assess the potential visibility of these project elements. The visibility was ascertained by a site visit in October 2021 as well as a review of the drawings and details of the Proposed Development.

A series of images were captured at the location of the proposed 110 kV substation, along the proposed underground cabling routes and along the proposed access roads, as well as from visual receptors in the surrounding area; these are included in Section 12.4 below.

12.2.5 Assessment of Potential Effects

The potential landscape and visual effects of the Proposed Development are informed by desk studies and appraisals conducted during a site visit. The methodology includes qualitative methods in order to arrive at a balanced assessment. The predicted landscape and visual effects are described with reference to the EPA's Impact Classification contained in Chapter 1 of this ELAR.

The Assessment methodology uses clearly documented methods based on the GLVIA3 (LI & IEMA, 2013) guidelines. As part of these, landscape and visual sensitivity is balanced with the magnitude of the change to assess the significance of likely landscape and visual effects. Further details on the impact assessment methodology are presented in the following sections.

12.2.5.1 Assessing Landscape Effects

Landscape effects can be described as changes which affect the landscape as a resource. This includes how the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects and its landscape character. Landscape effects also relate to changes in the structure of the landscape. Under the GLVIA3 (LI & IEMA, 2013), the assessment of likely significant effects on landscape receptors includes a judgement on both the sensitivity of the receptor as well as magnitude of the change.

12.2.5.1.1 Assessing Landscape Sensitivity

Landscape Sensitivity, which is described in the GLVIA3 (LI & IEMA, 2013) as a combination of the landscape's susceptibility to change as well as the value attached to the landscape.

Susceptibility to change can be described as the ability of the landscape receptor (either the overall character, quality of the landscape or a particular landscape feature) to accommodate the Proposed Development without undue consequences for the maintenance of the baseline (existing) landscape and/or the aims of landscape planning policies and strategies. Landscape value is a combination of

values which are assessed in the landscape baseline in combination with any formal landscape designations.

For the purposes of this LVIA and the assessment of landscape sensitivity, the County Development Plans of County Cork and County Kerry were consulted to identify landscape sensitivity designations including those of Landscape Character Areas (LCAs) in the LVIA study area. Determination of landscape sensitivity was also informed by appraisals of the Proposed Development site and wider study area conducted during site visits. The following landscape sensitivity ratings are assigned to the site itself and LCAs assessed within the LVIA study area:

- > Very High
- > High
- > Moderate
- > Low

12.2.5.1.2 Assessing Magnitude of Change in the Landscape

The magnitude of change affecting a landscape receptor is a combination of the visual presence - size and scale - of the change, the extent of the area to be affected, and the duration and reversibility of the effect. The magnitude of change for landscape receptors (landscape of the site and designations such as LCAs) was assessed using the definitions outlined in Table 12-2 below.

Table 12-2 Magnitude of Landscape Change Assessment Criteria

Magnitude of Change	Description
Substantial	Where a landscape will experience the loss of key landscape features or the introduction of uncharacteristic additions over a large area. The changes to the landscape are prominent and large in scale. The level of change has an effect on the overall landscape character. The effects are likely long term and may be irreversible.
Moderate	A more limited loss of or change to landscape features over a medium extent which will result in some change to landscape features and aesthetics. Could include the addition of some new uncharacteristic features or elements that would lead to the potential for change in landscape character in a localised area or part of a landscape character area. Would include moderate effects on the overall landscape character that do not affect key characteristics. The effects could be long to medium term and/or partially reversible.
Slight	The loss of or change to landscape features of limited extent, or changes to landscape character in smaller areas. Changes would not affect key characteristics. The addition of any new features or elements to the landscape would only result in low-level changes to the overall aesthetics of the landscapes. Changes to the landscape are more evident at a local level and not over a wide geographical area. The effects could potentially be medium to short term and/or reversible.
Negligible	A change affecting smaller areas of landscape character including the loss of some landscape elements or the addition of features or elements which are either of low value or hardly noticeable. The effects could be short term and/or reversible.

12.2.5.1.3 Landscape Effects Assessment Matrix

The significance of landscape effect was arrived at by combining the magnitude and sensitivity classifications, using the assessment matrix in Table 12-3 below, where landscape sensitivity is shown in the left-hand first column and magnitude of change is shown in the first row at the top of the table.

Table 12-3 Landscape effects significance assessment matrix

	Substantial	Moderate	Slight	Negligible
Very High	Major	Major/Moderate	Moderate	Moderate/Minor
High	Major/Moderate	Moderate	Moderate/Minor	Minor
Moderate	Moderate	Moderate/Minor	Minor	Minor/Negligible
Low	Moderate/Minor	Minor	Minor/Negligible	Negligible

The determination of significance uses a seven-point scale, ranging from Major to Negligible. This seven-point scale is translated to the EPA impact assessment classifications of significance, as outlined in Table 12-7.

12.2.5.2 Assessing Visual Effects

Visual effects relate to changes in views and visual amenity of the surroundings of visual receptors - individuals or groups of people. These may result from changes in content and character of views as a result in changes to the landscape. The assessment of visual effects is based on views shown in photos captured during a site visit and an appraisal of likely visibility that was conducted on the ground. It should be noted that in assessing visual effects, there are different types of visual effects:

- Visual obstruction: This occurs when there is an impact on a view which blocks the view
- Visual intrusion: This occurs when there is an impact on a view, but which does not block the view.

12.2.5.2.1 Visual Receptor Sensitivity

Visual Receptor Sensitivity depends on the occupation or activity of the people, as well the extent to which the attention is focused on views and visual amenity, according to the GLVIA3 Guidelines (LI & IEMA, 2013). Visual receptor sensitivity is assessed as either being Very High, High, Medium or Low, based on the definition of descriptions and examples set out in Table 12-4 below.

Table 12-4 Visual Receptor Sensitivity Assessment Criteria

Sensitivity of Visual Receptor(s)	Description
Very High	Included in this category are viewers that are primarily focused on views from this particular location, such as visitors to popular destinations identified for their outstanding views or residents in close proximity or medium proximity whose primary views will be in the direction of the development.

Sensitivity of Visual Receptor(s)	Description
High	Includes viewers at designated views or landscapes. Viewers such as residents in medium proximity to the viewpoint; viewers at well-known heritage or popular tourist or recreational areas, viewers along scenic or tourist routes
Medium	Includes viewers who may have some susceptibility to a change in view, such as those from views which are not designated but may have local recreational uses or those travelling along routes or at view which are considered moderately scenic.
Low	Includes viewers engaged in activities where the focus is not on the landscape or view. These including those travelling along a busy route, viewers at work or engaged in sport not related to views or experience of the landscape.

12.2.5.2.2 **Magnitude of Visual Change**

The magnitude of the visual change is a combination of scale of the change, the extent of the area to be affected and the duration and reversibility of the effect. The magnitude of change is determined in accordance with the definitions and descriptions included in Table 12-5 below.

Table 12-5 Magnitude of Visual Change Assessment Criteria

Magnitude of Change	Description
Substantial	Substantial change, where the proposals would result in large-scale, prominent or very prominent change, leading to substantial obstruction of existing view or complete change in character and composition of the baseline through removal of key elements or addition of uncharacteristic elements which may or may not be visually discordant. This includes viewpoints where the Proposed Development is fully or almost fully visible over a wide extent, at close proximity to the viewer. This change could be long term or of a long duration.
Moderate	The change in the view may involve partial obstruction of existing view or partial change in character and composition of the baseline through the introduction of new elements or removal of existing elements. Likely to occur at locations where the development is partially visible over a moderate or medium extent, and which are not in close proximity to the development. Change may be readily noticeable but not substantially different in scale and character from the surroundings and wider setting.
Slight	The proposals would be partially visible or visible at sufficient distance to be perceptible and result in a low level of change in the view and its composition and a low degree of contrast. The character of the view may be altered but will remain similar to the baseline existing situation. This change could be short term or of a short duration.
Negligible	Any change would only be barely distinguishable from the status quo “do-nothing scenario” in the surroundings. The composition and character of the view would be substantially unaltered, approximating to little or no change.

12.2.5.2.3 Visual Effects Assessment Matrix

Table 12-6 below shows the significance of visual effects, arrived at by combining the visual receptor sensitivity and the magnitude of change classifications. Visual receptor sensitivity is shown in the left-hand first column and magnitude of visual change is shown in the first row at the top of the table.

Table 12-6 Visual effects significance assessment matrix

	Substantial	Moderate	Slight	Negligible
Very High	Major	Major/Moderate	Moderate	Moderate/Minor
High	Major/Moderate	Moderate	Moderate/Minor	Minor
Medium	Moderate	Moderate/Minor	Minor	Minor/Negligible
Low	Moderate/Minor	Minor	Minor/Negligible	Negligible

The determination of significance uses a seven-point scale, ranging from Major to Negligible. This seven-point scale is translated to the EPA impact assessment classifications of significance, as outlined in Table 12-7 below.

Table 12-7 EPA Impact Assessment Significance Classification for Landscape and Visual Effects

Matrix Classification Significance	EPA Significance Classification	EPA (2022) Definition of Significance
Major	Profound	An effect which obliterates sensitive characteristics
Major/Moderate	Very significant	An effect, which by its character, magnitude, duration or intensity alters most of a sensitive aspect of the environment
Moderate	Significant	An effect, which by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
Moderate/Minor	Moderate	An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends
Minor	Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities
Minor/Negligible	Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.
Negligible	Imperceptible	An effect capable of measurement but without significant consequences

12.2.5.3 Residual Landscape and Visual Effects

After determining the significance of landscape and visual effects using the assessment matrices above, mitigating factors are taken into consideration to arrive at a final residual effect and impact.

12.3 Landscape Baseline

12.3.1 Landscape Policy Context

The Proposed Development is located in the functional area of both County Cork and County Kerry. Therefore, the County Development plans of both counties were consulted to identify relevant policy and designations pertaining to the location of the Proposed Development site. Those relevant to landscape are contained in Chapter 14 of the Cork County Development Plan 2022-2028, as well as Chapter 12 of the Kerry County Development Plan (2015-2022) and Chapter 11 of the Draft Kerry County Development Plan (2022-2028).

12.3.1.1 Cork County Development Plan (CCDP)

The Cork County Development Plan 2022-2028 (hereafter referred to as the CCDP) came into effect on the 6th of June 2022. The CCDP includes policies and objectives pertaining to landscape and amenity designations which are referred to in the following sections:

- General Landscape Policy
- Landscape Character Assessment
- High Value Landscape
- Scenic Amenity, Views and Prospects

12.3.1.1.1 General Landscape Policy – County Cork

Section 14.8 of the CCDP, *Landscape Character Assessment of County Cork*, sets out the policies and objectives of the Council with regard to landscape. General policy on landscape is covered in the CCDP by the following objectives:

Objective GI 14-9: Landscape

“(a) Protect the visual and scenic amenities of County Cork’s built and natural environment.

“(b) Landscape issues will be an important factor in all land use proposals, ensuring that a proactive view of development is undertaken while maintaining respect for the environment and heritage generally in line with the principle of sustainability.

“(c) Ensure that new development meets high standards of siting and design.

“(d) Protect skylines and ridgelines from development.

“(e) Discourage proposals necessitating the removal of extensive amounts of trees, hedgerows and historic walls or other distinctive boundary treatments.”

Objective GI 14-10: Draft Landscape Strategy

“Ensure that the management of development throughout the County will have regard for the value of the landscape, its character, distinctiveness and sensitivity

as recognised in the Cork County Draft Landscape Strategy and its recommendations, in order to minimise the visual and environmental impact of development, particularly in areas designated as High Value Landscapes, where higher development standards (layout, design, landscaping, materials used) will be required.”

12.3.1.1.2 Landscape Character Assessment – County Cork

Landscape character refers to the distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and how people perceive this. It reflects particular combinations of geology, landform, soils, vegetation, land use and human settlement, and creates the particular sense of place found in different areas.

As stated in *Objective GI 6-3* below, the CCDDP advises that the Cork County Draft Landscape Strategy (2007) is to be used as a supporting background document to inform planning processes related to landscape.

➤ **GI 6-3: Draft Landscape Strategy and Local Area Plans**

Have regard to the Cork County Draft Landscape Strategy (2007) in the preparation of Local Area Plans and other plans.

Cork County Council are awaiting the completion of the National Landscape Character Assessment before reviewing their Cork County Draft Landscape Strategy (2007). As such it continues to inform landscape policy within the county and identifies 76 Landscape Character Areas (LCAs) in County Cork. These LCAs were amalgamated into a set of 16 Landscape Character Types (LCTs) based on similarities of physical and visual characteristics. For the purpose of this LVIA, assessment of the landscape character considers the LCT designations instead of the LCAs as they are more detailed and contain specific landscape value and sensitivity designations in the CCDDP and are therefore more appropriate for use.

All components of the Proposed Development located within County Cork are situated in LCT 15b – Ridged and Peaked Upland, as shown in Figure 12-1 below. These include the 110kV underground cabling to the east and a portion of the 33kV underground cabling to the southwest, as shown below.

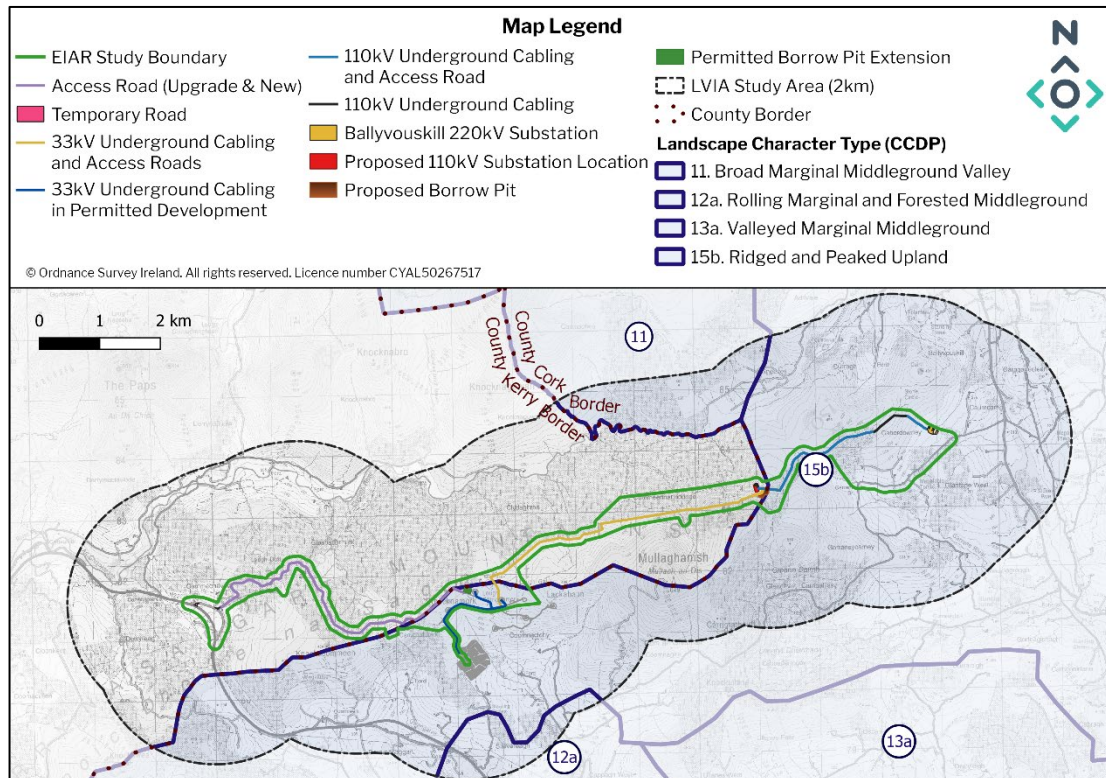


Figure 12-1 – Landscape Character Types identified in CCDP

The proposed 110kV substation is in County Kerry; however, it is located approximately 125 metres from LCT-15b at its closest point and will therefore be visible from within this LCT.

The proposed 110kV substation is located approximately 1.1 km south of LCT-11 Broad Marginal Middleground. On-site appraisals determined there is likely to be no visibility of the proposed 110kV substation from the vast majority of LCT 11. Visibility will only occur within the isolated upland landscape where the proposed substation is sited which is a very small portion of LCT 11. The southwestern-most section of LCT 11 will have visibility of the proposed 110kV substation from routes pertaining to an existing walking trail, however, the intervening topography offers screening from elsewhere in LCT 11. The proposed substation will have no significant effect on the vast areas of this LCT, consequently, these areas where no visibility will occur are not considered further in this LVIA.

LCT 15b Ridged and Peaked Upland.

The Key Characteristics of this LCT as stated in the Cork County Draft Landscape Strategy (2007) are reported below:

- “Comprises a rolling mountainous topography at a relatively high elevation and includes the southern slopes of the Boggeragh Mountains.
- Soils are of low fertility and experience relatively high levels of rainfall due to its elevation, resulting in poor growing conditions and limited vegetation including moorland, heath and scrub.
- Isolated or clusters of fields, are scattered along lower slopes, giving this landscape type a small-scale dimension, to the otherwise open moorland.
- Large tracks of coniferous forestry evident particularly in upland areas.
- There are patches of fertile land within the landscape.
- The main agricultural practice in these upland areas is sheep farming.
- Field boundaries comprise mainly stone walls and low hedges.

- *With forestry over the landscape (not blocks as in other areas). Delineated by tight gorse hedgerows, walls, banks or post and wire fencing and punctuated by a coniferous or broadleaf shelterbelts around small farmsteads.”*

The following description of LCT-15b is also reported in the Cork County Draft Landscape Strategy (2007):

“The ridged, peaked and forested upland landscape type which is located south of Millstreet town, includes much of the Millstreet to Macroom road (R582) and swings south west towards the county boundary west of Ballyvourney. This landscape type has been glaciated and comprises a fairly rugged and rolling mountainous topography at a relatively high elevation. The area around the Boggeragh Mountains provides a good example of this landscape type.

Soils are of low fertility and experience relatively high levels of rainfall due to its elevation and location in the southwest of Ireland, resulting in poor growing conditions and limited vegetation including moorland, heath and scrub.

The landscape, with its rapid and steep rising and falling, seems to tumble down along the valleys. The rugged and diverse landcover, involving moorland, heath and scrub, lends a strong sense of the naturalistic

The ridged, peaked and forested upland landscape type flanks much of the mid-western boundary of County Cork, from the vicinity of Bantry in the south to Millstreet in the north. This landscape type has been glaciated and comprises a fairly rugged and rolling mountainous topography at a relatively high elevation. The area around the Cousane Gap in Type A provides a good example of this landscape type which is inclined towards the rugged whereas the southern slopes of the Boggeragh Mountains further to the north are a somewhat smoother example, thus adding to the small scaled patchwork to the otherwise openness of the moorland. These are often delineated by tight gorse hedgerows, walls, banks or post and wire fencing and punctuated by coniferous or broadleaf shelterbelts around small farmsteads.

The landscape, with its rapid and steep rising and falling, seems to tumble down along the valleys. The rugged and diverse landcover, involving moorland, heath and scrub, lends a strong sense of the naturalistic.”

12.3.1.1.3 Landscape Value and Sensitivity– County Cork

Each LCT is assigned a value, sensitivity and importance, which are listed in *Appendix F* of the CCDP.

The Landscape Value of each LCT, according to the CCDP, is defined as the environmental or cultural benefits, including services and functions, which are derived from an assessment of the natural, scenic and cultural value as determined within that area. The value of each LCT is measured on a four-point scale varying from ‘Low’ to ‘Very High’.

Landscape Sensitivity is defined as the ability of a landscape to accommodate change without suffering unacceptable effects to its character and values. Landscape sensitivities range from Low, Medium, High and Very high in the Cork County Draft Landscape Strategy (2007). Landscape Importance is rated as either of Local, County or National importance.

The underground electrical cabling and access as well as a portion of the proposed borrow pit of the Proposed Development are located in LCT 15b which has the following landscape value, sensitivity and importance designations in the CCDP:

- > Landscape Value: Medium
- > Landscape Sensitivity: Medium
- > Landscape Importance: County

Overall, LCT 15b - Ridged and Peaked Upland is deemed to be an LCA of Medium sensitivity and it is not designated as a County Cork High Value Landscape.

12.3.1.1.4 **County Cork High Value Landscapes**

The CCDP considers that the LCTs which have a 'High' or 'Very High' landscape value, and 'High' or 'Very High' landscape sensitivity, and which are of county or national importance, should be designated as High Value Landscapes (HVLs). These are areas where considerable care is needed to successfully locate large scale developments without them becoming obstructive, and such developments should generally be supported by an assessment including a visual impact assessment.

The HVLs listed in *Appendix F* of the CCDP and illustrated in *Figure 14.2* of the CCDP. The Proposed Development is not located within a High Value Landscape and there are no areas of High Value Landscape in close proximity. The closest High Value landscape is greater than 13 km from the Proposed Development where no significant landscape and visual effects are likely to occur.

12.3.1.1.5 **Scenic Amenity, Views and Prospects – County Cork**

Chapter 14 of the CCDP, *Green Infrastructure and Recreation*, sets out overall policies regarding views and prospects and scenic routes. These include vantage points from which views of natural beauty may be obtained and include landscape and seascape views. Scenery and landscape are a valued amenity resource to both tourists and residents. Specific scenic routes are therefore identified, and these are set out in *Volume 2, Chapter 5* of the CCDP.

The CCDP notes it is particularly important to protect the character and quality of certain stretches of scenic routes that have special views and prospect, particularly those associated with High Value Landscapes. The CCDP also notes that landscapes are living and changing and that it is not proposed that development along these routes is prohibited. Development, where permitted, should not hinder or obstruct these views and prospects. It should be located and designed to minimise the impact. Objectives included in *Section 14.9* of the CCDP are as follows:

Objective GI 14-12: General Views and Prospects

“Preserve the character of all important views and prospects, particularly sea views, river or lake views, views of unspoilt mountains, upland or coastal landscapes, views of historical or cultural significance (including buildings and townscapes) and views of natural beauty as recognized in the Draft Landscape Strategy.”

Objective GI 14-13: Scenic Routes

“Protect the character of those views and prospects obtainable from scenic routes and in particular stretches of scenic routes that have very special views and prospects identified in this plan. The scenic routes identified in this plan are shown on the scenic amenity maps in the CDP Map Browser and are listed in Volume 2 Chapter 5 Scenic Routes of this plan.”

Objective GI 14-14: Development on Scenic Routes

“(a) Require those seeking to carry out development in the environs of a scenic route and/or an area with important views and prospects, to demonstrate that there will be no adverse obstruction or degradation of the views towards and from

vulnerable landscape features. In such areas, the appropriateness of the design, site layout, and landscaping of the Proposed Development must be demonstrated along with mitigation measures to prevent significant alterations to the appearance or character of the area

b) Encourage appropriate landscaping and screen planting of developments along scenic routes which provides guidance in relation to landscaping. See Chapter 12 Heritage Objective HE 46.”

Objective GI 14-15: Development on the approaches to Towns and Villages

“Ensure that the approach roads to towns and villages are protected from inappropriate development, which would detract from the setting and historic character of these settlements.”

Designated scenic routes identified in *Volume 2, Chapter 5* of the CCDP and located within the LVIA Study Area include S22 and S23. These designated routes are within 2km from the proposed 110kV substation; within 400 metres of the 110kV underground cabling and within 1.5 km of the access road (from the N22 national road) and are mapped below in Figure 12-2.

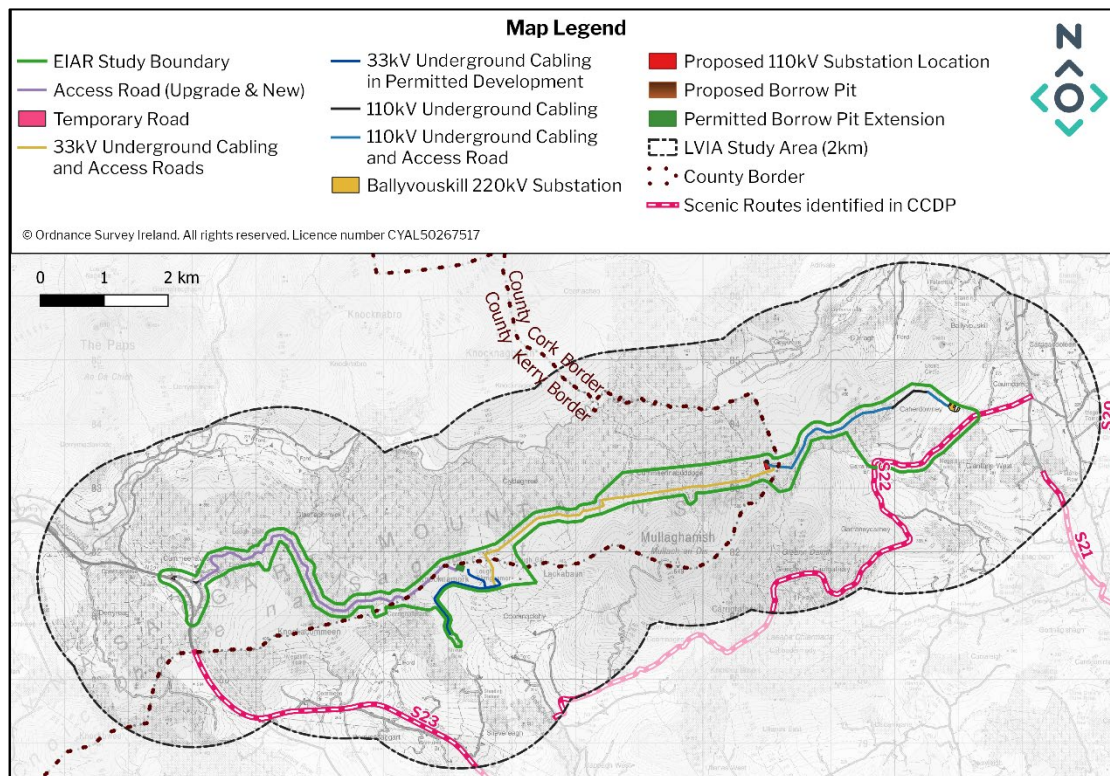


Figure 12-2 – Scenic Routes identified in CCDP

County Cork Designated Scenic Route 22 (S22) is the only designated scenic amenity located within the EIAR Study Boundary. S22 is approximately 1.6 km east, and approximately 1.6 km south of the proposed 110kV substation at its closest point. Furthermore, the 110KV underground cabling is located approximately 400m from the scenic route S22 at its nearest point. A description of this route and its views, reported in the CCDP *Volume 2 Chapter 5*, are stated below:

- **Main Features of Land Cover:** “Commercial, forestry, bog land, moor land, mountains and distant views of improved farmland.”

- **Description and General views being protected:** “Local Road to southeast of Derrynasaggart Mountains from Caumcarrig to Bohill River. Views of Derrynasaggart Mountains, rockscape, river valleys & remote rural landscape.”
- **Focus and Direction of View:** “Scenic amenity is primarily directed to the north-west and west towards the Derrynasaggart Mountains.”

12.3.1.1.6 **Transmission Network Policy – County Cork**

The following objective of the CCDDP relates to the siting of transmission networks in a landscape and visual context.

*“ET 13-22: **Transmission Network:** (b) Proposals for new electricity transmission networks need to consider the feasibility of undergrounding or the use of alternative routes especially in landscape character areas that have been evaluated as being of high landscape sensitivity. This is to ensure that the provision of new transmission networks can be managed in terms of their physical and visual impact on both the natural and built environment and the conservation value of European sites.”*

The underground electrical cabling elements of the Proposed Development are compliant with objective ET 13-22. The proposed underground electrical cabling route is not sited in a landscape character area of high sensitivity. Also, the proposed cabling is underground, therefore mitigating physical and visual impacts on the landscape.

12.3.1.2 **Kerry County Development Plan (KCDP)**

The Kerry County Development Plan 2015-2021 (hereafter referred to as the KCDP) sets out the overall strategy for the proper planning and sustainable development of the county. The policies and objectives of the plan have been developed in recognition of the unique characteristics of the county and in consideration of government policy.

The 2022-2028 Kerry County Development Plan (hereafter referred to as DKCDP) is currently in Draft form and has not yet been adopted by Kerry County Council. The landscape policy and designations from this draft plan have also been considered and have informed this LVIA.

12.3.1.2.1 **General Landscape Policy – County Kerry**

Sections 12.1 to 12.3 of the KCDP detail the objectives and policies of Kerry County Council in relation to landscape and development. Regarding landscape protection, the plan sets out the following objective:

“ZL 1: Protect the landscape of the county as a major economic asset as well as for its invaluable amenity which contributes to the quality of people’s lives.”

The plan states that a LCA is required for the county, which would have three distinct elements:

- Identification and Classification of Landscape Types.
- Landscape Character Areas.
- Landscape Value and Sensitivity to Development.

12.3.1.2.2 **Landscape Zoning – County Kerry**

The KCDP recognises that the sensitivity of a landscape is a measure of its ability to accommodate change or intervention without suffering unacceptable effects to its character. On this basis, the KCDP sets out the following policy regarding zoning of lands in rural areas:

“ZL 3: Determine the zoning of lands in rural areas having regard to the sensitivity of the landscape as well as its capacity to absorb further development.”

The KCDDP also notes that a LCA is required to fully determine the sensitivity and capacity of a landscape. There are three categories of rural area zoning designations; Rural Prime Special Amenity, Rural Secondary Special Amenity and Rural General, as indicated in Maps 12.1 (a) to 12.1 (u) of the County Development Plan. The zoning designations are described in the KCDDP as follows:

“Rural Prime Special Amenity Areas: These are landscapes which are very sensitive and have little or no capacity to accommodate development. In these areas, all development will be prohibited, other than exempted development in accordance with Schedule 2 of the Planning & Development Regulations 2001-2013 and Chapter 3.3.2. which will be open to consideration, subject to satisfactory integration into the landscape and compliance with the proper planning and sustainable development in the area.

Rural Secondary Special Amenity: The landscape of areas in this designation is sensitive to development. Accordingly, development in these areas must be designed so as to minimise the effect on the landscape. Proposed developments should, in their designs, take account of the topography, vegetation, existing boundaries and features of the area, as set out in the Building a House in Rural Kerry Design Guidelines (Kerry County Council 2009). Permission will not be granted for development which cannot be integrated into its surroundings. Development will only be permitted where it is in accordance with the provisions of Chapter 3.3.2.

Rural General: Rural landscapes within this designation generally have a higher capacity to absorb development than the previous rural designations. It is important that development in these areas be integrated into their surroundings in order to minimise the effect on the landscape and to maximise the potential for development. Proposed developments in areas zoned Rural General, should in their designs take account of the topography, vegetation, existing boundaries and features of the area as set out in the Building a House in Rural Kerry Design Guidelines (Kerry County Council 2009). Permission will not be granted for development which cannot be integrated into its surroundings.”

All infrastructure of the Proposed Development located within County Kerry is sited in land zoned as Rural Secondary Special Amenity, as shown in Figure 12-3 below.

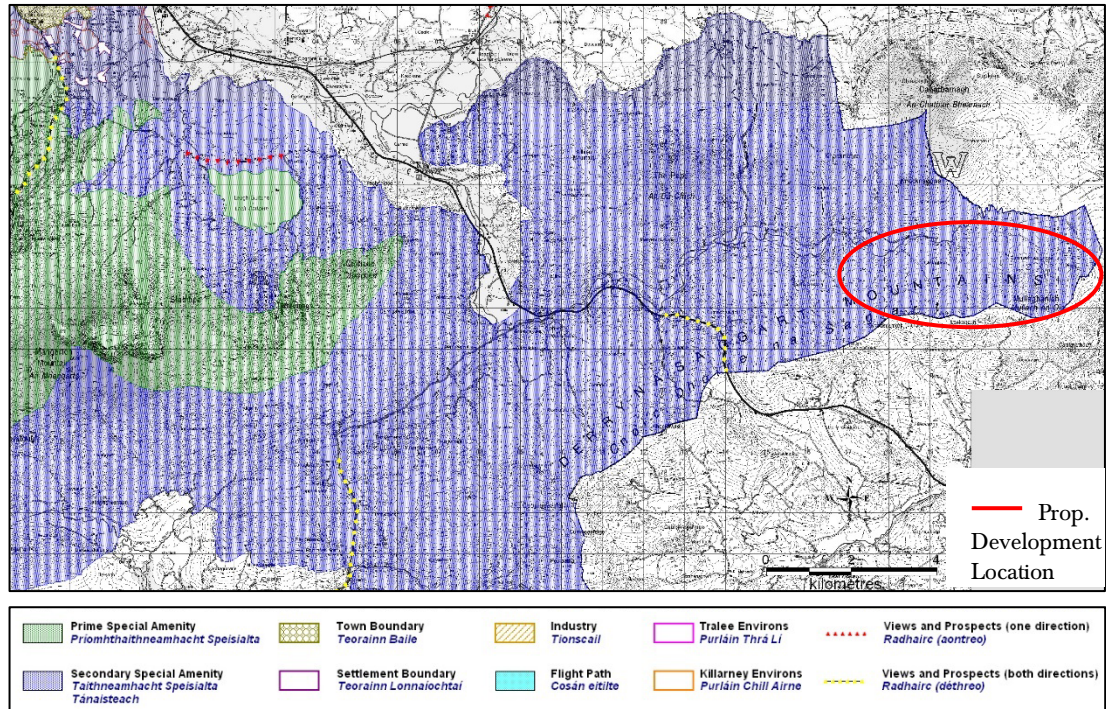


Figure 12-3 – Map 12.1 extract from KCDP, adapted to show location of the Proposed Development

New draft landscape designations for County Kerry, described in DKCDP combine the existing Rural Primary and Rural Secondary Special Amenity Areas into one classification called ‘Visually Sensitive Areas’. Therefore, the Proposed Development components will be located within this visually sensitive area.

According to the Draft Development Plan, ‘Visually Sensitive Areas’ can be defined as:

“Visually sensitive landscape areas comprise the outstanding landscapes throughout the County which are sensitive to alteration. Rugged mountain ranges, spectacular coastal vistas and unspoilt wilderness areas are some of the features within this designation.

These areas are particularly sensitive to development. In these areas, development will only be considered subject to satisfactory integration into the landscape and compliance with the proper planning and sustainable development of the area.”

The following provisions are requested by KCC to development in Visually Sensitive Landscapes Areas under the Draft Development Plan, in section 11.6.4:

“There is no alternative location for the proposed development in areas outside of the designation.

Individual proposals shall be designed sympathetically to the landscape and the existing structures and shall be sited so as not to have an adverse impact on the character, integrity and distinctiveness of the landscape or natural environment.

Any proposal must be designed and sited so as to ensure that it is not unduly obtrusive. The onus is, therefore, on the applicant to avoid obtrusive locations. Existing site features including trees and hedgerows should be retained to screen the development.”

12.3.1.2.3 Views and Prospects – County Kerry

The policy of Kerry County Council regarding scenic views and prospects is presented in *Section 12.4* of the KCDP. The following objective of the KCDP relates to views and prospects:

“ZL-5: Preserve the views and prospects as defined on Map No’s 12.1, 12.1a–12.1u”

The information regarding views and prospects in relation to the Proposed Development site can be found on *Map 12.1 (o)* of the KCDP. As shown in Figure 12-3 above as a yellow dotted line, a short length of designated (unnamed) views/prospects are located on the N22 National Road approximately 170 metres southwest of the Proposed Development. The views here are described as directed in both directions, the only elements of the Proposed Development potentially visible from this location will be the proposed access road and temporary road associated with the turbine delivery route.

12.3.1.2.4 Landscape Character Assessment – County Kerry

Kerry County Council sets the objectives for the Landscape Character Assessment as:

“ZL-2: Prepare a Landscape Character Assessment of the County following the publication of the proposed National Landscape Strategy. This assessment will include capacity studies for different forms of development and will involve consultation with adjoining local authorities.”

Within the Renewable Energy Strategy (hereafter referred to as RES) prepared by Kerry County Council in 2012, forty-six LCAs were identified. *Map 7.5* of this document shows that all components of the Proposed Development sited within County Kerry are located in LCA 36 ‘*Upper Clydagh River and the Derrynasaggart Mountains*’. LCA 36 is described in the RES as follows:

“36. Upper Clydagh River and the Derrynasaggart Mountains

Landcover: *The summits and slopes of the mountains comprise moorland or rocky moorland. Coniferous plantations occurs on the slopes of the mountains. There is some rough pasture lower in the valleys.”*

This document is also accompanied by an Area Description, Landscape Type, Development Capacity Assessment and Summary. LCA 36 thus states that the Landscape Type is ‘*Mountain Moorland and Transitional Marginal Land*’, however, these landscape types relate to the entirety of LCA 36. The Proposed Development is inserted in the eastmost boundary of this typology and can be described solely as Mountain Moorland.

Sensitive landscape areas are also identified on the *Map 7.5* LCA 36 as designated sensitive areas. The Proposed Development is not sited within designated sensitive areas. The nearest sensitive landscape area is located northwest of the Proposed Development at approximately 1 kilometre, however no areas in proximity to the Proposed Development in the southern portion of the LCA are marked as sensitive.

DKCDP (2022-2028) identifies a total of 40 LCA’s, however, although there is a reduction in LCAs in the new draft document, the Proposed Development is still located within the landscape character of “*Clydagh River, The Paps and the Derrynasaggart Mountains*” which is cognisance of the Renewable Energy Strategy (2012).

12.3.1.3 Wind Energy Development Guidelines

Section 6.11.3 of The Wind Energy Development Guidelines (DoEHLG, 2006) provides guidance for the development of grid connection infrastructure with regards to landscape and visual impacts. The following guidance is included in Section 6.11.3 of the 2006 Guidelines:

- *“Power line connections between turbines and from turbines to the control building should be underground.*
- *Power lines should be interred alongside turbine access roads in order to minimise spatial extent of soil/hydrological and vegetation damage/ disturbance.*
- *The cost of underground connection from the compound to the national grid is generally prohibitive. This connection can thus be above ground in all but the most sensitive landscapes.”*
- *In certain landscapes, such as highly sensitive Mountain Moorland, consideration should be given to burying the cables until such a distance as the poles and cables would be visually acceptable, for example, where other power lines exist.*
- *In order to reduce visual impact, connections should preferably be carried on wooden poles rather than lattice towers, except where necessary for changes in direction and within the compound.*
- *Power line connections to the grid should, where possible, avoid running perpendicular to contours, especially on Mountain Moorland slopes. Where practicable, it should not cross the horizon at ridge level unless a line already exists. Where passing through a forest, power line connections should follow existing firebreaks or roads. In landscape types where human presence and rectilinear landscape patterns are typical, power line layout can be more flexible.”*

The guidance listed above was used to inform the iterative design process and strategic route selection when determining the final specifications for the proposed grid connection. Considering that the proposed electrical cabling is underground, it is compliant with these guidelines for the entirety of the route.

The Draft Wind Energy Development Guidelines 2019 (Draft Guidelines) have also been consulted to inform the design of the Proposed Development. The Draft Guidelines are relevant in terms of the connection to the national grid. The Draft Guidelines state that underground electrical cabling for wind energy projects is considered the most appropriate approach, unless where specific ground conditions prevent this. The current proposal complies with this recommendation in its entirety.

It is thus recommended to consider all elements associated with the wind energy developments, individually or collectively, located and designed to respect the character of the surrounding landscape. The following guidance is included in section 6.12 of the Draft Guidelines:

“A high standard of design should be applied to all structures associated with the substation and should not only take account of its function but also of its aesthetic quality, in order to minimise any sense of intrusion.

The development should incorporate colour harmony and adequate screening of the control building and substation compound. Should the surrounding landscape include trees and/or shrubs, such material can be used for screening. In sensitive landscapes, consideration should be given to screening the control buildings and compound by earth berms as well as re-sodding with local vegetation in order to mitigate their visual impact.

The control building, where practicable, should be located in a dip or a hollow but away from ecologically sensitive areas or features.”

The Proposed Development achieves the recommendations in the Draft Guidelines in securing a development that is not located in landscape sensitive areas, as recognised by the relevant County Development Plans. The Proposed Development is also sheltered by the existing topography and vegetation and therefore is compliant with the recommendations set by the Draft Guidelines above.

12.3.2 Landscape of the Proposed Development Site

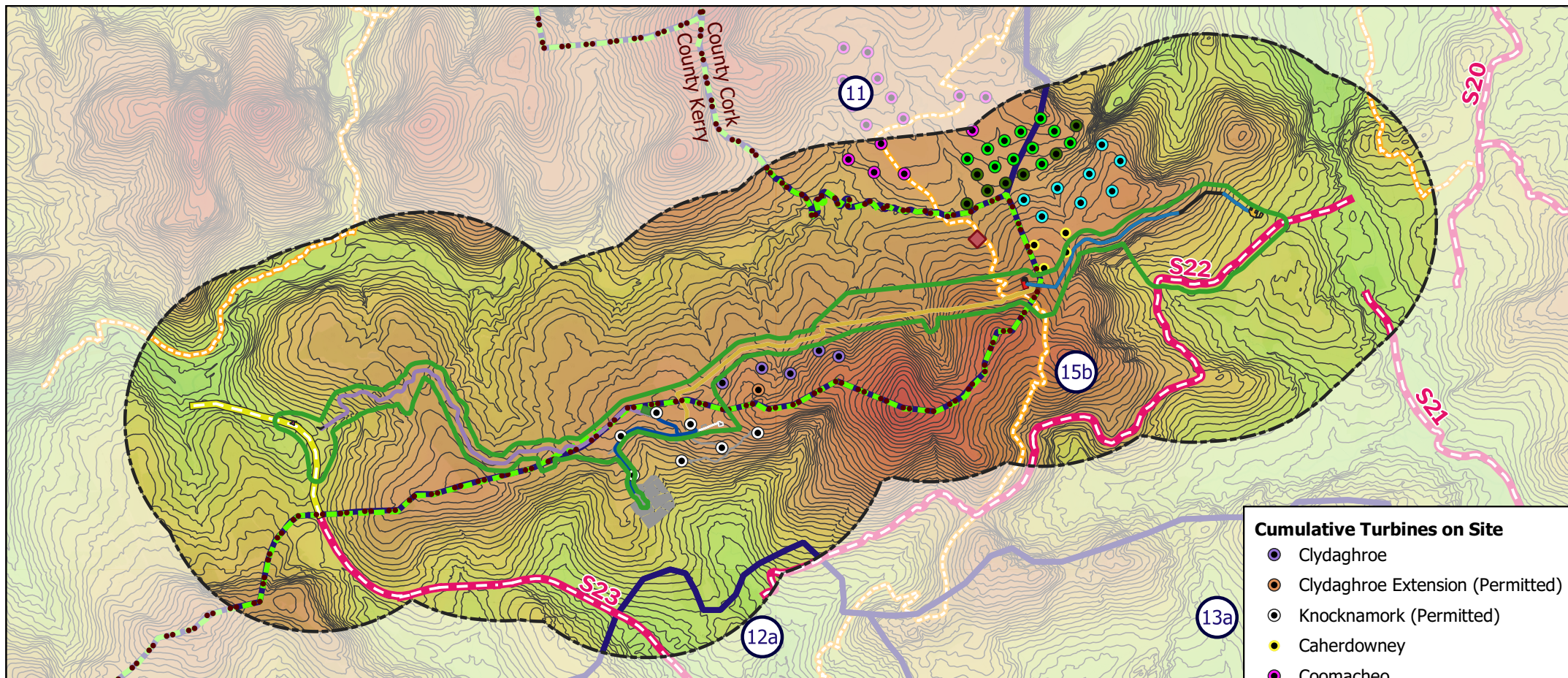
12.3.2.1 Site Visit Findings

The Proposed Development site and LVIA Study Area was visited in October 2021 where a preliminary assessment of the topography, landcover, and land use was conducted in conjunction with the information reviewed during desk study (see Figure 12-4 below).

The site visit findings in this section will be divided into multiple study areas to enable an effective assessment of the differing landscapes and environments existent within the overall study area, however the 2km LVIA study area considered for the Proposed Development will also be considered for each element. Each assessment area will take into consideration the main proposed elements in the Proposed Development, which are:

- Proposed 110kV Substation.
- 110kV Underground Cabling and Access Road
- 33kV Underground Cabling and Access Roads
- Access Road (Upgrade & New) and Temporary Road
- Borrow Pit and Extension of Permitted Borrow Pit

The landscape value of each study area was assessed to establish the capacity of the immediate landscape in which the proposed infrastructure will be built, as is prescribed by best practice guidance: *“as part of the baseline description the value of the potentially affected landscape should be established”* (GLVIA3 - LI & IEMA, 2013). The landscape value enables determination of the susceptibility and sensitivity of the landscape at a micro level and therefore its capacity to absorb the Proposed Development.



Map Legend

- EIAR Study Boundary
- Access Road (Upgrade & New)
- Temporary Road
- 33kV Underground Cabling and Access Roads
- 33kV Underground Cabling in Permitted Development
- 110kV Underground Cabling
- 110kV Underground Cabling and Access Road
- Ballyvouskill 220kV Substation

- Proposed 110kV Substation Location
- Proposed Borrow Pit
- Permitted Borrow Pit Extension
- Omitted 38kV Electrification Substation and Battery Compound
- LVIA Study Area (2km)
- County Border
- National Waymarked Ways
- Kerry Secondary Special Amenity
- Existing Garrow Substation Location

- Existing Contours (10 metre intervals)
- Elevation AOD (metres)**
- 10
- 50
- 200
- 300
- 400
- 500
- 600
- 700

- Scenic Route (CCDP)
- Scenic Route (KCDP)
- Landscape Character Areas (CCDP)**
- 11 - Broad Marginal Middleground Valley
- 12a - Rolling Marginal and Forested Middleground
- 13a - Valleyed Marginal Middleground
- 15b - Ridged and Peaked Upland

Cumulative Turbines on Site

- Clydaghroe
- Clydaghroe Extension (Permitted)
- Knocknamork (Permitted)
- Caherdowney
- Coomacheo
- Curragh
- Gneevies
- Gneevies II (Permitted)



Drawing No.

Figure 12-4

Drawing Title

Landscape Baseline Map

Project Title

Proposed Substation, Underground Cabling & Access Roads to Knocknamork Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:70,000	210732	04.07.2022	MT	JW



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12.3.2.1.1 **Proposed 110kV Substation**

The proposed 110kV substation is located within County Kerry, approximately 120 metres from the County Cork border line at its closest point. Cut and fill works associated with the construction of the proposed substation are located approximately 105 metres from the County Cork border line at its closest point. The proposed roads providing access to the new substation are situated in both counties. The proposed substation will not be unique in this location as the existing Garrow 110kV substation is situated approximately 700 metres to the northwest of the proposed substation (see Figure 12-5 below). Other wind infrastructure in this location and immediate surroundings include the Caherdowney, Curragh, Gneevs and Coomacheo Windfarms to the east and north of the Proposed Development, as well as the Clydaghroe Windfarm to the west.

Figure 12-5 on the following page shows the layout of the Proposed Development and illustrates topographical features and existing wind farms in this area.

Plate 12-2 below and Table 12-8 on the following pages describe the current receiving landscape around the proposed 110kV substation site.



Plate 12-2 – Receiving landscape of the proposed 110 kV substation. View towards north-east from an elevated access track immediately to the south of the proposed 110 kV substation. Caherdowney and Curragh Windfarms are visible in the background.

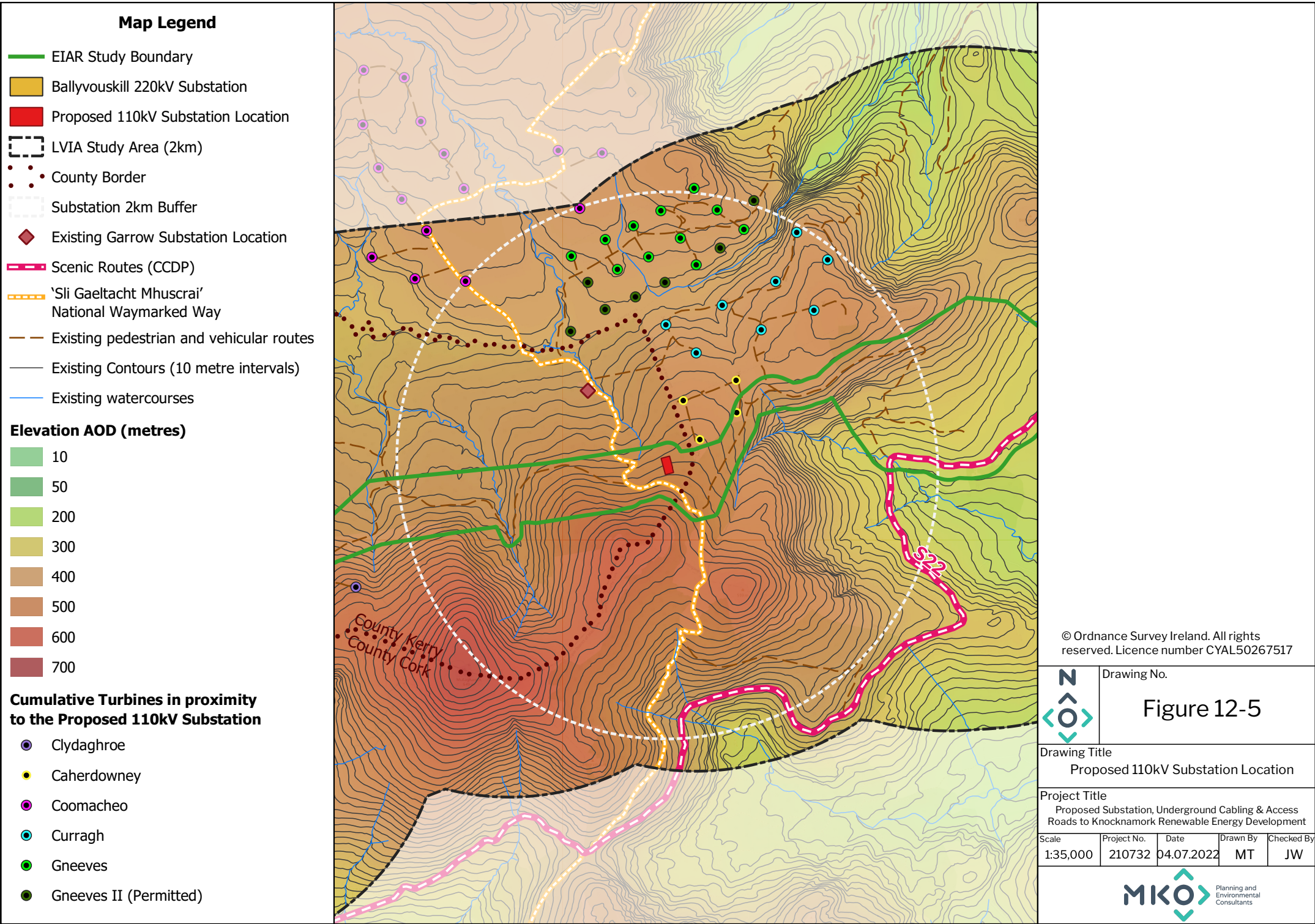


Table 12-8 – Receiving Landscape of Proposed 110kV Substation

Landscape Element	Description
Topography	<p>The proposed 110 kV substation is sited in a mountainous landscape, located at approximately 487m OD. The proposed 110 kV substations and existing wind farms are located upon an elevated plateau, framed by multiple hills. As shown in Figure 12-5 above, the proposed 110 kV substation is sited upon the southern slopes of a small valley, the landform rises to the south, with ridges that range from 100m to 160m above the substation's finished floor level. Ridges to the north, at a minimum distance of 2 km, comprise of levels that vary from 440m to 450m, and 670m further northwest. The topographical characteristics immediately surrounding the site isolate the proposed 110 kV substation from the differing landscape areas in the lower valley to the east. The proposed 110 kV substation will therefore be secluded from the other surrounding landscapes discussed in this case study.</p>
Drainage	<p>The proposed 110 kV substation is sited on a hill that slopes down towards the north; drainage will flow in the same direction. The landscape proceeds to slope east and west to lower levels below 300m. Although the landscape forms valleys and watercourses, there is no main watercourse to mention in the immediate surroundings of the proposed 110kV substation. Appropriate drainage mitigations measures will be implemented as part of the construction phase as described in Chapter 4 and 8 of this EIAR report.</p>
Landcover	<p>The landcover in this location, as stated in the Renewable Energy Strategy prepared by Kerry County Council, is composed of “<i>moorland or rocky moorland. Coniferous plantations occurs on the slopes of the mountains. There is some rough pasture lower in the valleys.</i>”</p> <p>The coniferous forest plantations are comprised of mostly fully mature trees, although extensive areas have been recently felled including the location of the proposed 110 kV substation (see Plate 12-4). Some new semi-mature conifer planting can be found which indicates a small portion of plantation has occurred in the last few years. Due to the ongoing felling on site, it is expected that new plantations will occur and therefore the landcover will change from a majority of mature conifers to a divided percentage between mature and super semi-mature.</p> <p>Meandering gravel access tracks (see Plate 12-6) cut through the soft elements and provide not only maintenance access to the wind farms but a walking trail is also an existing feature within the LVIA Study Area. The existing ‘Sli Gaeltacht Mhuscraí’ National Waymarked Way crosses the site approximately 200 metres from the proposed 110kV substation.</p>
Current Land use	<p>The current land use is a modified working landscape. The lands immediately surrounding the substation site are used for on-going forestry operations. The area also accommodates multiple wind farms for which access routes exist throughout the landscape in this location. At the eastern perimeter of the LVIA Study area, land is used as agricultural pasture in the lower valleys.</p> <p>The scenic routes and a walking trail present in this study area are as follows:</p> <ul style="list-style-type: none"> ➤ Scenic Route S22, which is located approximately 1.6 km east and, similarly, approximately 1.6 km south of the proposed 110 kV substation at its closest point.

Landscape Element	Description
	<ul style="list-style-type: none"> ➤ 'Sli Gaeltacht Mhuscraí' National Waymarked Way within wind farm development zones (see Plate 12-7).
Settlements	There are no settlements or residential dwellings within close proximity of the proposed substation. The nearest settlement is located approximately 2.2 kilometres.
Existing Wind Farm Infrastructure	<p>The existing Garrow substation is located approximately 700m northwest of the proposed 110 kV substation. Including the Garrow substation, existing wind farm infrastructure in proximity (within 2km) to the proposed 110kV substation include:</p> <ul style="list-style-type: none"> ➤ Garrow 110kV Substation ➤ Caherdowney Windfarm ➤ Curragh Windfarm ➤ Gneeves Windfarm ➤ Coomacheo Windfarm <p>The permitted Gneeves II windfarm will also bring additional turbines to the landscape immediately surrounding the Gneeves Windfarm.</p>

Figure 12-6 below represents the key plan for the capture location of the photographs presented in the following pages.

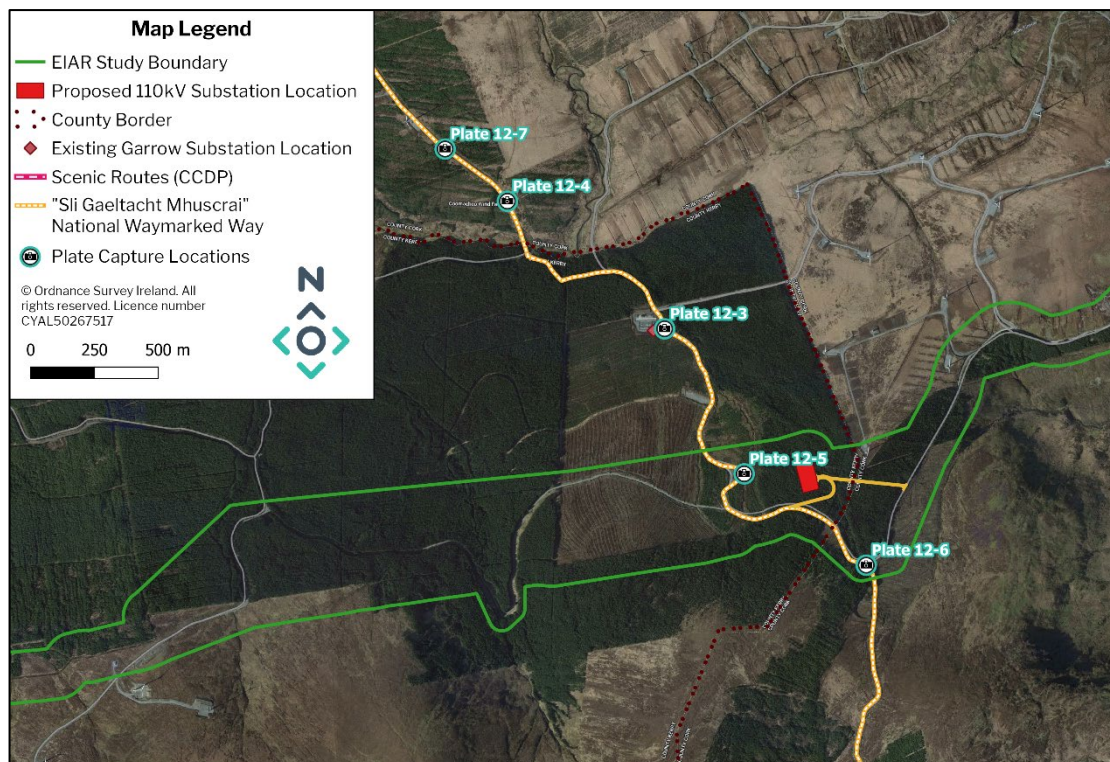


Figure 12-6 – Plate capture locations for the Proposed 110kV Substation Study Area



Plate 12-3 – Existing Garrow 110kV substation



Plate 12-4 - Existing and proposed 110 kV substation (indicative representation in yellow) seen from Coomancheo Windfarm access route



Plate 12-5 - Upland landscape with mature and semi-mature conifer forestry. Caherdowney Windfarm in the background.



Plate 12-6 - Gravel access route with mature conifer forestry on both sides




Plate 12-7 - Walking trail signage within wind farm developed zones. View from Coomancheo Windfarm access towards southeast.

Landscape Sensitivity – Proposed 110kV Substation

Table 12-9 reports the Landscape Value and Sensitivity of the Study Area relating to the proposed 110 kV substation and access road based on the desk study and on-site appraisal.

Table 12-9 - Landscape Value and Sensitivity of the Proposed 110kV Substation

Landscape Value & Sensitivity	Description
Landscape Designations	<p>The proposed 110kV substation is sited within County Kerry and therefore designations pertaining to County Kerry are considered.</p> <p>Kerry Co. Co.:</p> <ul style="list-style-type: none"> ➤ Rural Secondary Special Amenity (KCDP) / Visually Sensitive Areas (DKCDP)

Landscape Value & Sensitivity	Description
	 LCA 36. Upper Clydagh River and the Derrynasaggart Mountains.
Landscape Quality / Conditions	The condition of the landscape is Low/Medium. The landscape is composed of rocky moorland and conifer plantations along the slopes of the mountains. The lower valleys are comprised mostly of rough pasture. Accumulation of organic matter is also visible around root areas of existing woodland or areas that once included forestry.
Aesthetic Qualities and Views from the Site	The presence of dense coniferous treelines and the overall topography gradients largely restrict long ranging landscape views from within the site. Unobstructed landscape views of moderate quality are available from the proposed 110 kV substation location and surroundings, especially across the lower valley and adjacent hills to the north. Restricted landscape views can be found where forestry plantations are dense – see Plate 12-5 and Plate 12-6 above.
Wildness / Naturalness	The rolling hills and pasture valleys incite a sense of naturalness in this location; however, the construction of multiple wind farms and the anthropological influence of forestry operations have diminished the perceived naturalness and wildness of the landscape. The proposed 110 kV substation will be an addition to the existing wind farm infrastructure in the area.
Recreational Value	The ‘Sli Gaeltacht Mhuscraí’ walking trail cuts across the landscape in a meandering fashion and offers recreational value to locals and visitors alike. Other local routes’ main objective is to function as maintenance access to the adjacent turbines, however, they offer a comprehensive network of non-recognised walking trails.
Cultural Meaning / Associations	There are no cultural associations on the Proposed Development site.
Landscape Sensitivity Rating	The Landscape is deemed to be of low to medium value. Considering the presence of other wind farms and the existing Garrow substation in the area, susceptibility of the landscape to this type of change (a proposed 110 kV substation) is low. Overall, the landscape is deemed to be of Low Sensitivity.

12.3.2.1.2 110kV Underground Cabling

The 110kV underground cabling extends from the proposed 110 kV substation to the existing Ballyvouskil 220 kV substation (see Figure 12-7 below). This electrical cabling, located northwest of the existing Ballyvouskill substation, will transverse areas of wet heath and grass lands as well as existing forestry areas. The construction of the proposed 110kV underground cabling will require the construction of access roads and will be aligned with existing forestry tracks.

The local road (L5226) utilised by Scenic Route S22 as identified in the CCDP, will be considered in this LVIA report due its location at a lower elevation from the proposed 110kV underground cabling. The proposed 110kV underground cabling comprises potential visibility from scenic route S22 during construction stage, due to the underground nature of the cabling, however, due to the construction of permanent new access roads, visibility will also be assessed during operational phase. Almost the

entirety of this track is contained within County Cork with a small western portion located in County Kerry.

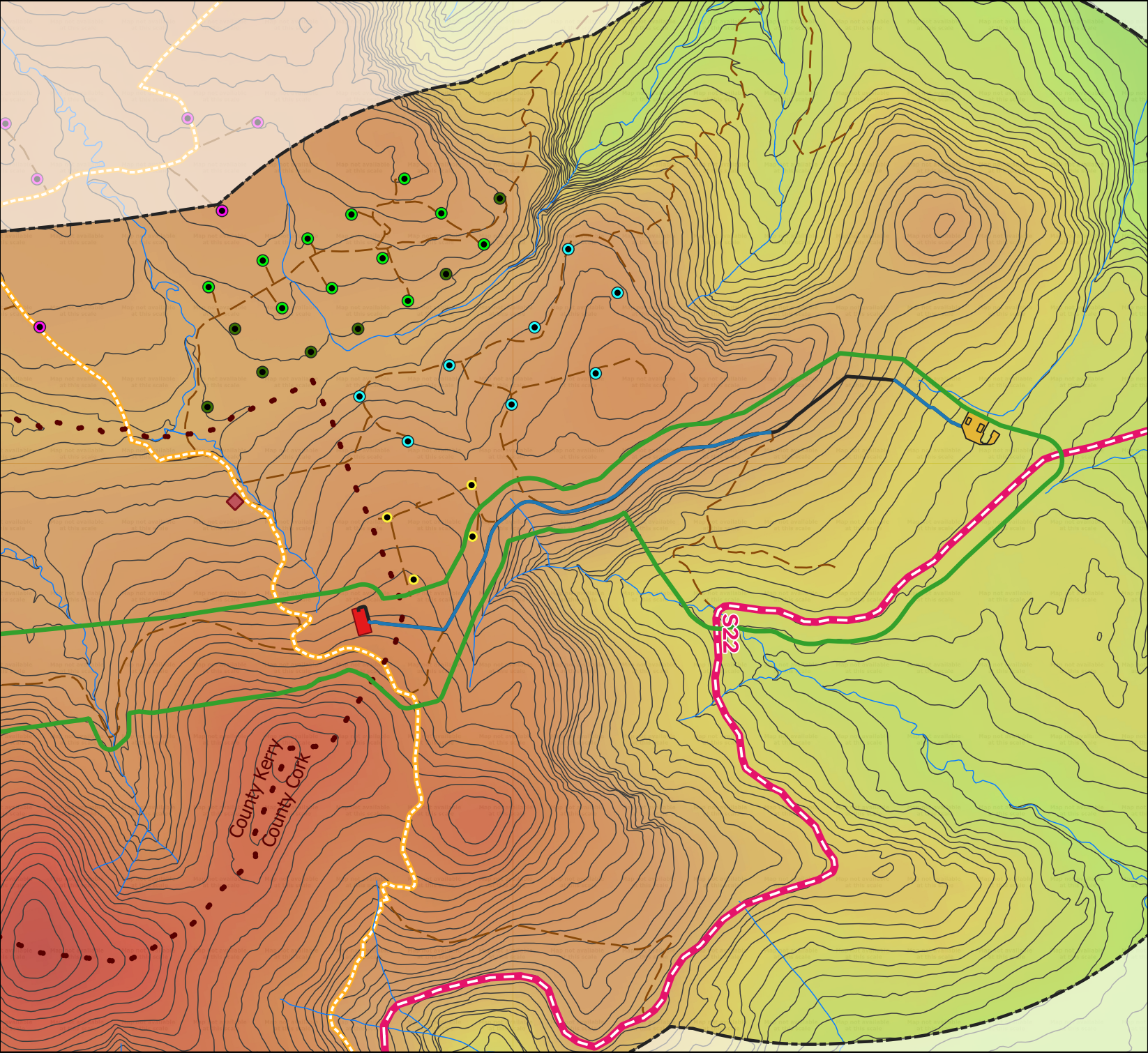
The installation of underground electrical cabling can be described as mitigation by design, as there is no potential to give rise to landscape and visual effects during operational phase. The assessment of landscape and visual effects during operational phase will only take into consideration the construction of new access roads across the existing grassland and forestry landscape.

Table 12-10 and Figure 12-7 below describe the receiving landscape of the 110kV underground cabling.

Table 12-10 – Receiving Landscape of Proposed 110kV Underground Cabling and access roads

Landscape Element	Description
Topography	<p>The path of the proposed 110kV underground electrical cabling and elevation gradients are shown in Figure 12-7 below. The route for this underground electrical cabling joins the existing Ballyvouskill substation (East) to the proposed 110kV substation (West) via proposed tracks that cross the landscape perpendicularly and parallel to the existing contours on site. The entirety of the underground cabling route is located north of an existing scenic route (S22), as indicated in CCDP, but does not utilise this road in any location.</p> <p>The proposed underground cabling utilises gradients that vary from approximately 1:220 and 1:6. The steepest portion of the route is located north of the existing Ballyvouskill substation, where the cabling route turns west. Gradients crossed by the proposed 110kV underground electrical cabling can be visible in Figure 12-7 below.</p> <p>The final stretch of the underground electrical cabling to the west will be contained within a new access road before connecting to the proposed substation.</p>
Drainage	<p>Due to the site's upland characteristics, there are multiple watercourses and drains existent along the valley formations. This is mostly noticeable in the landscape due to depressions in the organic matter carpet accumulated at the base of the forestry. Appropriate drainage mitigations measures will be implemented as part of the construction phase as described in Chapter 4 and 8 of this EIAR report.</p>
Landcover	<p>The landcover along the proposed 110kV underground cabling is composed of mainly pasture with some dispersed tree planting along the existing fields at lower elevations (see Plate 12-8 to Plate 12-10). The landcover in higher elevation is composed of grassland and wet heath (see Plate 12-8), followed by grassland on one side of the existing road and mature forestry on the other side (see Plate 12-11). Before reaching the proposed 110kV substation, the landcover includes mature conifer woodland on both sides of the road (see Plate 12-12). There are portions where semi-mature pine trees and conifers are seen which indicate that there is an intent to plant new forestry for production every few years.</p>
Current Land use	<p>The land use in the first portion of proposed 110kV underground cabling route is composed of mainly farmland with pasture and localised trees along property boundaries and fields (see Plate 12-8 to Plate 12-10).</p> <p>The other portion of this case study comprises mostly of conifer plantations of different sizes and grassland where trees are not present.</p>

Landscape Element	Description
	The north-western section of the underground electrical cabling also contains two separate windfarms, Curragh and Gneevs, which are bounded by grassland.
Settlements	Existing residential dwellings facing south of the existing local road / S22 scenic route are located in close proximity (under 2km) of the proposed underground cabling. These units are generally scattered along the landscape and assist the agricultural / pasture function existent in the area.
Existing Windfarm Infrastructure	<p>There are existing wind infrastructures directly surrounding the north-western stern portion of underground cabling such as:</p> <ul style="list-style-type: none"> ➤ Caherdowney Windfarm ➤ Curragh Windfarm ➤ Gneevs Windfarm
Underground Cabling	Due to the last stretch of this underground cabling exiting the existing road and crossing the landscape perpendicular to the topography, there may be a requirement for localised tree felling, however, this will occur once during construction works and tree production will resume normally thereafter. The landscape where the new underground cabling will connect with the proposed 110kV substation has recently undergone tree felling (see Plate 12 13) and replanting and therefore a requirement for felling associated with the Proposed Development will not be a new occurrence to the existing landscape.



Map Legend

- EIAR Study Boundary
- 110kV Underground Cabling
- 110kV Underground Cabling and Access Road
- Ballyvouskill 220kV Substation
- Proposed 110kV Substation Location
- LVIA Study Area (2km)
- County Border
- ◆ Garrow Substation Location
- Scenic Route (CCDP)
- "Sli Gaeltacht Mhuscraí" Waymarked Way
- Existing pedestrian and vehicular routes
- Existing Contours (10 metre intervals)
- Existing Watercourses

Cumulative Turbines in proximity to 110kV Underground Cabling

- Caherdowney
- Coomacheo
- Curragh
- Gneevess
- Gneevess II (Permitted)

Elevation AOD (metres)

- 50
- 200
- 300
- 400
- 500
- 600
- 700

Figure 12-7

Drawing Title 110kV Underground Cabling and Access Route Landscape Setting		
Project Title Proposed Substation, Underground Cabling & Access Roads to Knocknamork Renewable Energy Development		
Scale 1:25,000	Project No. 210732	
Date 04.07.2022	Drawn By MT	Checked By JW
MKO Planning and Environmental Consultants		



Figure 12-8 below represents the key plan for the capture location of the photographs presented in the following pages.

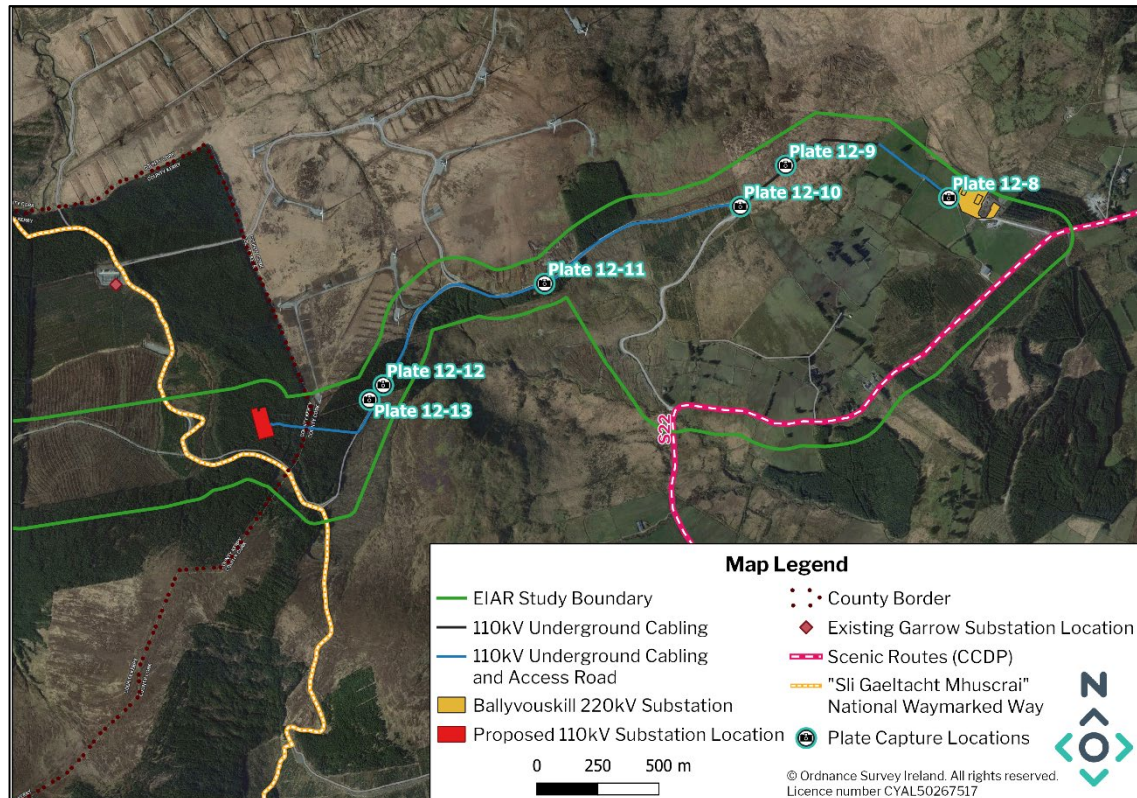


Figure 12-8 – Plate capture locations for the proposed 110kV Underground Cabling and Access Road



Plate 12-8 - View towards Northwest from existing tracks north of Ballyvouskill Substation showing pastureland use as well as localised tree clusters



Plate 12-9 - Landcover of pasture and grassland. View facing South with existing Ballyvouskill substation on the right



Plate 12-10 – View facing east showing landcover of pasture and grassland.



Plate 12-11 - Landcover varying between fully mature conifer forestry on the left, and grassland / moorland on the right



Plate 12-12 - Mature conifer and pine tree planting on both sides of the existing gravel access road.



Plate 12-13 - Recently felled forestry in general location where underground cabling is proposed (during October 2021). View towards northwest.

Landscape Sensitivity – 110kV Underground Cabling

Table 12-11 reports the Landscape Value and Sensitivity of the landscape where the 110kV proposed underground cabling is sited based on desk study and on-site appraisal.

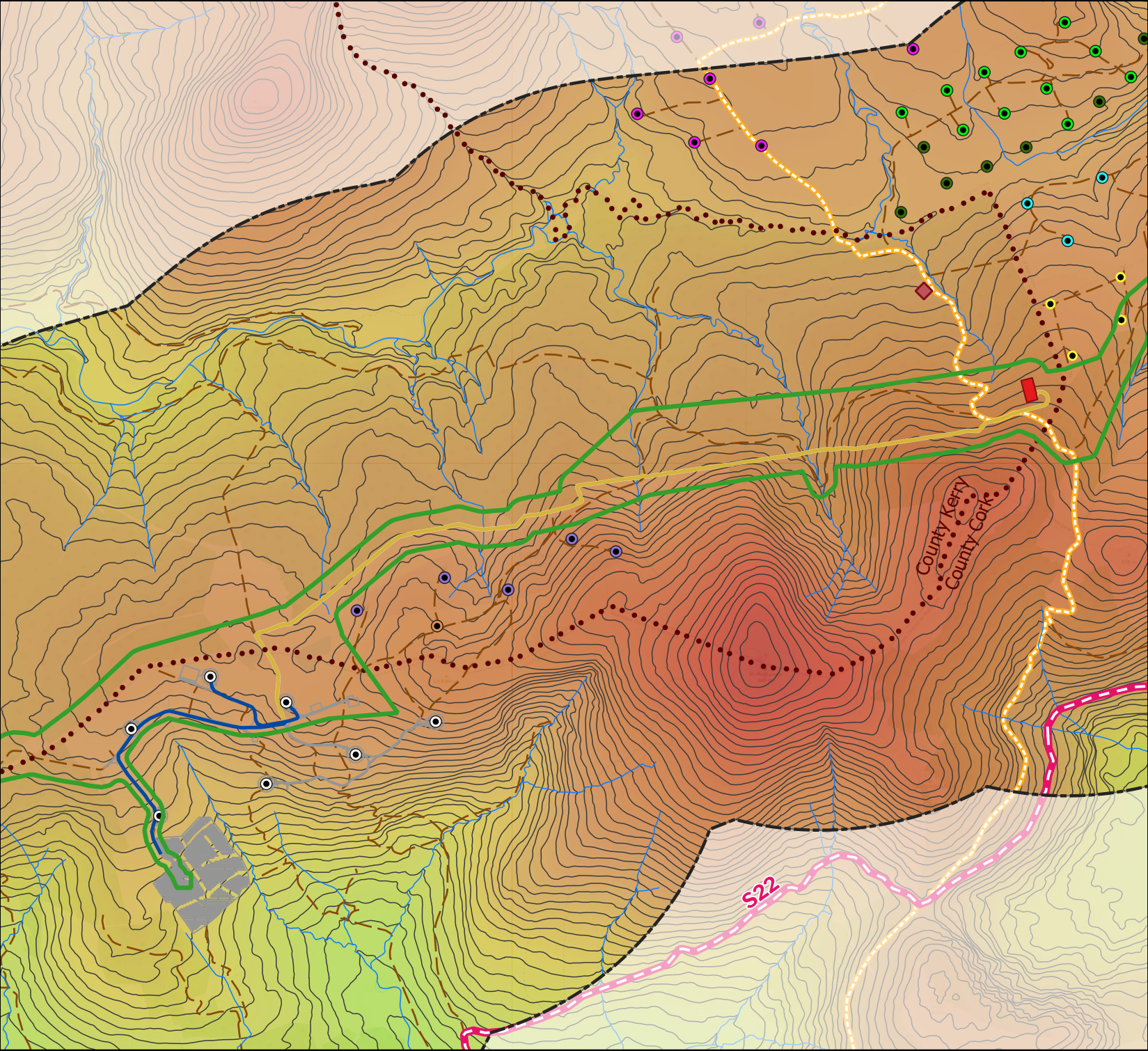
Table 12-11 - Landscape Value and Sensitivity of the 110kV Underground Cabling

Landscape Value & Sensitivity	Description
Landscape Designations	<p>The proposed 110kV underground cabling is sited within two separate counties and therefore includes different designations for Cork and Kerry County Councils.</p> <p>Cork Co. Co.:</p> <ul style="list-style-type: none"> ➤ Landscape Character Type 15b. Ridged and Peaked Upland. <p>Kerry Co. Co.:</p> <ul style="list-style-type: none"> ➤ Rural Secondary Special Amenity (KCDP) / Visually Sensitive Areas (DKCDP)

Landscape Value & Sensitivity	Description
	<p>➤ LCA 36. Upper Clydagh River and the Derrynasaggart Mountains.</p>
Landscape Quality / Conditions	<p>The condition and quality of the landscape is Low/Medium. The landscape crossed by the proposed underground cabling varies as topographical characteristics and landcover changes along the cable route. The initial portion to the east is located initially at a lower level and is surrounded by a vast pasture and wet heath landscape until it reaches a higher topographical elevation. The second portion of the proposed underground cabling accompanies sloped and upland areas. These are composed of grassland and conifer plantations.</p>
Aesthetic Qualities and Views from the Site	<p>The landscape has some aesthetic qualities as there are long ranging scenic views available of Derrynasaggart Mountains (to the south) on the existing access tracks, especially within portions where these tracks become parallel to the existing scenic route S22 to the south (see Plate 12-9 above).</p> <p>Due to the underground nature of the present proposal, the electrical cabling will not be visible (once installed) in any location within the site or in any immediate surroundings. Constructed access roads (ground level) will be the only visible element associated with the 110kV cabling.</p>
Wildness / Naturalness	<p>The rolling hills incite a sense of naturalness in the upland portion of this study area; however, existing multiple windfarms and the anthropological influence of forestry operations, the presence of residential dwellings and farming operations have diminished the perceived naturalness and wildness of the landscape.</p>
Recreational Value	<p>Maintenance routes for the existing windfarm developments can be used as walking trails, thus offering a modest recreational value to the area.</p>
Cultural Meaning / Associations	<p>There are no cultural associations on the Proposed Development site.</p>
Landscape Sensitivity Rating	<p>The Landscape is deemed to be of low to medium value. Considering the presence of other windfarms structures in the area, susceptibility of the landscape to this type of change (a proposed underground electrical cabling) is low. Overall, on balance, the landscape is deemed to be of Low Sensitivity.</p>

12.3.2.1.3 33kV Underground Cabling

The 33kV underground cabling connects the proposed 110kV substation to the Permitted Development (See Figure 12-9 below). From the proposed 110kV substation, the 33kV underground cabling tracks west along existing firebreaks in the commercial forestry, it tracks a linear route crossing undulating terrain of small hills and valleys. As this underground electrical cabling tracks west beyond the eastern margins of the forestry plantation, it enters a more open landscape of moorland (although banks of forestry occur immediately north of the cabling route) before connecting to the Permitted Development. Although this route does not utilise roadways, it does take advantage of a boundary alignment at the edge of the forestry plantations. The entire 33kV underground cabling is sited within County Kerry.



Map Legend

- EIAR Study Boundary
- 33kV Underground Cabling and Access Roads
- 33kV Underground Cabling in Permitted Development
- Proposed 110kV Substation Location
- LVIA Study Area (2km)
- County Border
- Existing Garrow Substation Location
- Scenic Route (CCDP)
- "Sli Gaeltacht Mhuscraí" Waymarked Way
- Existing pedestrian and vehicular routes
- Existing Contours (10 metre intervals)
- Existing Watercourses

Cumulative Turbines near 33kV Underground Cabling

- Clydaghroe
- Clydaghroe Extension (Permitted)
- Knocknamork (Permitted)
- Caherdowney
- Coomacheo
- Curragh
- Gneevies
- Gneevies II (Permitted)

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Elevation AOD (metres) <ul style="list-style-type: none">50200300400500600700	Drawing No.	Figure 12-9	
	Drawing Title	33kV Underground Cabling and Access Roads Landscape Setting	
	Project Title	Proposed Substation, Underground Cabling & Access Roads to Knocknamork Renewable Energy Development	
	Scale	1:30,000	Project No. 210732
	Date	04.07.2022	Drawn By MT Checked By JW

The installation of underground electricity cabling can be described as mitigation by design, as there is no potential to give rise to landscape and visual effects during operational phase.

Figure 12-9 above and Table 12-12 below describe the receiving landscape of the 33kV underground cabling.

Table 12-12 – Receiving Landscape of the 33kV underground cabling

Landscape Element	Description
Topography	The path of the proposed 33kV underground cabling and elevation gradients within this area are shown in Figure 12-9 above. The route for this underground electrical cabling crosses the landscape in a linear fashion over an upland range that includes higher and lower elevations that range from approximately 522 metres, in proximity to the proposed substation at the East, to approximately 415 metres at the western-most section of the cabling route where it connects to the Permitted Development.
Drainage	The upland landscape includes multiple watercourses and drains along the valley formations. There are two existing small upland lakes in proximity to the western section of the 33kV underground cabling. Appropriate drainage mitigations measures will be implemented as part of the construction phase as described in Chapter 4 and 8 of this EIAR report.
Landcover	<p>The landcover in this location, as mentioned in the Renewable Energy Strategy prepared by Kerry County Council, is composed of “<i>moorland or rocky moorland. Coniferous plantations occurs on the slopes of the mountains. There is some rough pasture lower in the valleys.</i>”</p> <p>Although this applies to the overall landscape in this location, the 33kV underground cabling route can be divided in four different, yet similar, land covers. Considering the approach from east to west, the land cover can be described as:</p> <ol style="list-style-type: none"> 1. Conifer plantations - a full forestry cover is present throughout 2. Occasional vegetation - Ongoing felling works are currently taking place and therefore some areas are fully vegetated while others are exposed (see Plate 12-15). 3. Landscape vs Infrastructure – The underground electrical cabling is sited in a landcover transition that includes conifer plantations in the north, and moorland and Clydaghroe Windfarm in the south (with associated access routes). A clear border exists between the two and where the underground cabling is proposed. This border is visible due to an existing boundary fence (see Plate 12-16). 4. Moorland and lakes – As the topography softens and the views extend, it becomes apparent that the remaining section of this underground cabling route is composed mainly of moorland / grassland to the south and the use of forestry plantation subsides to the north (see Plate 12-17).
Current Land use	<p>The land use in this location relates with the landcover described above.</p> <p>The area accommodates an extensive area of forestry plantations, especially to the north of the route, accompanied by grasslands and open moorland used as grazing pasture for sheep to the south. Clydaghroe windfarm is also</p>

Landscape Element	Description
	located to the south of the underground electrical cabling route, at its westerly extent, for approximately 1.45 km. There are no scenic routes and walking trails in this location. The area is gated and within private property.
Settlements	There are no residential developments within this study area.
Existing Windfarm Infrastructure	The existing infrastructure located nearest to the proposed underground cabling in this area is the Clydaghroe Windfarm.

Figure 12-10 below represents the key plan for the capture location of the photographs presented in the following pages.

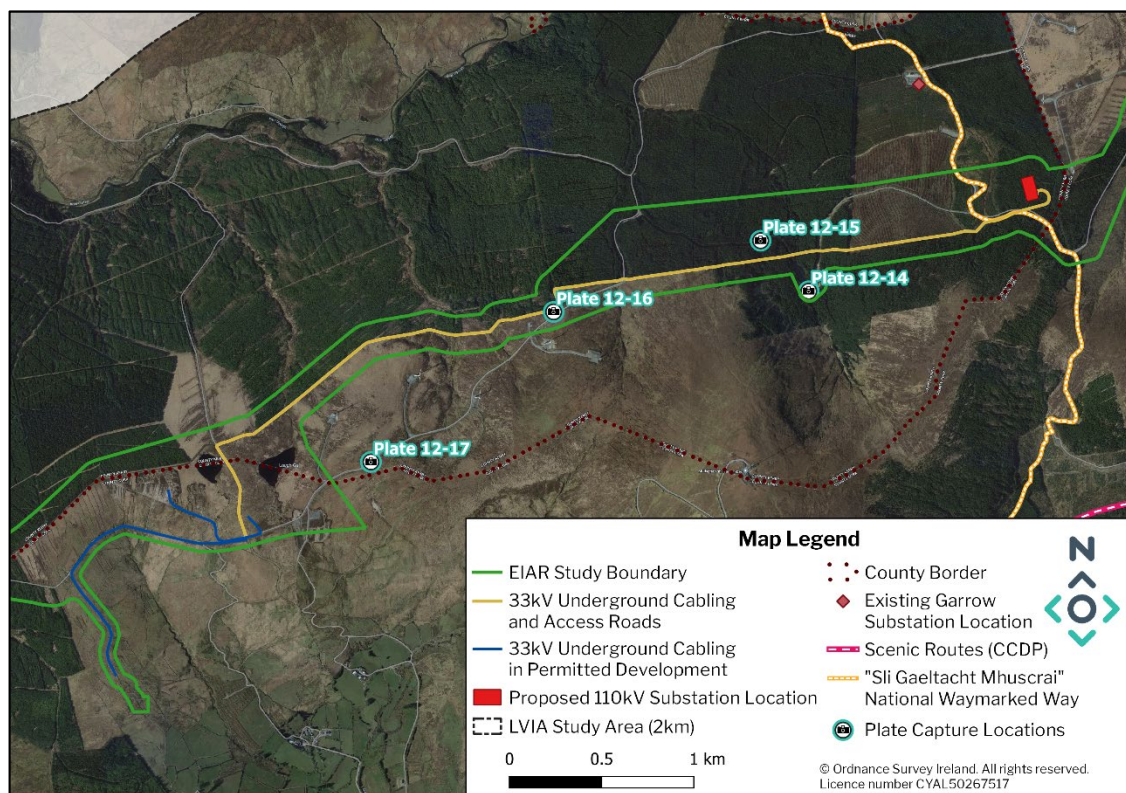


Figure 12-10 – Photo capture locations for the 33kV underground cabling



Plate 12-14 - Watercourses across opening in the conifer woodland.



Plate 12-15 - Ongoing felling works of forestry plantations.



Plate 12-16 – Boundary fence aligned with route that will be utilised by the underground cabling.



Plate 12-17 - Moorland and existing small lakes at the western-most section of the underground electrical cabling route, with conifer plantations in the background.

Landscape Sensitivity – 33kV Underground Cabling

Table 12-13 reports the Landscape Value and Sensitivity area relating to the proposed 33kV underground cabling based on desk study and on-site appraisal.

Table 12-13 - Landscape Value and Sensitivity of the 33kV underground cabling

Landscape Value & Sensitivity	Description
Landscape Designations	<p>The 33kV underground cabling is sited within County Kerry and therefore includes designations as described in this County Council's Development Plan:</p> <p>Kerry Co. Co.:</p> <ul style="list-style-type: none"> ➤ Rural Secondary Special Amenity (KCDP) / Visually Sensitive Areas (DKCDP) ➤ LCA 36. Upper Clydagh River and the Derrynasaggart Mountains.
Landscape Quality / Conditions	<p>The mountain range where the proposed underground electrical cabling is sited is composed mostly of conifer plantations and some pasture areas. The existing Clydaghroe Windfarm and neighbouring windfarms help characterise this area as a modified working landscape composed mainly of human interventions, with views to the wider open untouched as moorland landscape.</p>
Aesthetic Qualities and Views from the Site	<p>The area has scenic quality to the northwest, with long-ranging views to moorland and mountainous landscapes (See Plate 12-17).</p>
Wildness / Naturalness	<p>The landscape is composed of multiple human interventions in the form of forestry plantations, windfarms, trails, and pasture. With this, perception of wildness and naturalness in this mountainous landscape is lessened.</p>

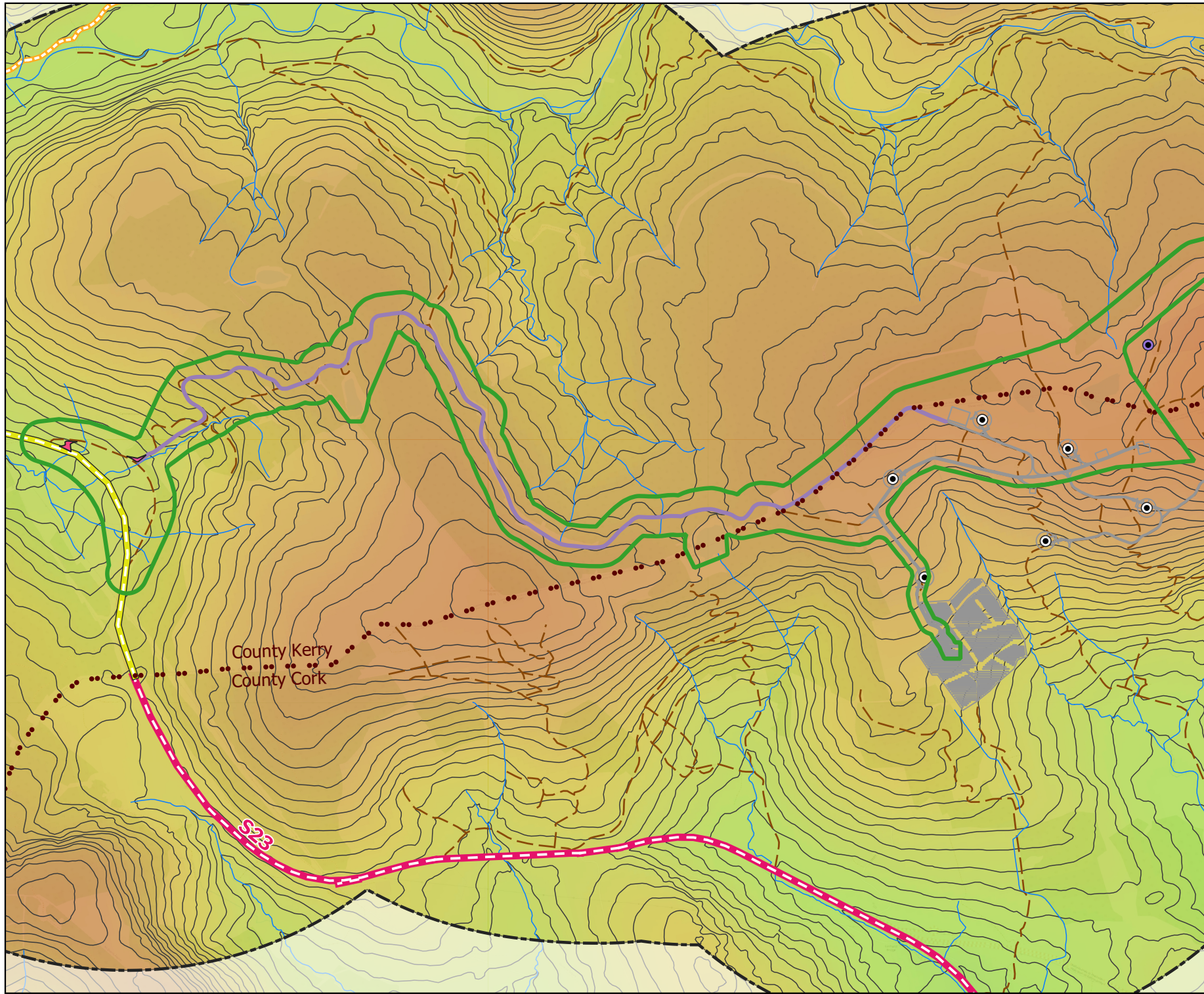
Landscape Value & Sensitivity	Description
Recreational Value	<p>There are no recognised scenic routes in this area, however, there is scenic value in this location with views towards the valley and mountain range to the north.</p> <p>The underground electrical cabling route connects with the proposed substation at the east end of the route, which also joins the existing north/south bound walking trail mentioned previously.</p> <p>The area is partially gated and within private property and therefore does not contain recreational value for the western portion (approximately half) of this cabling route.</p>
Cultural Meaning / Associations	There are no cultural associations on the Proposed Development site.
Landscape Sensitivity Rating	The Landscape is deemed to be of low to medium value. Considering the presence of other windfarms structures in the area, susceptibility of the landscape to this type of change (a proposed underground electrical cabling) is low. Overall, on balance, the landscape is deemed to be of Low Sensitivity.

12.3.2.1.4 Access Road and Temporary Road

The turbine delivery route for the Permitted Development is located west of the EIAR Study Boundary. This access route is restricted to the private access track and forestry paths that will be used, and upgraded where required, to provide access to the Permitted Development. This route extends from the old N22 road alignment, where entrance access to the Permitted Development will be upgraded. Provision is also made for a temporary road between the N22 and the old N22 alignment to facilitate the delivery of oversized loads.

The majority of the access road utilised in this study area are sited within County Kerry, however, a small section at the eastern end is sited within County Cork. Temporary works at the western entrance are all sited within County Kerry.

Table 12-14 and Figure 12-11 below describe the receiving landscape of this access road.



Map Legend

- EIAR Study Boundary
- Access Road (Upgrade & New)
- Temporary Road
- LVIA Study Area (2km)
- County Border
- Scenic Route (CCDP)
- Scenic Route (KCDP)
- Existing pedestrian and vehicular routes
- Existing Contours (10 metre intervals)
- Existing Watercourses

Cumulative Turbines near Access Road

- Clydaghroe
- Knocknamork (Permitted)

Elevation AOD (metres)

- 50
- 200
- 300
- 400
- 500
- 600
- 700



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Drawing No.

Figure 12-11

Drawing Title

Access Road (Upgrade & New)
Landscape Setting

Project Title

Proposed Substation, Underground
Cabling & Access Roads to Knocknamork
Renewable Energy Development

Scale

1:25,000

Project No.

210732

Date

04.07.2022

Drawn By

MT

Checked By

JW



Table 12-14 – Receiving Landscape of access road and temporary road

Landscape Element	Description
Topography	The assigned access road for the turbine delivery follows the natural ridgeline which extends west from the Permitted Development prior to descending to the existing roadway at the west. The elevations of this area range from approximately 420m above sea level at its highest point, to circa 260m at the lowest point. Each level described corresponds to the eastern and western ends, respectively, of this delivery route.
Drainage	The upland landscape comprises of multiple watercourses and drains along valleys in this location. Some areas along the existing forestry tracks appear to have to be waterlogged soil at a surface level (see Plate 12-19). Appropriate drainage mitigations measures will be implemented as part of the construction phase as described in Chapter 4 and 8 of this EIAR report.
Landcover	<p>Mature conifer plantations overcome most of the landscape in this location (see Plate 12-20). Openings in forestry are composed of grassland which depicts a small portion of the land cover in this study area. Access routes with different levels of use and drainage elements cut across the plantations in multiple locations. Paths in some areas are at a lower level than the surrounding vegetation due to accumulation of organic matter at the base of the forestry (see Plate 12-21).</p> <p>The site entrance via the westernmost point of this access route utilises the old N22 road alignment, which comprises hard materials such as tarmac, and is surrounded by mature vegetation (See Plate 12-18).</p>
Current Land use	<p>The land use in this location relates with the land cover described above.</p> <p>The paths' sole function in this area is to provide access to the forestry plantations that were established for production and felling purposes.</p> <p>There are no walking trails in this location. The area is gated and within private property.</p> <p>Scenic Route S23 (CCDP) which is also recognised as a scenic route in KCDP is located west of the access road and does not comprise any visibility or access to the site and therefore will not be considered further.</p>
Settlements	There are no residential developments throughout the access road or in close proximity to it, with exception of the site entrance at the westernmost boundary where a few residential dwellings can be found along the old N22 alignment.
Existing Windfarm Infrastructure	The existing infrastructure located nearest to the proposed road upgrades route is the existing Clydaghroe Windfarm and the Permitted Development.

Figure 12-12 below represents the key plan for the capture location of the photographs presented in the following pages.

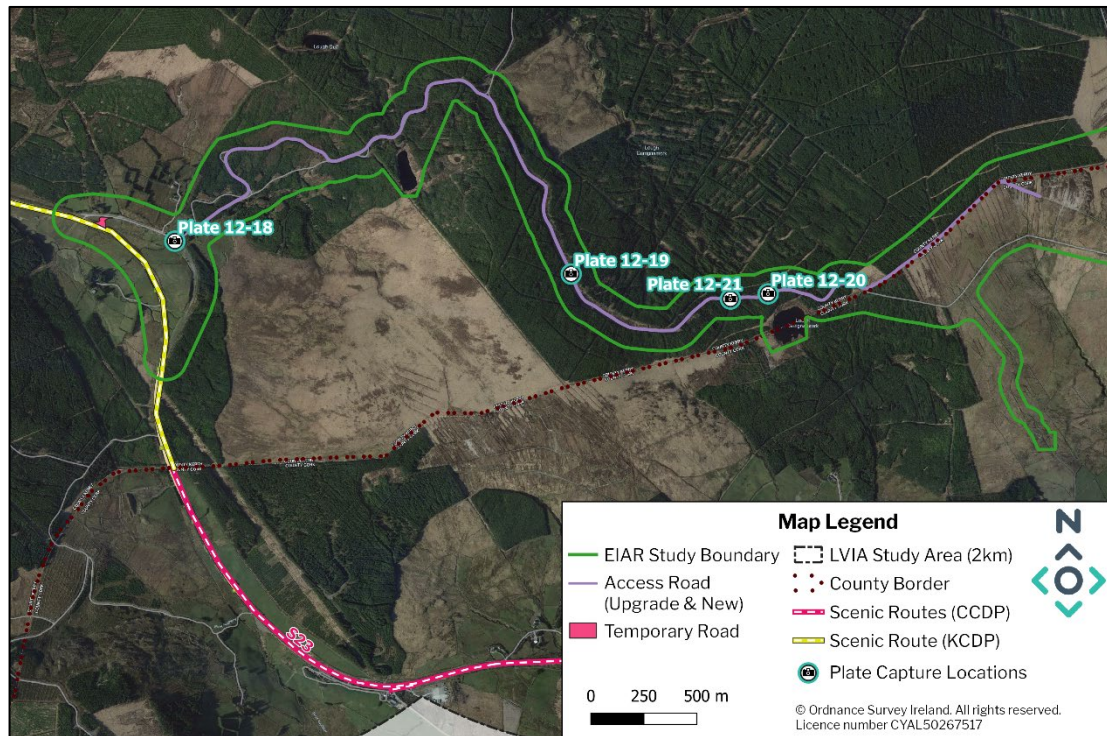


Figure 12-12 – Plate capture locations for the access road study area



Plate 12-18 – Old N22 road alignment at westernmost portion of the study area.



Plate 12-19 – Visible soil profile along access road.



Plate 12-20 - Access routes surrounded by mature conifer plantations



Plate 12-21 - Access routes surrounded by mature conifer plantations. Path in this location is at a lower level than the surrounding vegetation.

Landscape Sensitivity – Access Road and Temporary Road

Table 12-15 reports the Landscape Value and Sensitivity of area relating to the proposed access road for the turbine delivery route, based on desk study and on-site appraisal.

Table 12-15 - Landscape Value and Sensitivity of the Access Road and Temporary Road

Landscape Value & Sensitivity	Description
Landscape Designations	<p>The access road for the turbine delivery route is mainly within County Kerry with a small section in County Cork, and therefore includes designations as described by Kerry County and Cork County Councils:</p> <p>Kerry Co. Co.:</p> <ul style="list-style-type: none"> ➤ Rural Secondary Special Amenity (KCDP) / Visually Sensitive Areas (DKCDP)

Landscape Value & Sensitivity	Description
	<p>➤ LCA 36. Upper Clydagh River and the Derrynasaggart Mountains.</p> <p>Cork Co. Co.:</p> <p>➤ Landscape Character Type 15b. Ridged and Peaked Upland</p>
Landscape Quality / Conditions	The condition and quality of the landscape is Low. Conifer plantations take up the majority of the landscape in this study area. The vegetation is very mature and dense, which provides for lack of direct sunlight at the bottom of the overall canopy, and thus, no further vegetation has established in these locations. In areas with no forestry, grassland has established instead.
Aesthetic Qualities and Views from the Site	The existing access routes are contained within mature forestry. The small section along the old N22 road alignment has occasional traffic due to local residents in the few scattered dwellings in the area. The old N22 alignment is screened by mature vegetation from the existing N22 national road. Views are contained within these paths and there is unlikely visibility from the surrounding areas.
Wildness / Naturalness	The proposed access road is sited in a mountainous landscape but that is not perceived due to the extensive forestry plantations, which are in essence human interventions and not natural forming. Other elements such as the access routes themselves also reduce the sense of wildness in the area.
Recreational Value	There is no recreational value in this site. The access road is gated and within private property. A temporary road and hardstanding are proposed to facilitate egress between existing roads and the gated forestry track.
Cultural Meaning / Associations	There are no cultural associations on the Proposed Development site.
Landscape Sensitivity Rating	The Landscape is deemed to be of low to medium value. Considering the presence of windfarms developments in the area and intensive forestry plantation, susceptibility of the landscape to this type of change (access road to accommodate turbine delivery) is low. Overall, on balance, the landscape is deemed to be of Low Sensitivity.

12.3.2.1.5 Proposed Borrow Pit and Permitted Borrow Pit Extension

The proposed borrow pit is located approximately 50 metres southeast of the proposed 110kV substation. The permitted borrow pit extension is located west of the LVIA Study Area, circa 5km west of the proposed 110kV substation. Both borrow pits will comprise ground and below ground extraction activities. Their location within the LVIA Study area is within an isolated upland area, surrounded by conifer forestry plantations. The proposed borrow pit is mostly sited within County Kerry, with a small section to the east sited within County Cork. The extension of the permitted borrow pit is located within County Cork in its entirety, however, it is located in very close proximity to the border between counties Kerry and Cork.

Table 12-16 and Figure 12-13 below describe the receiving landscape of these borrow pits.

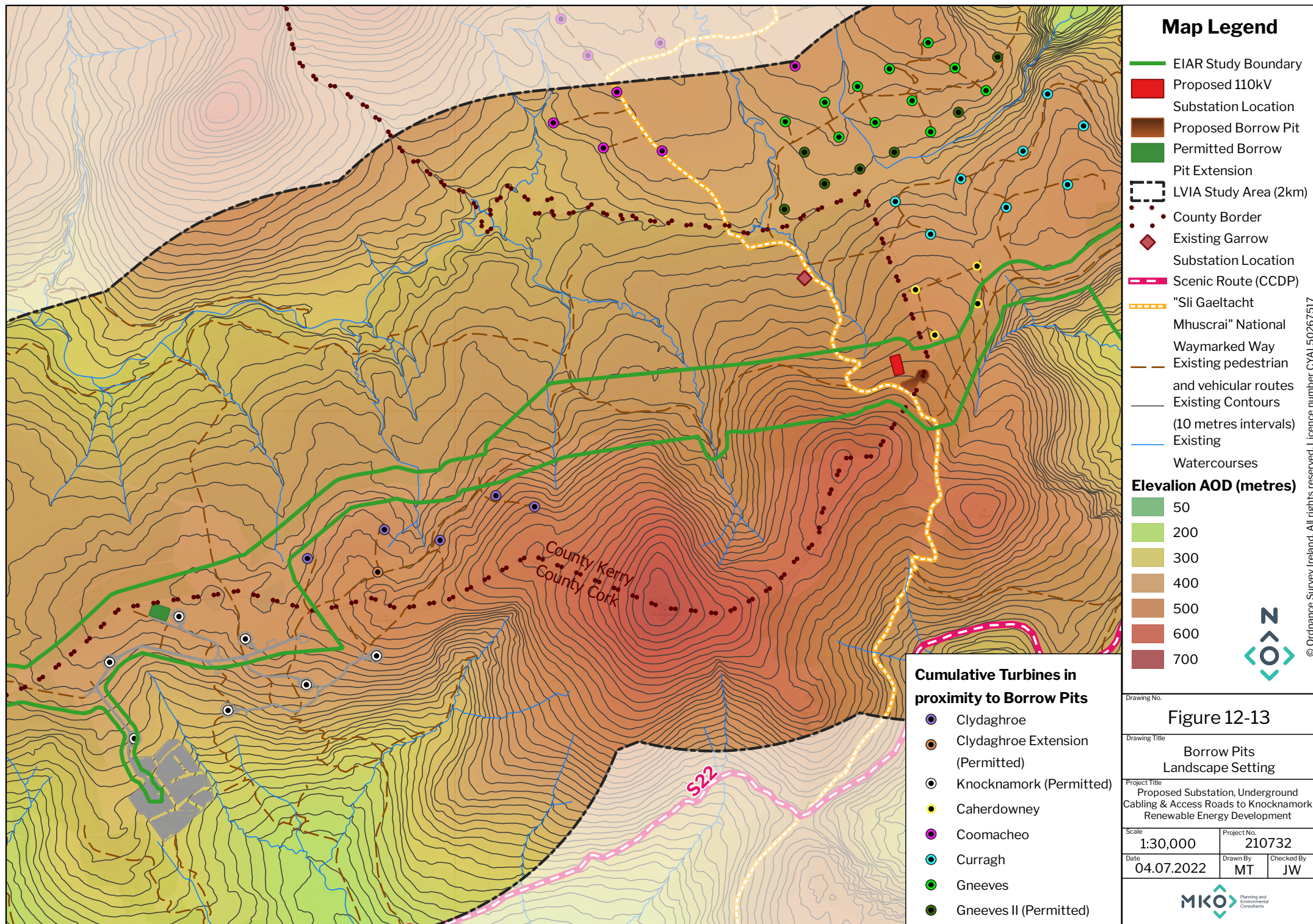


Table 12-16 – Receiving Landscape of the proposed borrow pit and extension of permitted borrow pit

Landscape Element	Description
Topography	<p>The proposed borrow pit is sited in a mountainous landscape, located at approximately 500m AOD. The proposed borrow pit is located immediately southeast of the proposed 110kV substation and is surrounded by multiple windfarms. The landform in this location rises to the south.</p> <p>The permitted borrow pit extension is sited within the same mountainous landscape, located at approximately 425 m AOD. This pit is surrounded by conifer plantations to the north and existing and permitted windfarms to the south and east. The landform in this location rises to the north.</p> <p>These pits are situated upon an elevated plateau, framed by multiple hills.</p> <p>The topographical characteristics immediately surrounding the site isolate the proposed borrow pit and permitted borrow pit extension from the differing landscape areas in the lower valley to the east. Both borrow pits will therefore be secluded from the other surrounding landscapes.</p>
Drainage	<p>The upland landscape comprises of multiple watercourses and streams along valleys on site. Drainage is likely to occur in the direction of each pit, considering their lower level in comparison to the hills to the south.</p>
Landcover	<p>The landcover for the borrow pit site is similar to that of the proposed 110kV substation and is comprised of a mix of mature conifer plantations and areas of recently felled and replanted trees, with underplanting comprising of grassland (See Plate 12-22). Existing forestry tracks are also existent along the southern boundary of this pit.</p> <p>The landcover for the permitted borrow pit extension location includes areas of grassland and wet heath to the south (See Plate 12-24) and conifer plantations to the north. There are two existing lakes to the east, the closest is approximately 230m from the borrow pit (See Plate 12-23).</p>
Current Land use	<p>The land use in the locations for both borrow pits relates to the landcover described above.</p> <p>These areas accommodate an extensive use of forestry plantations, especially to the south of the proposed borrow pit and north of the permitted borrow pit, accompanied by grasslands and open moorland used as grazing pasture for sheep in the remaining areas.</p> <p>Windfarms are also existent in proximity to each borrow pit.</p> <p>The scenic routes and walking trails present within 2km of the proposed borrow pit include the following:</p> <ul style="list-style-type: none"> ➤ Scenic Route S22, which is located approximately 1.5 km east and approximately 1.6km south of the proposed borrow pit at its closest point. ➤ The “Sli Gaeltacht Mhuscraí” National Waymarked Way is located immediately southwest of the Proposed Borrow Pit. <p>Neither designated route is located in proximity to the permitted borrow pit extension.</p>
Settlements	<p>There are no settlements or residential dwellings within this study area.</p>

Landscape Element	Description
Existing Wind Farm Infrastructure	<p>The existing and permitted wind infrastructure located nearest the proposed borrow pit includes the following:</p> <ul style="list-style-type: none"> ➤ Caherdowney Windfarm ➤ Curragh Windfarm ➤ Coomacheo Windfarm ➤ Gneeves Windfarm ➤ Gneeves II Windfarm (Permitted) <p>The existing and permitted wind infrastructure located nearest the proposed borrow pit includes the following:</p> <ul style="list-style-type: none"> ➤ Clydaghroe Windfarm ➤ Clydaghroe Windfarm Extension (Permitted) ➤ Knocknamork Windfarm (Permitted)

Figure 12-14 below represents the key plan for the capture location of the photographs presented in the following pages.

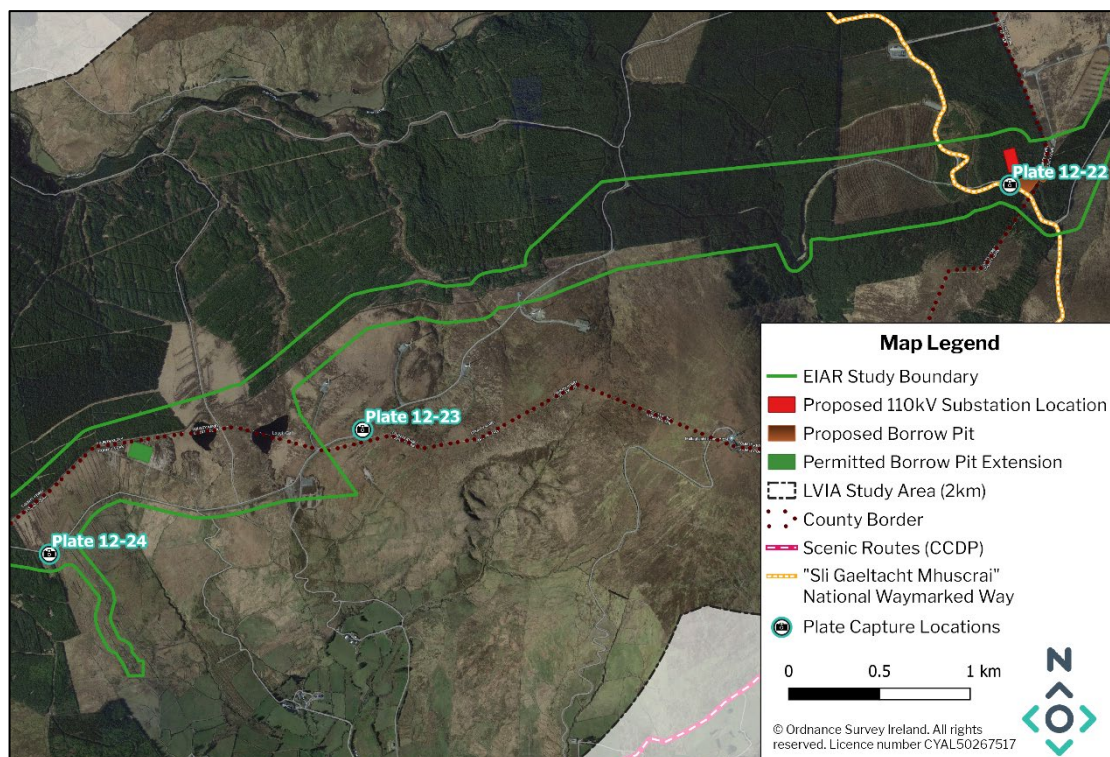


Figure 12-14 – Plate capture locations for the proposed borrow pit and permitted borrow pit extension



Plate 12-22 – Location of proposed borrow pit and proposed 110kV Substation composed of grassland (photo capture from October 2021, prior to new tree cycle planting), forestry and the existing Caherdowney and Curragh Windfarms in the background.



Plate 12-23 – Receiving landscape of the permitted borrow pit extension. Location comprises of moorland with forestry plantations and mountainous landscape to the north. Existing small lakes are located east to the permitted borrow pit. Photo capture is located east of the permitted borrow pit.



Plate 12-24 – Landcover of the permitted borrow pit location. This location includes extensive areas of grassland with areas of forestry to the north.

Landscape Sensitivity – Proposed Borrow Pit and Permitted Borrow Pit Extension

Table 12-17 reports the Landscape Value and Sensitivity of the Study Area relating to the proposed borrow pit and permitted borrow pit extension based on the desk study and on-site appraisal.

Table 12-17 – Landscape Value and Sensitivity of the Proposed Borrow Pit and Permitted Borrow Pits Extension Study Areas

Landscape Value & Sensitivity	Description
Landscape Designations	<p>The proposed borrow pit is sited within two separate counties and therefore designations of Cork and Kerry County Council have been considered. The permitted borrow pit extension is sited in its entirety within County Kerry and therefore designations of Kerry County Council were considered.</p> <p>Cork Co. Co.:</p> <ul style="list-style-type: none"> ➤ Landscape Character Type 15b. Ridged and Peaked Upland. <p>Kerry Co. Co.:</p> <ul style="list-style-type: none"> ➤ Rural Secondary Special Amenity. ➤ LCA 36. Upper Clydagh River and the Derrynasaggart Mountains.
Landscape Quality / Conditions	<p>The landscape is similar in each borrow pit location and is composed of rocky moorland, wet heath and conifer plantations along the slopes of the mountains. The lower valleys are comprised mostly of rough pasture. Existing neighbouring windfarms help characterise this area as a modified working landscape composed mainly of human interventions, with views towards the existing valley from the proposed borrow pit and to the wider open untouched moorland landscape from the permitted borrow pit.</p>
Aesthetic Qualities and Views from the Site	<p>Unobstructed landscape views of moderate quality are available from the proposed borrow pit location and surroundings, with restricted landscape views found where forestry plantations are dense.</p>

Landscape Value & Sensitivity	Description
	The area around the permitted borrow pit site has scenic quality towards the south. The permitted borrow pit location is also visible from areas to the east that comprise views of a scenic quality to the northwest that include the pit location. Due to the existing conifer plantations situated north of the permitted pit, these scenic views to the north are not experienced from this location.
Wildness / Naturalness	The landscape is composed of multiple human interventions in the form of forestry plantations, windfarms, trails, and pasture. With this, perception of wildness and naturalness in this mountainous landscape is lessened.
Recreational Value	<p>The ‘Sli Gaeltacht Mhuscraí’ walking trail cuts across the landscape in a meandering fashion and offers recreational value to locals and visitors alike in proximity to the proposed borrow pit. Other local routes’ main objective is to function as maintenance access to the adjacent turbines, however, they offer a comprehensive network of non-recognised walking trails.</p> <p>There is no recreational value around the permitted borrow pit extension site. The area is gated and within private property.</p>
Cultural Meaning / Associations	There are no cultural associations on the Proposed Development site.
Landscape Sensitivity Rating	The Landscape is deemed to be of low to medium value. Considering the presence of multiple changes of the landscape in the area, including windfarm developments and intensive forestry plantations, susceptibility of the landscape to this type of change (a proposed borrow pit and extension of the permitted borrow pit) is low. Overall, on balance, the landscape is deemed to be of Low Sensitivity.

12.4

Visual Baseline

This section of the LVIA identifies prominent visual receptors located in the LVIA Study Area, as well as establishing the likely visibility of the Proposed Development from both visual and landscape receptors. This includes a description of likely views towards the development from selected perspectives from adjacent areas, together with an assessment of screening factors such as vegetation, localised topography and built elements.

12.4.1

Visual Receptors

As addressed in the previous 'Landscape Baseline' section, no sensitive landscape policy designations were identified in the LVIA study area within Cork and Kerry's County Development Plans with exception to Scenic Route S22. Due to the relatively remote nature of the Proposed Development, none of the following visual receptors were identified within the study area:

- Designated Settlements (from CCDP Settlement Hierarchy)
- Tourism Destinations
- Osi Viewing Areas

With this, the visual baseline focused on assessing visibility of the Proposed Development from the following receptors:

- Scenic Route S22 (as noted in CCDP)
- Residential Receptors
- Walking Trail - National Waymarked Way
- Transport Routes (N22 and Local Roads)

12.4.2

Visibility of the Proposed Development

Each individual element of the Proposed Development (proposed 110kV substation, proposed underground cabling, borrow pit, extension of the permitted borrow pit, and access roads) will be assessed both independently and where necessary in combination with each other. A detailed description of the Proposed Development is described in Chapter 4 of this EIAR.

The visibility of each of these elements will be assessed in the sections below.

12.4.2.1

Visibility of the Proposed 110kV Substation from Visual Receptors

The proposed 110kV Substation is aesthetically similar to the existing Garrow 110kV Substation, which is located approximately 700 metres northwest of the proposed 110kV substation. The proposed 110kV substation is sited within a mountainous setting, as described in the previous section, and therefore will likely be substantially screened by localised topography and existing forestry.

The proposed 110kV substation is potentially visible from several isolated locations on scenic route S22; however, visibility would be limited to elevated elements such as masts.

Prominent receptors identified in the LVIA Study Area include public roads, scenic routes, a walking trail, and local residential dwellings. The principal visual receptors in this area are the existing residential dwellings, scenic route S22 and National Waymarked Way, with forestry and maintenance tracks not being considered as a primary receptor due to their momentary use and function.

Scenic Route S22 – Due to the topographical characteristics of the site, the proposed 110kV substation is contained within an elevated plateau to the west of scenic route S22 and therefore it is separated by distance (approximately 1650 metres at its nearest point to the substation) and elevation (average of approximately 240 metres) along the eastern section of local road L5226 used by the scenic route. The proposed 110kV substation will also be screened by existing vegetation throughout the entire extent of the scenic route.

Photo capture locations from potential visual receptors in scenic route S22 is shown in Figure 12-15 below. Arrows shown in the following images represent the indicative location of the proposed 110kV substation beyond the intervening topography and vegetation. Whilst the annotations indicate the location of the substation, it is not likely to be visible in any of the views shown in the photos below.

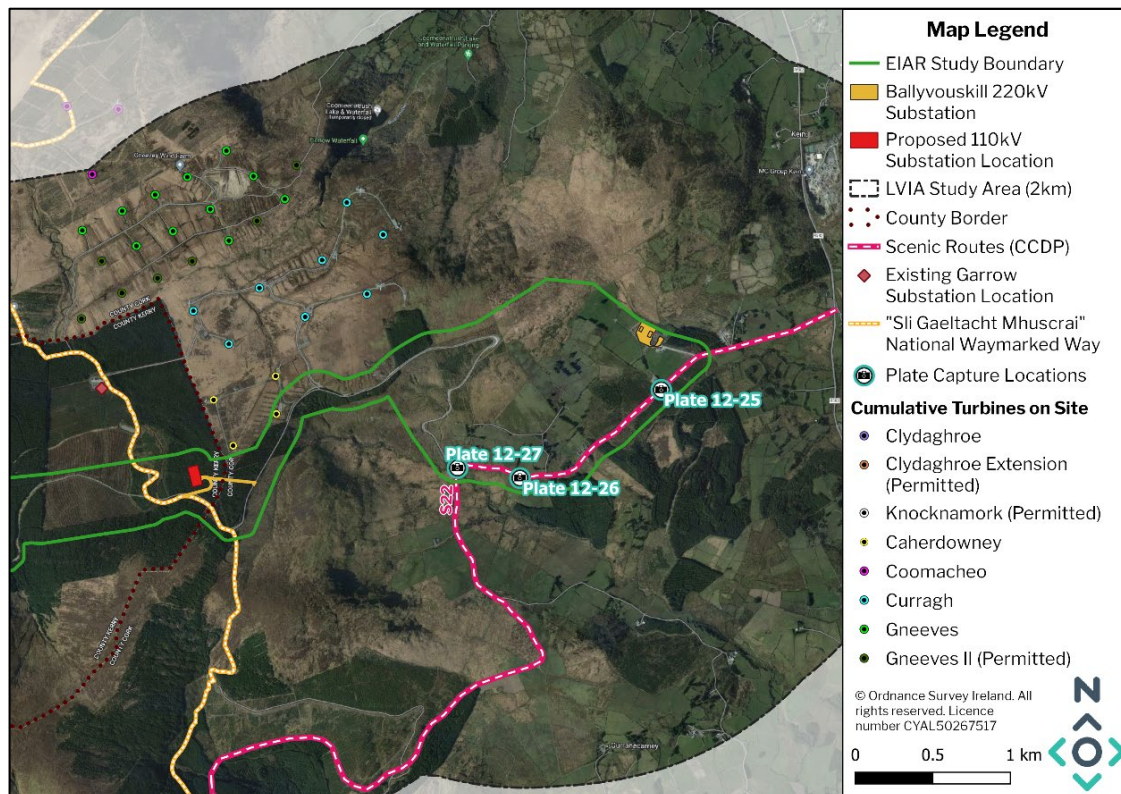


Figure 12-15 – Photo capture locations from potential visual receptors of the proposed 110kV substation from Scenic Route S22



Plate 12-25 – View facing West along S22 Scenic Route. Arrow shows the indicative location of the proposed 110kV substation beyond the intervening topography and vegetation.



Plate 12-26 – View facing West along S22 Scenic Route. Arrow shows the indicative location of the proposed 110kV substation beyond the intervening topography and vegetation.



Plate 12-27 – View facing Northwest along S22 Scenic Route. Arrow shows the indicative location of the proposed 110kV substation beyond the intervening topography and vegetation.

The photos shown above were captured at different points along the scenic route S22 that had potential visibility of the proposed 110kV substation. The intervening mountainous topography and mature screening vegetation present in each location screens the proposed substation from view from potential visual receptors. Due to the ground level nature of the proposed access road, there will be no visibility of this element on site from any location of scenic route S22.

If any visibility of the proposed 110kV substation, the only above ground feature of the Proposed Development, does occur from this scenic route (although unlikely), visual effects will be mitigated by distance, the mountainous landscape and existing vegetation.

Residential Receptors on S22

Similarly to the visibility appraisal described above for Scenic Route S22, visibility of the proposed 110kV substation is unlikely to occur from the existing residential dwellings located along the local road L5226.

The residential receptor located in its closest proximity to the proposed 110kV substation is distanced by approximately 2.4km. The residential dwelling represented in Plate 12-28 (shown below) is located approximately 2.5 km from the proposed 110kV substation. Due to the existing topography, screening

vegetation in the foreground and forestry plantations in the background, no visibility is likely to occur of the proposed 110kV substation from this location, or from adjacent residential receptors alike. This also applies once the existing plantations are felled and prior to new trees establishing in the landscape, because of the sheltered location of the substation around existing hills.

Photo capture locations from potential residential visual receptors along scenic route S22 is shown in Figure 12-16 below.

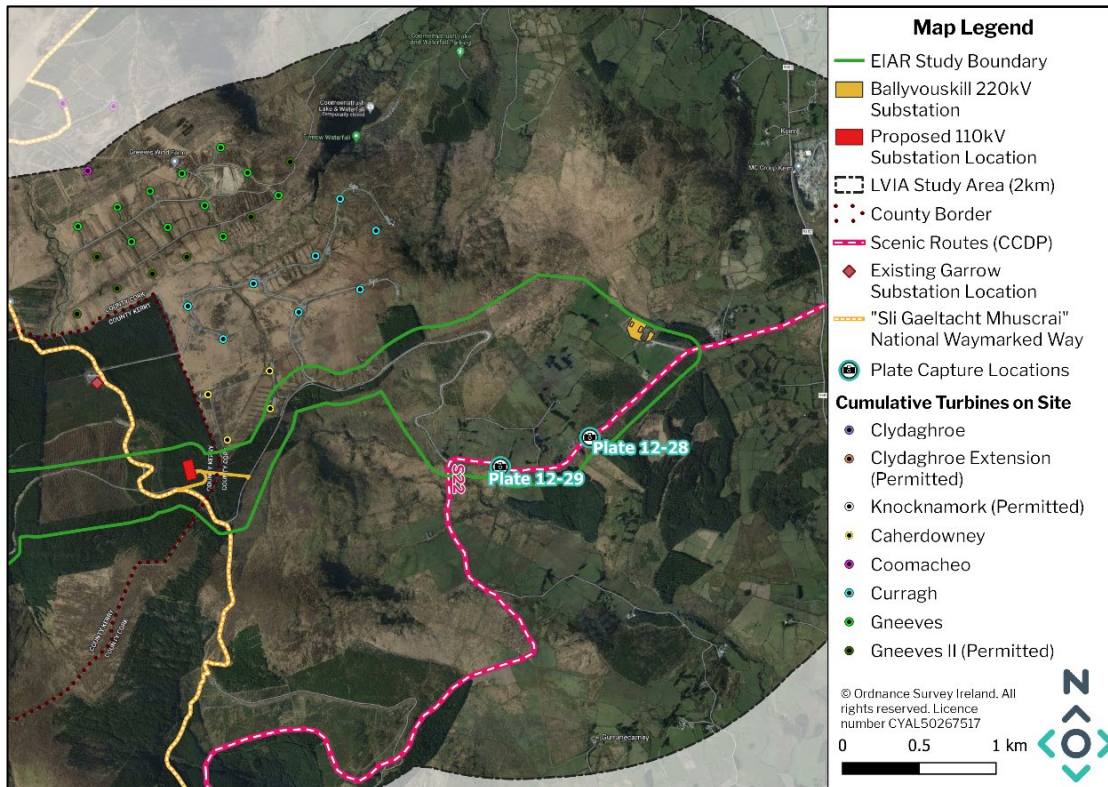


Figure 12-16 – Photo capture locations from potential residential receptors of the proposed 110kV substation from local road L5226



Plate 12-28 – View facing West along S22 Scenic Route with existing residential dwelling located on the right side of photo. Arrow shows the indicative location of the proposed 110kV substation beyond the intervening topography and vegetation.

Several agricultural sheds are located at a nearer distance to the proposed 110kV substation but, similar to the residential receptor described above, are unlikely to comprise any visibility of the proposed 110kV substation (see Plate 12-29 below).



Plate 12-29 –View facing West along S22 Scenic Route. Existing agricultural sheds screened to the north (right side of photo). Arrow shows the indicative location of the proposed 110kV substation beyond the intervening topography and vegetation.

If any visibility of the proposed 110kV substation, the only above ground feature of the Proposed Development, does occur from this local road (although unlikely), visual effects will be mitigated by distance, the mountainous landscape and existing vegetation.

Access Roads to on-site Windfarm Developments

As mentioned above, access routes to the existing windfarm developments in the area are considered to have a lower sensitivity for visual effects due to the occasional use of these routes. These are utilised for windfarm maintenance and forestry production activities. The access routes are private with secure entrance gates; therefore, they are not used by the general public but instead by specific professionals and consumers. Therefore, areas where the development is visible will only be experienced occasionally by a specific group of people.

These access routes comprise visibility solely once they reach proximity to the development. The proposed 110kV substation is contained within an enclosed plateau in the existing mountainous landscape. Therefore, hills that slope away from the plateau will have limited visibility. Plate 12-30 below is an example of an area with no visibility from areas outside the enclosed plateau where the 110kV substation is proposed to be constructed. Plate 12-31 presents the lack of visibility from the west of the development due to mature vegetation that screens the substation and access road.

Photo capture locations from potential visual receptors from access roads to on-site windfarm developments is shown in Figure 12-17 below.

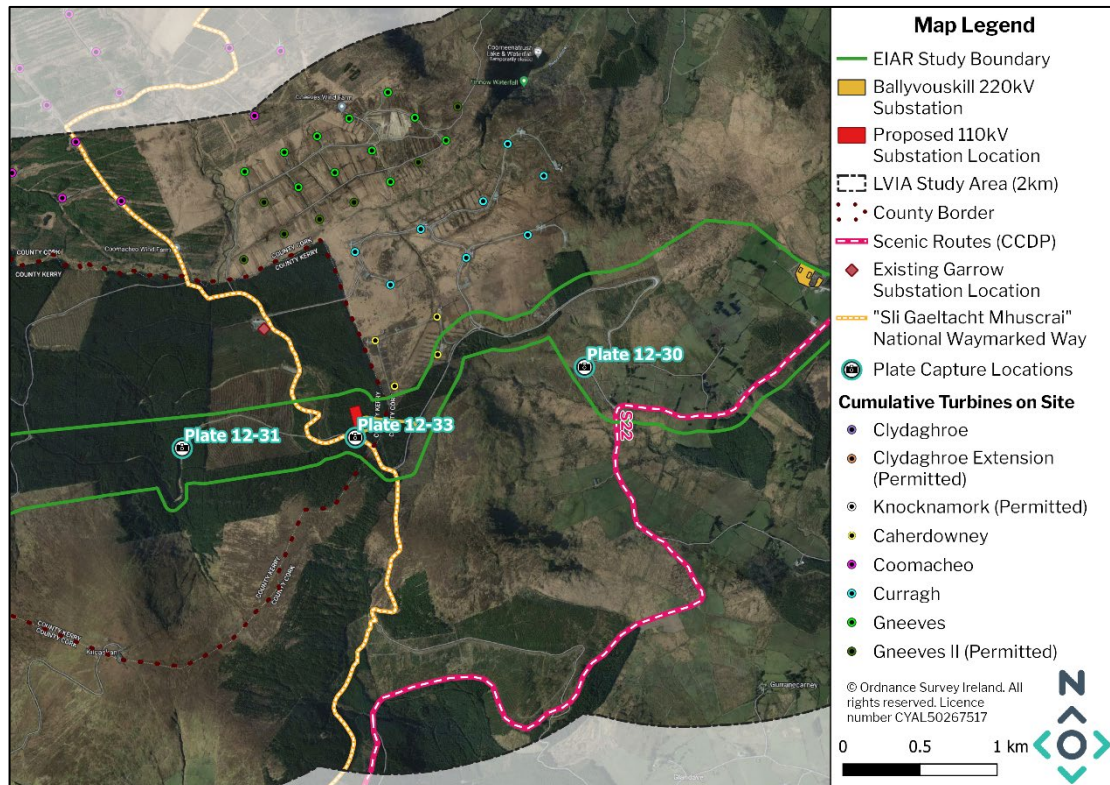


Figure 12-17 – Photo capture locations from potential visual receptors of the proposed 110kV substation and access road from on-site access routes



Plate 12-30 – View facing West along eastern access route to existing windfarm developments. Arrow shows the indicative location of the proposed 110kV substation beyond the intervening topography and vegetation.



Plate 12-31 – View facing East along forestry tracks towards Clydaghroe Windfarm. Arrow shows the indicative location of the proposed 110kV substation beyond the intervening topography and vegetation.

Hills sloping into the existing upland will have full or partial visibility depending on the presence and maturity of the existing forestry (see Plate 12-32 which shows the closest the proposed 110kV substation will be to an existing path - dashed box showing indicative location).



Plate 12-32 – View to the north-east from an elevated access track immediately to the south of the of the proposed 110kV substation. Indicative representation of the substation location in white dashed box (not to scale). Caherdowney Windfarm is visible in the background.

Walking Trail

There is an existing North / South bound trail that crosses the site along the proposed 110kV substation alignment and through Coomacheo Windfarm (see Figure 12-18 below). This walking trail is a 'National Waymarked Way' named 'Sli Gaeltacht Mhuscraí' and extends from Millstreet to Keakill in Co. Cork, crossing a portion of Co. Kerry within the LVIA study area and ELAR study boundary.

Photo capture locations from potential visual receptors from access roads to on-site windfarm developments is shown in Figure 12-18 below.

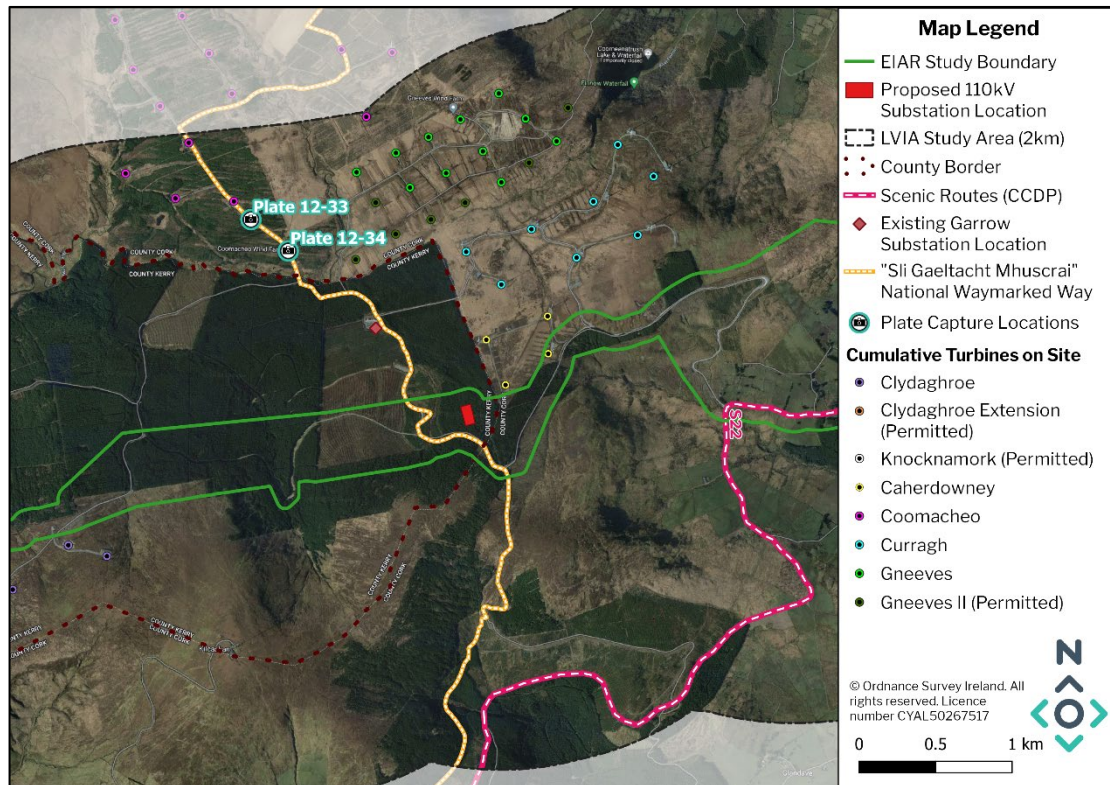


Figure 12-18 – Photo capture locations from potential visual receptors of the proposed 110kV substation from a National Waymarked Way

The current route of this waymarked trail includes existing windfarms, substations, and forestry tracks. The characteristics of the landscape that this trail utilises will not be changed due to the Proposed Development, and the only above ground feature to be added will be a new substation to a landscape setting that includes the already existing Garrow substation.

‘Sli Gaeltacht Mhuscraí’ is expected to have a low number of visitors, and subsequently a low number of visual receptors, in the LVIA study area due to the land use in this location comprising mainly of human interventions such as windfarm infrastructures and forestry plantation.

The proposed 110kV substation will be visible within the existing plateau and will only be registered as a feature in the landscape from isolated locations in proximity of the proposed 110kV substation site. It is also proposed to develop an on-site borrow pit as part of the Proposed Development, which will be perceived during construction works located adjacent to the proposed substation. Due to the forestry plantations in this location, there is a strong probability that the substation will be screened during periods of production and prior to new tree felling.



Plate 12-33 – View facing Southeast along existing walking trail. View from Coomacheo Windfarm's southern access.



Plate 12-34 – Existing and proposed substation (indicative representation in yellow) seen from Coomacheo Windfarm's access route

12.4.2.2 Visibility of the Underground Cabling from Visual Receptors

The proposed underground cabling routes (110kV underground cabling and 33kV underground cabling) to the proposed 110kV substation will be constructed underground along farmland and forestry dedicated areas, including circulation and maintenance tracks. As the proposed infrastructure will be located underground, there will be no visibility of the electrical cabling after the construction phase is complete and any earthworks and vegetation have been reinstated. The 110kV underground cabling relates to the cabling from proposed 110kV substation to existing Ballyvouskill 220kV substation, and the 33kV underground cabling relates to the cabling from proposed 110kV substation to the Permitted Development.

The 110kV underground cabling is located north of the existing scenic route S22 (see Plate 12-35 below). The S22 scenic route is the key sensitive visual receptor likely to be influenced by the proposed 110kV cabling. Although the cabling will only have visual effects during construction stage, new access roads required to assist the installation of the underground cabling will include permanent paths in the landscape and therefore are likely to be visible from local visual receptors. However, the proposed access roads are ground level features. It is anticipated that visibility of the access roads will be very localised, and limited to the immediate vicinity of the proposed route.



Plate 12-35 – View towards Southeast the 110kV underground cabling route. Scenic Route S22 shown indicatively as a white dash line.

The 33kV underground cabling crosses the landscape in a linear fashion across the rolling landscape of this location. The cabling is sited in forestry and moorland, as well as in proximity to Clydaghroe Windfarm (see Plate 12-36 below). Visual receptors for this underground electrical cabling are therefore windfarm maintenance routes and forestry tracks, which informs the sporadic use of these paths. Apart from windfarm and forestry maintenance personnel, the construction of this cabling will not be perceived by the general public.



Plate 12-36 – Receiving landscape of the proposed 33kV underground cabling

In general, due to the underground nature of the proposed cabling, the underground electrical cabling itself will not be visible in any location within the site or in any immediate surroundings. The access tracks associated with the installation of the proposed underground cabling will be a permanent feature in the landscape and will be visible in close proximity to the cabling route. Visibility of the 33kV will be very localised to the private access tracks themselves. Partial visibility of the access tracks associated with the 110kV underground cabling is likely from visual receptors such as residential dwellings and S22 visitors, however, visibility will be very localised to close proximity to the tracks and distance, topography and vegetation will mitigate visibility to the proposed access tracks.

12.4.2.3 Visibility of the Access Road and Temporary Road

The turbine delivery route follows an existing track in a mature forestry setting. The dense coniferous forestry along the proposed route will obscure visibility of the access road from within the surrounding landscape. The access road is within private domain and can only be accessed via a gate at either end of the route. Due to the lack of public access to this route, it is recognised that any works carried out along the proposed access road will not be visible from the surrounding visual receptors, such as the N22 road, S23 scenic route, and existing sparse residential dwellings off the same road.

The proposed temporary access road that connects from the N22 national road to the old N22 alignment will be ground level and temporary in nature and only visible during construction stage. Any works carried out along this road will be screened by existing dense vegetation between the N22 national road and the old N22 alignment.

The works associated with the proposed access road may require felling of trees and removal of organic matter in some locations. Visibility of these works are likely to be experienced by those conducting the tasks. There is also potential temporary visibility by the residential receptors off the N22 road of the access road and temporary road works, however, this will only occur during construction stage. There will be no visibility of the proposed access road during operational phase.

12.4.2.4 Visibility of Borrow Pits from Visual Receptors

Borrow pits are sub surface in nature with extraction works only being carried out during the construction stage. Once the required volume of rock has been extracted from the proposed borrow pit area, it is intended to reinstate this area with any surplus peat and overburden excavated from the works areas of the Proposed Development. After the landform has been reinstated at the end of the construction phase, the landcover will revegetate over time and the borrow pit footprint will assimilate with the existing character of the surrounding landscape. In this regard, most visibility of the proposed borrow pit will occur during the construction phase.

The proposed borrow pit is located immediately southeast of the proposed 110kV substation in an isolated upland plateau. The proposed extension to the permitted borrow pit is sited west of the proposed 110kV substation. Both borrow pits are situated in an isolated mountainous landscape, screened from view by the intervening topography and existing vegetation in the form of mature conifer plantations. Following the construction phase, these borrow pits will only be registered as a feature in the landscape from isolated locations in close proximity. This will only occur while the landscape assimilates with the existing character of the surrounding landscape, and both borrow pits will not be visible once the landscape revegetates. Visual receptors in this area include occasional users of the local walking trails. The proposed borrow pits will not be visible from visual receptors in the lowland valley to the east.

12.5 Likely and Significant Landscape and Visual Effects and Associated Mitigation Measures

12.5.1 'Do-Nothing Scenario

If the Proposed Development were not to proceed it would not be possible to access and construct the Permitted Development. The opportunity to generate renewable energy and electrical supply to the national grid would be lost. Commercial forestry operations and existing land-use practices would continue at the site.

12.5.2 Construction Phase

It is estimated that the construction phase of the Proposed Development will last approximately 12 months, therefore construction phase effects will be short-term. The construction phase includes construction of all Proposed Development elements as well as laying of underground cabling which will involve activities such as excavation, soil stripping, tree felling, and other associated construction activities. Construction phase effects also include the use of borrow pits and the associated effects resulting from the movement of construction and transport vehicles into, out of, and around the site.

12.5.2.1 Landscape Effects (Construction Phase)

The earthworks such as cut and fill required to facilitate construction of the Proposed Development will have a direct effect on the landscape. Where excavation is required, existing landcover, vegetation and spoil will be removed during the construction phase. In most instances, groundworks and excavation trenches for the underground cable route will be re-instated upon completion of construction. The majority of the cabling works will be carried out within low sensitive landscape such as adjacent to forestry tracks, conifer plantation boundaries, farmland tracks and firebreak tracks. Access roads constructed to assist the installation of the proposed underground cabling will be a permanent feature in the landscape, however, they will not be a new addition to the local landscape character and will be ground level in nature.

The proposed access road along the turbine delivery route for the Permitted Development located within dense mature forestry. Localised tree felling and excavation may occur during construction phase and will cause a small change to the remote landscape which will not be perceived by the general public. Tree felling is an activity associated with coniferous plantations and these areas would be felled at some stage as part of the forestry cycle.

The construction activities may potentially cause temporary impacts on the landscape such as the construction of temporary roads, creation of temporary structures (e.g. berms and borrow pits), dust and noise. The construction activities are likely to cause short-term change to the character of the landscape areas where they occur, however, effects will be localised to locations in proximity to the proposed works and will not affect the wider character of the landscape.

In general, in terms of direct landscape effects, it is considered that the construction phase will have a short-term, 'Moderate', negative effect. However, these effects will be highly localised to the immediate vicinity of the Proposed Development footprint.

Proposed Mitigation Measures

The majority of works will be temporary in nature and completed as soon as practical. General housekeeping measures, necessary for Health & Safety requirements, will ensure that the active construction areas will be tidy. Further details are contained in the Construction and Environmental Management Plan (CEMP) contained in Appendix 4-3 of this EIAR. The following measures have been included in the project design in order to avoid or reduce direct effects on habitats:

- In all circumstances, excavation depths and volumes will be minimised, and excavated material will be re-used where possible.
- Where the borrow pit is constructed, subsoil excavated from the site should be piled on site and re-used after construction works. Should any medium planting be removed, it should be replaced with the same or similar species whenever it is not possible to salvage and reinstate.
- Where the cable trench is to be located in vehicular track's verge, subsoil should be piled on site and re-used after cabling works. Should any medium planting be

removed, it should be replaced with the same or similar species whenever it is not possible to salvage and reinstate.

- If required, new topsoil should be provided should the existing topsoil not be of sufficient standard (to comply with BS 3882:2015).
- Any areas of bare soil remaining after the landscaping phase will be reinstated by natural revegetation.
- Poor drainage on site to be considered when excavating ditches for cabling works.

Residual Impact

It is considered that following mitigation, the predicted impact of the Proposed Development is a Short-term, negative landscape effect of 'Slight' significance.

12.5.2.2 Visual Effects (Construction Phase)

The proposed electrical cabling will be located underground, therefore, the greatest effects attributed to this element of the Proposed Development will occur during the construction phase. Works required for the proposed underground cabling will be transient in nature as works move along the proposed route, therefore these construction works will be temporary and localised. Construction activities occurring at the eastern extent of the 110kV underground cabling route may be perceptible from residential receptors and Scenic Route S22, particularly where the works are carried out at lower elevation in proximity to Ballyvouskill Substation. In general, construction activities will cause temporary negative visual effects of 'Slight' significance along the 110kV underground cabling route. It is noted that the proposed access road required for construction of the eastern extent of the 110kV underground cabling route will be retained as a permanent feature for future maintenance.

The construction activities associated with the proposed 110kV substation, surrounding access roads and borrow pits will be visually separate from the receptors in the valley to the east (S22 and residential receptors). It is anticipated that these construction phase activities will be contained within the isolated upland plateau where they will occur, a landscape with an absence of sensitive visual receptors. There will be long-term negative visual effects of 'Slight' significance during construction of the proposed 110kV substation.

Construction phase works along the proposed turbine delivery route will not be seen beyond the immediate vicinity of the works, as it will occur in dense coniferous forestry which will screen the construction works from view within the wider landscape. Short-term negative visual effects will occur during the construction of the temporary road connecting the N22 with old N22 road re-alignment.

In a general sense, requisite construction activities will cause short-term negative visual effects of 'Slight' significance.

Proposed Mitigation Measures

General housekeeping measures necessary for Health & Safety requirements, will ensure that the active construction areas will be kept tidy, mitigating localised visual impacts. Further details are contained in the Construction and Environmental Management Plan (CEMP) contained in Appendix 4-3 as well as in Chapter 4 of this EIAR.

Residual Impact

It is considered that this the construction phase will cause a short-term, negative visual impact of 'Slight' significance.

12.5.2.3 Cumulative Landscape and Visual Effects – Construction Phase

The cumulative effect assessment for the construction phase includes the Proposed Development in conjunction with construction activities occurring during the construction of the Permitted Development. Cumulative landscape and visual effects will be short-term and will be localised to the isolated upland landscape of the Permitted Development site. Although, the Proposed Development will increase the potential for cumulative effects in terms of more construction activities over a wider extent, landscape and visual effects will be mitigated by measures included in the Construction and Environmental Management Plan (CEMP) contained in Appendix 4-3. No significant cumulative landscape and visual effects are likely to arise during the construction phase.

12.5.3 Operational Phase

A comprehensive description of the Proposed Development is included in Chapter 4. As noted throughout in Chapter 4, it is proposed to construct a 110 kV electrical substation to accommodate the connection of the Permitted Development to the national grid. It is intended that the 110kV substation will replace the 38kV substation and battery storage compound permitted under Pl. Ref. 19/4972. In this regard, effects on the landscape and visual amenity will be offset to some degree by the fact that the permitted 38kV substation and battery storage compound will not be constructed.

12.5.3.1 Landscape Effects – Operational Phase

The landscape of the proposed underground electrical cabling route, borrow pits and temporary access roads will all be re-instated to a condition similar to that of the existing landscape following the construction phase. In this regard the effects on the landscape of these elements of the Proposed Development will be imperceptible, particularly when vegetation has re-established over time to its existing condition.

Some portions of the Proposed Development site will undergo a change in character from its current condition by the introduction of man-made features and structures such as the proposed substation infrastructure and turbine delivery access roads. The greatest change to occur within the landscape during the operational phase include the addition of the proposed 110kV substation. There will be a substantial magnitude of change to the landscape in localised areas within the site where the landscape is materially altered (infrastructure footprint) from its current condition. The footprint of the proposed 110kV substation compound and access roads comprises low value modified landscape utilised for commercial forestry and is deemed to be landscape of Low sensitivity. Low sensitivity balanced with a substantial magnitude of change amounts to long-term landscape effects of ‘Moderate’ significance upon the physical fabric of the landscape of the site. These direct landscape effects will be highly localised to the footprint of the Proposed Development. Due to the limited visibility of these proposed elements outside of their isolated upland setting, effects on the perceptual and aesthetic character of the site are deemed to be of ‘Slight’ significance. Due to the localised visibility of the Proposed Development and containment within the upland landscape, effects on the designated Landscape Character Areas in the EIAR Study Area will be ‘Slight’.

The proposed access road required for the construction of the 110kV underground cabling will be retained as a permanent feature in the landscape in the form of new gravel roads and the widening of existing forestry tracks. There will be a Moderate magnitude of change where the physical fabric will change from grassland to a gravel track. Low sensitivity balanced with a Moderate magnitude of change amounts to a long-term, ‘Slight’ negative impact. These direct landscape effects will be highly localised to the proposed route of the underground electrical cabling. From the isolated plateau where the substation is sited, there will be a long-term negative effect on the landscape character, however, this will be a very localised impact.

Proposed Mitigation Measures

Strategic siting of the proposed 110kV substation in an isolated plateau of relatively low sensitivity, the siting of access roads within existing mature forestry, and the installation of the electrical cabling underground mitigates potential landscape effects arising as a result of the Proposed Development.

Residual Impact

It is considered that the Proposed Development will cause a long-term, negative landscape effect of 'Slight' Significance.

12.5.3.2 Visual Effects – Operational Phase

The use of underground cabling constitutes mitigation by design. The proposed cabling is laid underground, almost entirely immediately adjacent to existing landscape trails and the operational effects are thus considered to be imperceptible. The cable itself will not be visible. Any disturbance to the verge will be re-vegetated and the trail surface will be replaced. An imperceptible visual impact will occur once vegetation has re-established along the route where trenches were excavated during the construction phase.

As reported in the visual baseline, visibility appraisals determined that the proposed 110kV substation will only be visible from within the upland plateau where it is sited. In this regard it is visually separated and isolated from sensitive visual receptors such as Scenic Route 22 and residential receptors in the lower valley to the east. The proposed substation will be visible from visual receptors using a remote walking trail through the site, this will cause long-term negative visual effects of 'Slight' significance on this walking trail, where it comes in proximity to the proposed substation.

Proposed access roads of the proposed 110kV underground cabling are by nature surface features and will have some limited visibility from visual receptors in the surrounding landscape. The localised visual effects associated with the proposed access road along the 110kV underground cabling route are considered to be a long-term, negative visual impact of 'Slight' significance.

The access road to be constructed in the western portion of the site will be mostly imperceptible beyond its immediate location and have no significant visual effects will arise due to screening from the mature forestry in which it is located.

Proposed Mitigation Measures

The use of underground cabling constitutes mitigation by design, as the cabling will not be visible during the operational phase. Strategic siting of the proposed 110kV substation in its location within an isolated upland landscape mitigates potential visual effects due to the limited visibility which will occur from sensitive visual receptors. The existing topographical characteristics will screen the proposed 110kV substation even when existing forestry is felled during the plantation cycle.

Residual Impact

Likely visual effects arising as a result of the Proposed Development are considered to be long-term, negative effects of 'Slight' significance.

12.5.3.3 Cumulative Landscape and Visual Effects – Operational Phase

The proposed 110kV substation will be visible in conjunction with the existing Garrow substation as well as the turbines of the existing Caherdowney, Curragh, Gneevs and Coomancheo windfarms. In

this regard, the proposed 110kV substation will be adding to the man-made influence of wind farm infrastructure existent in this isolated upland area. The greatest cumulative visual and landscape effects will occur when the proposed 110kV substation will be visible in conjunction with the existing Garrow substation from the walking trail to the north-west of the site. Cumulative visual effects from the walking trail only occur from isolated locations where there are open medium-range views across the localised valley in this upland plateau and visual receptors will only experience these views momentarily. Cumulative landscape and visual effects of the proposed 110kV substation with this other infrastructure are not deemed to be significant.

The proposed underground cabling will not be visible and will not give rise to any cumulative landscape and visual effects during the operational phase. The proposed access roads of the proposed 110kV underground cabling will be visible in conjunction with existing forestry and maintenance tracks within the EIAR study area. Cumulative landscape and visual effects of these proposed access roads with other existing roads are not deemed to be significant.

The access road for the turbine delivery route will occur adjacent to the infrastructure footprint of the Permitted Development where cumulative landscape and visual effects will occur, however these effects will not be significant.

12.5.4 Decommissioning Phase

It is not intended that the on-site electrical substation will be removed at the end of the useful life of the Permitted Development, as permanent planning permission is being sought for this development. By the time the decommissioning of the Permitted Development is to be considered, the on-site substation and underground cabling will likely form an integral part of the local electricity network, with a number of supply connections and possibly some additional generation connection. Therefore, it is intended that the Proposed Development will be retained as a permanent structure and will not be decommissioned.

12.6 Conclusion

The Proposed Development is sited in a remote and isolated upland landscape. The site is composed mainly of human interventions such as windfarm infrastructure and conifer plantations. The Proposed Development will therefore integrate with the existing landscape character. The construction of a new proposed 110kV substation will compensate the proposed omission of the substation for the Permitted Development. The proposed 110kV substation is strategically sited in a remote and isolated upland plateau, where the existing topography and forestry restrict visibility and mitigate the potential for significant landscape and visual effects. The proposed underground electrical cabling consists of two underground elements: (1) 110kV underground cabling connecting the proposed 110kV substation to the existing 220kV substation at Ballyvouskill; and (2) 33kV underground cabling connecting the Permitted Development to the proposed 110kV substation.

Overall, the landscape has been deemed to be low to medium value. Considering the presence of other windfarm structures in the area, susceptibility of the landscape to the type of change prompted by the proposed 110kV substation, underground electrical cabling, temporary borrow pits and access roads has been considered low. On balance, the landscape has been deemed to be of Low Sensitivity.

Prominent receptors identified in the LVIA Study Area include public roads, scenic routes, main access roads, a walking trail, and local residential dwellings. The principal visual receptors identified in this study were the existing residential dwellings, scenic route S22 and the National Waymarked Trail, with forestry and maintenance tracks not being considered as a primary receptor due to their momentary use and function.

Although the proposed 110kV substation was deemed potentially visible from several isolated locations on scenic route S22, mostly limited to elevated elements such as masts, it was noted that visibility will be localised to the elevated remote plateau where the substation will be constructed. The substation will therefore be perceived by visual receptors from the existing 'Sli Gaeltacht Mhuscraí' walking trail that crosses the landscape in proximity to existing and proposed windfarm infrastructures. The proposed 110kV substation was deemed to have short-term negative landscape effects of 'Moderate' significance, and long-term, negative visual effects of 'Slight' significance for construction and operational phases.

The proposed underground electrical cabling routes will be laid underground and therefore have been identified as comprising temporary construction effects but imperceptible operational effects. Due to the underground nature of these elements, the entirety of the cable will not be visible. Once backfilling and revegetation have been applied further to construction works, no landscape and visual effects are likely to occur. Access roads pertaining to the 110kV underground cabling were deemed to have a short-term, negative visual and landscape effects of 'Slight' significance for the construction phase, and a long-term, 'Slight' negative impact during operational phase.

The proposed borrow pit and permitted borrow pit extension will be a temporary feature in the landscape, comprising short-term, negative landscape and visual effects of 'Slight' significance during the construction phase. Once backfilling and revegetation has occurred further to construction works, no landscape and visual effects are likely to occur.

The access road and temporary access road to be carried out in the western portion of the site will be highly localised and will be mostly imperceptible. The works will only be perceived within the forestry and immediate surrounds. The road works have been identified as comprising no significant landscape and visual effects as these works will take place within mature forestry of low sensitivity in a private domain.

In summary, the lack of highly sensitive landscape and visual receptors, the likely limited visibility of the Proposed Development within the landscape and the strategic siting of infrastructure will mitigate any potential for significant landscape and visual effects.