

12. LANDSCAPE AND VISUAL

12.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) addresses the potential landscape and visual impacts of the Curraglass Renewable Energy Development (Proposed Development). The emphasis in this chapter is on the likely significant effects of the proposal. It covers the assessment methodology, a description of the Proposed Development and the existing landscape based on relevant guidance. It includes a description of the relevant landscape policy with specific reference to wind energy and the study area in which the Proposed Development site 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 landscape and visual impact assessment of the proposed wind farm uses visibility mapping, representative viewpoints and photomontages. The potential impacts in both landscape and visual terms are then assessed, including cumulative impacts.

A full description of the Proposed Development is provided in Chapter 4 of this EIAR.

12.2 Statement of Authority

This chapter was prepared by Joanna Mole, a Landscape and Visual Impact Assessment Specialist and Chartered Landscape Architect with McCarthy Keville O'Sullivan Ltd. with over 15 years of experience in both private practice and local authorities. Joanna holds a BSc (Hons) in Landscape Design & Plant Science from Sheffield University, a Postgraduate Diploma in Landscape Architecture from Leeds Beckett University, a MSc in Renewable Energy Systems Technology from Loughborough University. Joanna is a Chartered Landscape Architect with specialist knowledge in Landscape and Visual Impact assessments for projects ranging from individual houses to large windfarms, solar farms, cycle route design and landscape contract management. Joanna holds chartered membership of the British Landscape Institute since 1998 and has been an examiner for British Landscape Institute professional practice exam. Joanna was also aided by Michael Watson, a qualified Environmental Scientist and environmental consultant with 18 years' experience of EIA and LVIA.

12.2.1 Do-Nothing'-Scenario

In the 'Do Nothing' scenario, the Proposed Development would not be constructed and the opportunity to harness the wind resource for renewable energy will be lost. The existing land-use of commercial forestry will continue. The effect of this from a landscape and visual perspective is considered neutral in the context of the EIA.

12.2.2 Proposed Development Description

This section of the EIAR describes the development and its component parts including the works subject of the proposed application for planning permission to Cork County Council. The Proposed Development comprises:

1. Up to 7 no. wind turbines with an overall blade tip height of up to 178.5 metres and all associated foundations and hard-standing areas;
2. 2 No. borrow pits;
3. 1 No. permanent meteorological mast with a maximum height of up to 112 metres;
4. Upgrade of existing and provision of new site access roads;
5. Upgrade to existing access junction;
6. A 38kV electricity substation, including 4 no. battery storage containers, 1 no. control building with welfare facilities, associated electrical plant and equipment, security fencing, wastewater holding tank,
7. Forestry Felling;

8. *A temporary construction compound;*
9. *Site Drainage;*
10. *All associated internal underground cabling, including underground grid connection cabling to the existing overhead line; and*
11. *All associated site development and ancillary works.*

The Proposed Development will have an operational life of 30 years from the date of commissioning of the development and the application seeks a ten-year planning permission.

All elements of the Proposed Development, including the wind turbines, turbine delivery route, substation, battery storage, underground cabling, forestry felling and replanting, have been assessed as part of this EIAR.

The project elements other than the turbines have been grouped together as ‘project ancillary elements’ due to their similarity in scale, and hence shared landscape and visual effects, relative to the wind turbines. These elements will be discussed in Section 12.9.3.3.4 Visual effects within five kilometres of the site and referred to in other sections.

12.2.3 Scoping Replies/Pre-Planning Meetings

A scoping and consultation exercise has been carried out by MKO, as detailed in Section 2.5 of Chapter 2 of this EIAR. A pre-planning meeting was held with Cork County Council on 17th February 2020, details of which are also outlined in Section 2.6 of Chapter 2 of this EIAR.

12.2.4 Mitigation by Good Design

Through the iterative project design process, informed by early-stage impact assessment work, landscape modelling, ZTV mapping and photomontage preparation, every effort was made to bring forward the optimum design for the Proposed Development with respect to landscape and visual factors. The layout of the Proposed Development that is the subject of this LVIA, already incorporates the following landscape and visual design considerations for good wind farm design:

- The turbines are located within an area surrounded by lands of high elevations which limits open views of the project, particularly from potentially sensitive receptors such as settlements or cultural heritage/amenity areas in particular Gougane Barra (Note the ZTV outputs).
- The turbine layout was designed to create a coherent cluster, contiguous and connected to each other visually and with consistent spacing.
- All turbines are located greater than 4x tip height from residential developments in order to protect residential visual amenity.
- The turbine layout and internal site road layout made use of the existing hard stand areas and tracks wherever possible, to minimise the requirement for new tracks within the site; and
- Felling of existing coniferous plantation is predominantly limited to keyhole felling in localised parts of the site, in keeping with existing practices in the commercial forestry plantation on-site.

During the initial site selection process, landscape sensitivity was identified as a key constraint and so landscapes considered to be less sensitive were preferred over sites with more sensitivity to change. The site location and layout minimises the theoretical potential for visibility. Site visits and assessment tools show that the actual visibility is far less than the theory even though the theory shows limited potential for visibility. Where visibility does occur, the design is in accordance with best practice and a coherent project, sympathetic to the landscape, is evident.

12.3 Brief Methodology and Assessment Criteria

This section broadly outlines the methodology used to undertake the landscape and visual impact assessment of the Proposed Development, a more detailed description of the methodology is outlined in

detail in Appendix 12-1, and the guidance used in the preparation of each section. There are four main sections to this assessment:

- Landscape Baseline
- Visual Baseline
- Cumulative Baseline
- Likely and Significant Effects - outlining the assessment of landscape, visual and cumulative effects

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

For the purposes of this chapter, where the ‘Proposed Development site’ or ‘the site’ is referred to, this relates to the primary study area for the Proposed Development, as delineated in red on the EIAR figures (maps). The Proposed Development site is discussed in some detail in terms of its landscape character.

However, the landscape and visual baseline mapping and viewpoint selection are based on wider study areas. The landscape study area has been chosen as 20 kilometres for visual and general landscape effects and 15 kilometres from the proposed wind turbines for landscape effects on landscape character. These are the study areas for which the baseline maps and viewpoint locations are produced and are referred to as the ‘study area’. Furthermore, on the basis of desk studies and survey work undertaken, the professional judgement of the assessment team, experience from other relevant projects and policy guidance or standards, the following topic areas have been scoped out of the assessment:

- Effects on landscape and visual receptors that have minimal or no theoretical visibility (as predicted by the ZTV) and/or very distant visibility, and are therefore unlikely to be subject to significant effects;
- Effects on designated landscapes beyond a 20km radius from the Proposed Development, from where it is judged that potential significant effects on key characteristics and/or special qualities, or views are judged unlikely to occur;
- Effects on landscape character beyond a 15km radius from the Proposed Development, where it is judged that potential significant effects on landscape character are unlikely to occur;
- Effects on visual receptors beyond a 20km radius from the Proposed Development, where it is judged that potential significant effects are unlikely to occur;
- Cumulative effects in relation to single turbines (except where otherwise stated);
- Cumulative landscape effects beyond a 15km radius and cumulative visual effects beyond a 20km radius from the Proposed Development, where it is judged that potential significant effects on landscape character are unlikely to occur;
- All areas in County Kerry due to no theoretical visibility indicated by the ZTV

Furthermore, in most cases ZTV mapping will be produced within a radius of 20km from the proposed turbines, however, the 2006 DoEHLG *Wind Energy Development Guidelines for Planning Authorities* require that ‘in areas where landscapes of national or international renown are located within 25 km of a proposed wind energy development, the Zone of Theoretical Visibility should be extended as far (and in the direction of) that landscape’. Therefore, the ZTV shown Figure 12-1 overleaf has been extended to 25 kilometres to include the Killarney National Park.

12.3.2 Baseline Landscape and Visual Information

In order to carry out this assessment, an initial desk study was undertaken which identified:

Landscape Baseline

- Policies and objectives contained in the relevant county development plans pertaining to landscape and wind energy
- Identification of Landscape Receptors based on:
 - Landscape designations in the study area

- Landscape character of the study area
- Landscape character of the Proposed Development site based on

Visual Baseline

- Identification of Visual Receptors

12.4 Assessment of Potential Impacts

After visual and landscape receptors have been screened out in the respective preassessments, due to lack of visibility shown through ZTV mapping, on the ground or for other reasons, a set of receptors are put forward for assessment using the methodology presented in Appendix 12-1. These clearly documented methods based on the GLVIA guidelines include consideration of landscape and visual sensitivity balanced with the magnitude of the effect to determine the significance of effects. Mitigating factors are then taken into consideration to arrive at residual landscape and visual effects.

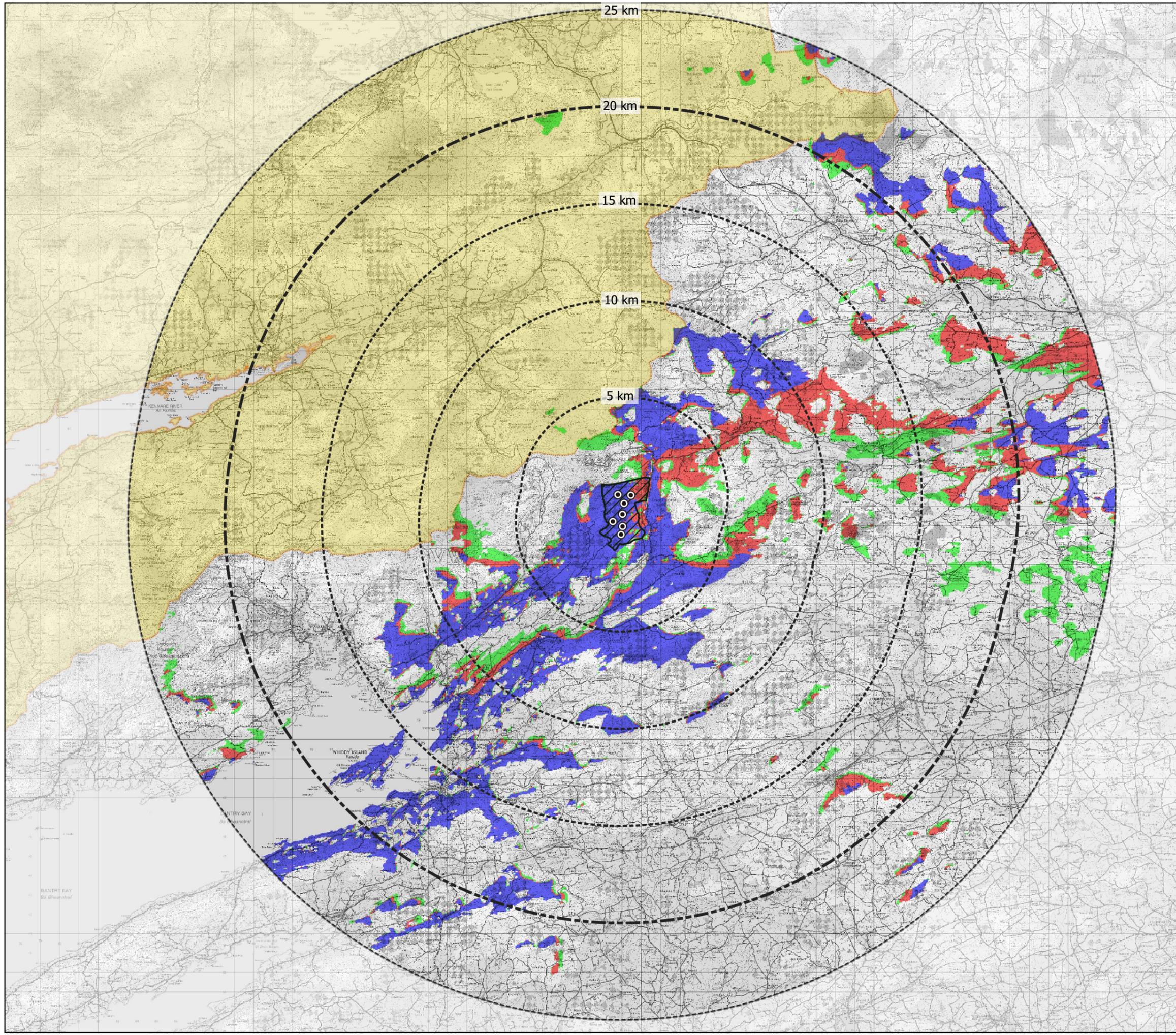
12.5 Visibility of the Proposed Development

12.5.1 Zone of Theoretical Visibility (ZTV)

ZTV mapping is an important step in the LVIA process, in that it clearly shows which areas will have theoretical visibility of the proposed turbines and which areas will have no visibility. The ZTV map, extended to 25 kilometres to include the Killarney National Park, is shown in Figure 12-1 overleaf.

Generally, overall visual effects are strongly guided by ZTV mapping (based purely on topography, in this case 10-meter contour data) as an indication of areas that will have no visibility of proposed turbines and areas that will have theoretical visibility. The level of certainty for areas where no visibility is indicated by ZTV is very high. On the contrary, in areas where the ZTV mapping shows theoretical visibility this will not have taken account of local variations in ground levels, which are not represented by the 10 metre contour data and more importantly vertical objects such as vegetation, buildings and other structures that will block views of the proposed turbines.

The ZTV map for the proposed Curraglass turbines generally shows a narrow band of intermittent theoretical visibility stretching from Bantry Bay in the south-west to the north-east of the study area. There will be no visibility in County Kerry save for some very minor patches in remote areas near the county boundary. There will also not be any visibility in extensive areas beyond 10 kilometres from the south stretching up to the east. From the east to the north there are patches of full theoretical visibility that gradually reduce in size and frequency with distance from the proposed turbines.



Map Legend

- ⦿ Proposed Curraglass Turbines
- ▨ EIA Site Boundary
- County Kerry
- Half Blade ZTV
 - 5 - 7 Turbines
 - 3 - 4 Turbines
 - 1 - 2 Turbines



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Drawing Title	
Half Blade ZTV	
Project Title	
Curraglass Renewable Energy Development, Co. Cork	
Drawn By	Checked By
JW	JM
Project No.	Drawing No.
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Scale	Date
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12.6 Landscape Baseline

This part of the LVIA focusses on identifying the key landscape receptors that should form part of the assessment. For this purpose, the Cork County Development Plan 2014 was consulted. As there will be no visibility in County Kerry the County Kerry County Development Plan was not referenced here.

Baseline Landscape Receptors:

- Landscape Designations based on:
 - Cork County Development Plan 2014 (CDP)
- Landscape Character of the Proposed Development Site and its immediate environment based on:
 - DoEHLG ‘*Wind Energy Development Guidelines for Planning Authorities*’ (2006)
 - Field Surveys
- Landscape Character of the Study Area based on:
 - Draft Cork County Landscape Strategy

12.6.1 Landscape Designations

The County Development Plans of Cork was consulted to identify landscape designations.

While the policy on designated views and scenic routes is outlined for the respective counties below, the list of views and scenic routes within 20km of the proposed turbines, mapped in Figure 12-2 are listed in Section 12.7 Visual Baseline below, as they are in their nature a visual designation.

12.6.1.1 County Cork

Section 13.6 of the Cork County Development Plan 2014 (CDP) sets out the policies and objectives of the Council with regard to landscape.

General policy on landscape is covered in the CDP by the following objectives:

- **Objective GI 6-1: 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 6-2: 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.

12.6.1.1.1 Landscape Designations

High Value Landscape

The CDP considers that the Landscape Character Types identified in the Draft Cork County Landscape Strategy, 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 areas are highlighted in green in the list in Appendix E and illustrated in Figure 13.2 of the CDP.

HVLs are areas where considerable care is needed to successfully locate large scale developments and such developments should generally be supported by an assessment including a visual impact assessment.

No areas of High Value Landscape fall within the Proposed Development site. There are two areas within the 20-kilometre radius of the Proposed Development, the nearest, LCT 16a *Glaciated and Forested Cradle Valley*, starts approximately 1.2 kilometres to the north of the Proposed Development. Another area of High Value Landscape LCT 4 *Rugged Ridge Peninsulas* lies approximately 4.1 kilometres to the south-west of the Proposed Development. As they are also LCTs within the study area they will be discussed further in Section 12.6.4 *Landscape Character of the Study Area*.

Scenic Amenity, Views and Prospects

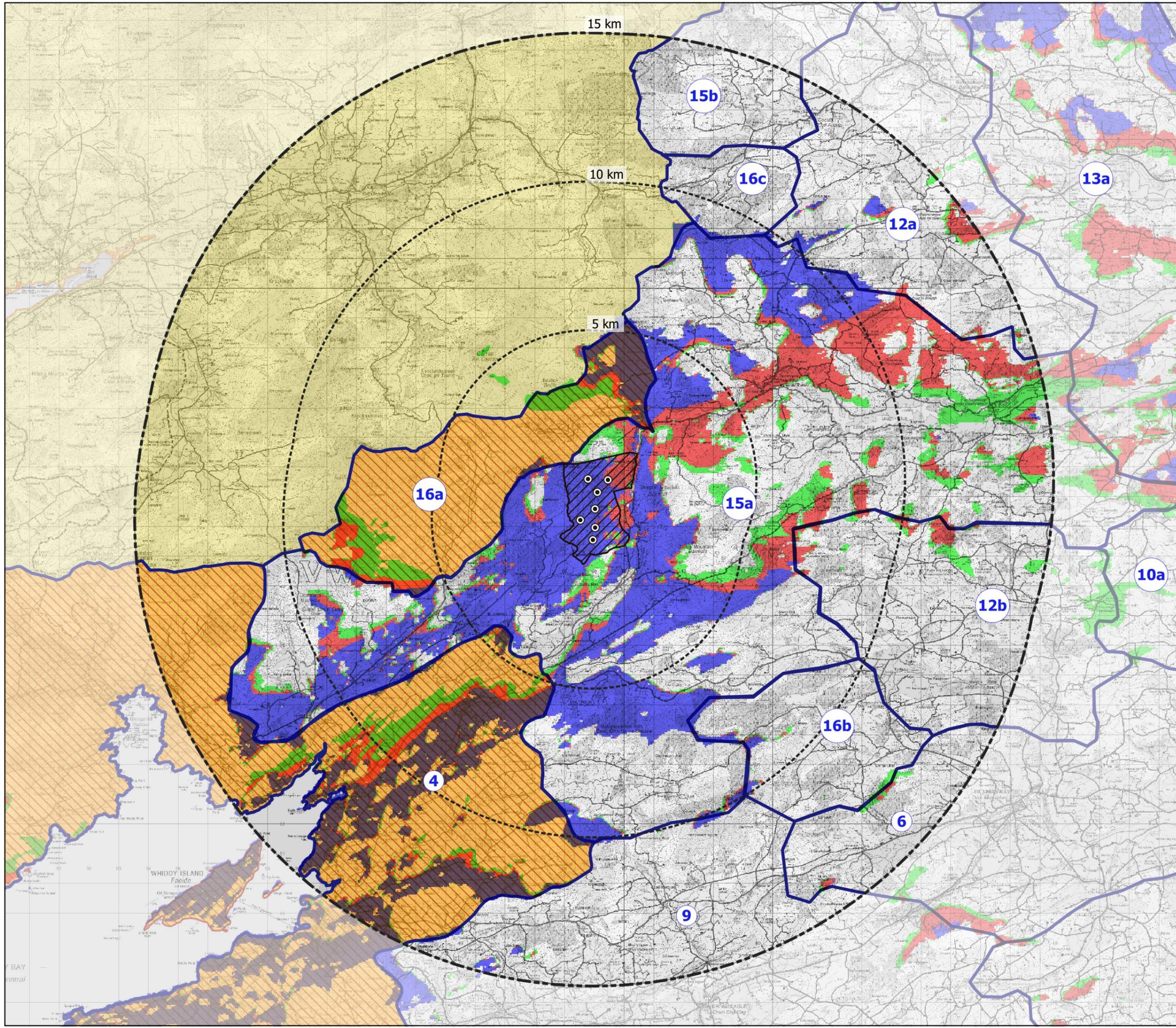
Chapter 13 of the CDP, *Green Infrastructure and Environment*, sets out overall policies regarding views and prospects and scenic routes. These include vantage points from which views of natural beauty may be obtained and include landscape and seascape views. Scenery and landscape are a valued amenity resource to both tourists and residents. Specific scenic routes are therefore identified, and these are set out in Chapter 5 of the CDP.

The CDP 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 CDP 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 13.7 of the CDP are as follows:

- **Objective GI 7-1: 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 7-2: 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 7-3: 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 7-4: 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.

While the policy on scenic routes is covered in this section, the individual scenic routes are listed in Section 12.7 Visual Baseline.



Map Legend

- ⊙ Proposed Curraglass Turbines
- ▨ EIAR Site Boundary
- LVIA Study Area for Landscape
- County Kerry
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 - 3 - 4 Turbines
 - 1 - 2 Turbines

Cork County Landscape Designations

- County Cork High Value Landscape
- Landscape Character Types
 - LCT 4 - Rugged Ridge Peninsulas
 - LCT 6a - Broad Fertile Lowland Valleys
 - LCT 9 - Broad Marginal Middleground & Lowland Basin
 - LCT 10a - Fissured Fertile Middleground
 - LCT 12a - Rolling Marginal Middleground
 - LCT 12b - Rolling Marginal and Forested Middleground
 - LCT 13a - Valleyed Marginal Middleground
 - LCT 15a - Ridged and Peaked Upland
 - LCT 15b - Ridged and Peaked Upland
 - LCT 16a - Glaciated and Forested Cradle Valley
 - LCT 16b - Glaciated Cradle Valley
 - LCT 16c - Glaciated and Forested Cradle Valley



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Drawing Title
Landscape Designations & Character with Half Blade ZTV

Project Title
Curraglass Renewable Energy Development, Co. Cork

Drawn By JW	Checked By JM
Project No. 190301	Drawing No. Figure 12-2
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Cork County Council Wind Energy Policy

The council reviewed its wind energy policy and formulated a Wind Energy Strategy Map which included a number of policy considerations. These included landscape and natural heritage considerations, as follows:

- > Nature Conservation Areas
- > Important Landscapes (High)
- > Important Landscapes (Medium)

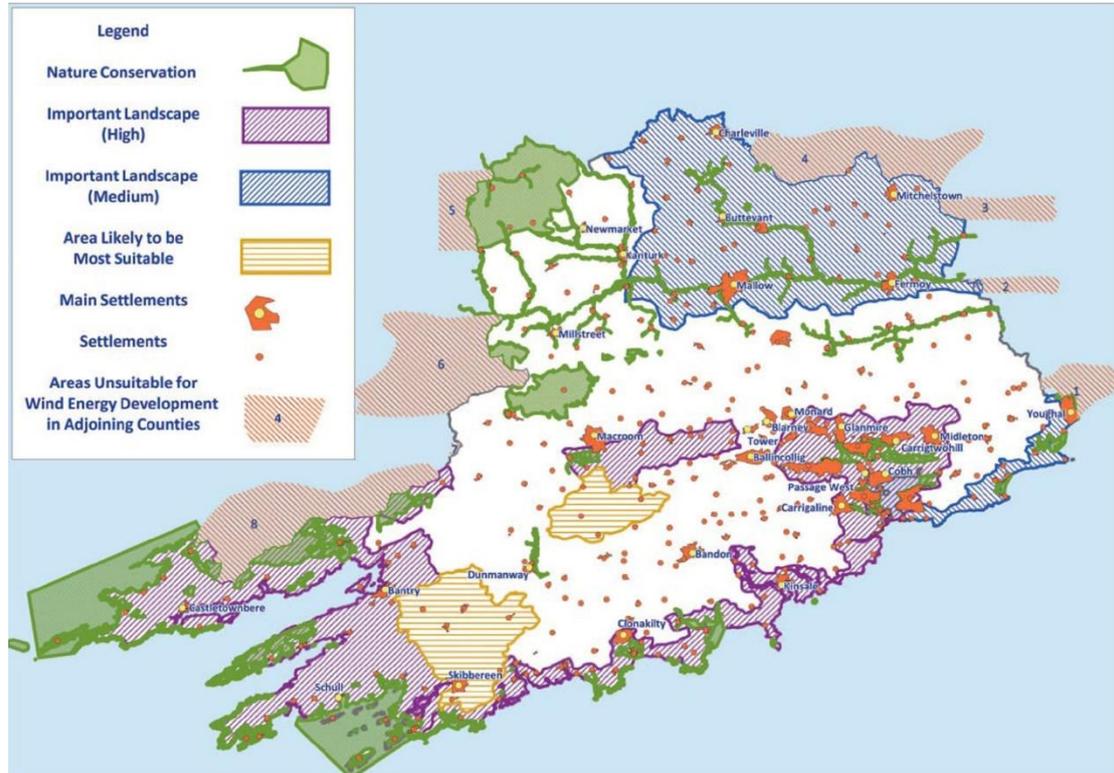


Figure 12-3 Policy Considerations for Wind Energy Projects (Cork Co. Development Plan 2014)

The Proposed Development site is not included in any of these important landscape or heritage areas.

The resulting wind energy strategy is set out in the plan and identifies three categories of ‘Wind Deployment Area’ for large scale commercial wind energy developments. These categories are:

- > Acceptable in Principle
- > Open to Consideration
- > Normally Discouraged

In the ‘Policy Considerations for Wind Energy Projects’ map in the CDP (Figure 12-2 above) the site within which turbines are proposed is identified as ‘Open to Consideration’ as shown in white. This is addressed in the CDP as:

Objective ED 3-5: ED 3-5 Open to Consideration

Commercial wind energy development is open to consideration in these areas where proposals can avoid adverse impacts on:

- > Residential amenity particularly in respect of noise, shadow flicker and visual impact;
- > Urban areas and Metropolitan/Town Green Belts;
- > Natura 2000 Sites (SPA and SAC), Natural Heritage
- > Areas (NHA’s) or adjoining areas affecting their integrity.
- > Architectural and archaeological heritage;

- Visual quality of the landscape and the degree to which impacts are highly visible over wider areas.

The CDP notes that in these areas, the cumulative effect of wind energy developments with regard to landscape and visual impacts, as well as Natura 2000 sites, will also be a consideration.

12.6.1.2 **Summary of Potential Landscape Receptors – Landscape Designations**

The only landscape designations within the study are County Cork scenic routes and areas of High Value Landscape (HVLs). Scenic routes, being of a more visual nature will be assessed as a visual receptor and HVLs essentially being Landscape Character Types will be assessed as a landscape character landscape receptor.

12.6.2 **Landscape Character of the Proposed Development Site**

12.6.2.1 **DoEHLG- ‘Wind Energy Development Guidelines for Planning Authorities’ (2006)**

These guidelines offer guidance for the siting and design of wind energy developments in various landscape contexts by defining six landscape character types that represent most situations where wind turbines may be proposed. The guidance is intended to be indicative and general and notes that it, represents the ‘best fit’ solutions to likely situations.

The six landscape character types include ‘Mountain Moorland’, ‘Hilly and Flat Farmland’, ‘Flat Peatland’, ‘Transitional Marginal Land’, ‘Urban/industrial’ and ‘Coastal’ landscape character types. The guidelines note that where a wind energy development is located in one landscape character type but is visible from another, it will be necessary to decide which might more strongly influence the approach adopted for the assessment.

While the majority of landcover is coniferous forestry, it appears to have previously been mountain moorland with patches of farmland within the site boundary and in areas surrounding the site. Therefore, the landscape characteristics of the ‘transitional marginal’ are the most appropriate to the site. To the north and east however the areas are best described as ‘mountain moorland’. Although in some cases the turbines will be viewed from this other landscape type, it is considered that in terms of the siting and design the “transitional marginal’ landscape type most strongly influences the siting and design of the Proposed Development. Further details of this landscape character types are provided below.

12.6.2.1.1 *Transitional Marginal*



Plate 12-1 View showing transitional marginal landscape type in the Proposed Development site

The key characteristics of the transitional marginal landscape type are:

- Comprises something of both mountain moorland and farmland, thus involving a mix of small fields, tight hedgerows and shelterbelts;
- May include relatively rugged and rocky terrain, and thus a reasonable degree of spatial enclosure;
- Higher ground tends to be wet and boggy. Lower areas are usually cultivated and managed as fields;
- Houses and farmsteads are usually fairly common;(see note above) and
- This landscape type bridges the organised and intensively managed farmland and the more naturalistic moorland;

The siting and design guidance given for ‘transitional marginal’ in the DoEHLG guidelines is set out below:

Location

As wind energy developments, for reasons of commercial viability, will typically be located on ridges and peaks, a clear visual separation will be achieved from the complexity of lower ground. However, wind energy developments might also be located at lower levels in extensive areas of this landscape type, where they will be perceived against a relatively complex backdrop. In these situations, it is important to minimise visual confusion such as the crossing by blade sets of skylines, buildings, utility lines and varied landcover.’

Spatial Extent

Wind energy developments in these landscapes should be relatively small in terms of spatial extent. It is important that they do not dominate but achieve a balance with their surrounds, especially considering that small fields and houses are prevalent.

Spacing

All options are possible, depending on the actual landscape characteristics. However, irregular spacing is likely to be most appropriate, given the complexity of landform and land cover typical of these landscapes, and the absence of extensive swaths of fields of regular and rectilinear pattern.

Layout

The likely location of wind energy developments on ridges suggests a linear or staggered linear layout

whereas on broader hilltops they could be linear or clustered. Grid layouts are less likely to succeed aesthetically unless there is an open continuity of similar landcover.

Height

In small-scaled enclosed areas, short turbines are preferred in order to avoid their spatial dominance and to ensure visual balance. However, where the upper ground is relatively open and visually extensive, taller turbines may be more appropriate. In terms of perceived height, the profile can be even or uneven, depending on the profile and visual complexity of the terrain involved. The more rugged and undulating, the greater the acceptability of an uneven profile provided it does not result in significant visual confusion and conflict.

Cumulative Effect

This would have to be evaluated on a case-by-case basis, but great caution should be exercised. The spatial enclosure often found in transitional marginal landscapes is likely to preclude the possibility of seeing another wind energy development. However, should two or more wind energy developments be visible within a confined setting a critically adverse effect might result, depending on turbine height and wind energy development extent and proximity.

The Proposed Development is in accordance with the above guidance in terms of location (turbines located on ridgeline), spatial extent (limited spatial extent), spacing (irregular), layout (staggered linear layout) height (taller turbines on relatively open and visually extensive upper ground) and cumulative effect (no adjacent wind developments, other wind developments are at a sufficient distance).

12.6.2.2 Site Visit Findings

12.6.2.3 Topography

The Proposed Development is south of just to the south of Foilastockeen Mountain, with the north western corner including part of the southern slope of the mountain. A spur running southwards from Foilastockeen forms a ridgeline running north to south in the centre of the site. The land slopes down to the east and west. The lowest area is in the south-eastern corner of the site at approximately 130 metres O.D. (Ordnance Datum) and the highest level is in the north-western corner at approximately 530 metres O.D.

Figure 12-4 below shows the 10 metre contour lines within the site boundary and Plate 12-2 illustrates the topography of the site when seen from the south.

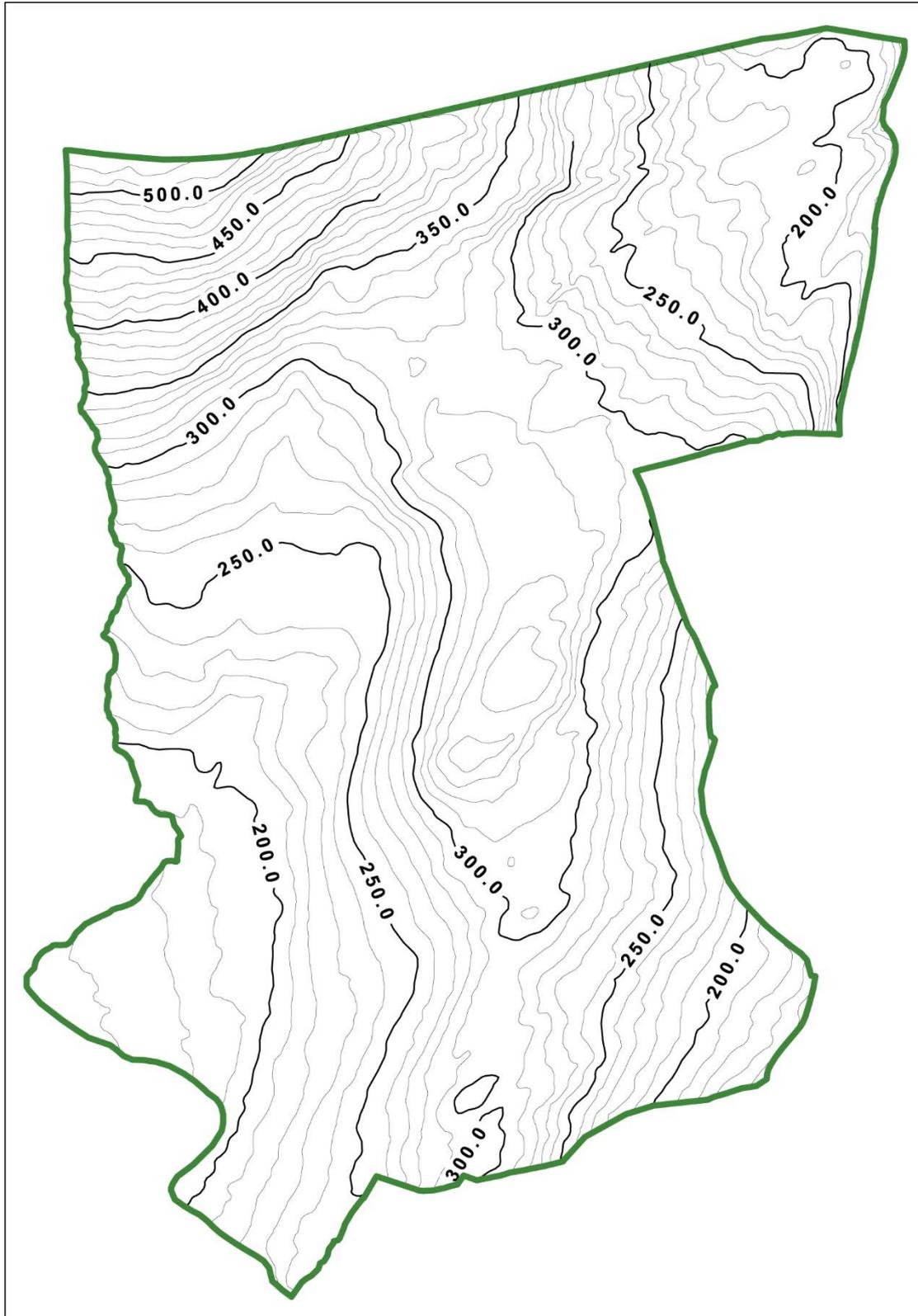


Figure 12-4 10-metre contour lines within the EIAR Site Boundary (not to scale for illustrative purposes only)



Plate 12-2 Image indicating the topography of the Proposed Development site from the south-east

12.6.2.4 Drainage

The majority of the site drains to the Lackavane River, which flows along the western boundary of the site. Several headwater streams of the Lackavane River rise along the western facing slopes. There are also headwater streams of the Owvane River flow off the steep rocky eastern facing slopes of the site. A similar hydrology exists on the northern section of the site, where several small headwater streams of the River Lee flow from the northern facing slopes of the site.

The existing forest plantations within the EIAR site boundary are generally drained by a network of mound drains which typically run perpendicular to the topographic contours of the site and feed into collector drains, which discharge to interceptor drains down-gradient of the plantation.

The forestry drains are the primary drainage routes towards the natural streams on the development site.

12.6.2.5 Landcover

Landcover is the term used to describe the combinations of vegetation and land-use that cover the land surface. It comprises the more detailed constituent parts of the landscape and encompasses both natural and man-made features.



Figure 12-5 Aerial showing landcover in the Proposed Development site

The land cover of the Proposed Development site largely comprises forestry that is being actively used for commercial purposes as seen in Plate 12-3 below. The dominant commercial species planted were sitka spruce, with smaller areas of lodgepole pine and japanese larch. In some areas the conifer planation was fringed with narrow planted bands of alder.



Plate 12-3 Coniferous plantation is the predominant landcover

There are areas of hardstand and site roads associated with the original wind farm as seen in Plate 12-4 below. The image also shows that some of these areas have begun to recolonise.



Plate 12-4 Example of hardstanding associated with previous turbines

There is existing infrastructure within the site including an existing substation associated with the original wind farm, see Plate 12-5 below.



Plate 12-5 Existing substation located in the centre of the site

Between the coniferous forestry various areas of peatland can be found as shown in Plate 12-6 below.



Plate 12-6 Peatland covers parts of the site

Wet grassland, see Plate 12-7 below, occurs throughout the study area in association with agricultural land as well as forestry and peatland edges.



Plate 12-7 Area of agricultural pasture

There are also small areas of montane heath, deciduous woodland and scrub found within the Proposed Development site.

12.6.2.6 Land Use

The predominant land use within the Proposed Development site is for commercial forestry, as seen in Plate 12-8 below, but there are also areas used for pastoral agriculture. Furthermore, the Proposed Development site was previously an operational wind farm site and has an existing on-site substation, which is a live node on the national electricity grid.

Much of the surrounding land is used as agricultural land, with some tracts of commercial forestry. However, there are extensive areas of mountain moorland, as can be seen in the background in Plate 12-8 below.



Plate 12-8 Predominant land use of the site is commercial coniferous forestry plantation

12.6.3 Landscape Value and Sensitivity of the Proposed Development Site

To determine the landscape sensitivity and value of the Proposed Development site the landscape issues pertaining to the site have been summarised in Table 12-1 below. These in turn were then summed up in a landscape value and landscape sensitivity classification of Low, Moderate and High for the Proposed Development site.

Table 12-1 Indicators of Landscape Value of the Development Site

Indicator	Description
Landscape Designations	No County Cork landscape designations fall within the Proposed Development site itself. There are designated County Cork scenic routes to the east and north of the site, the nearest of these is Co. Cork scenic route S28, approximately 850 to the east. There are also two Areas of High Landscape Value (HVA) within the 20 km study area. The nearest HVA is approximately 1.2 kilometres to the north of the nearest turbine.
Landscape Quality/Condition	There is landscape degradation relating to the commercial forestry present on site. However, there are some areas of undisturbed mountain moorland.
Wildness/naturalness	Due to the visible anthropological influences, such as commercial forestry within and around the Proposed Development site, the sense of naturalness or wildness has been diminished.
Recreation Value	There are no know recreational uses of the Proposed Development site. The nearest recreational area is Gougane Barra Forest Park to the north, which will have no visibility of the proposed turbines.

Due to the issues summarised in Table 12-1 above the landscape value of the Proposed Development site is deemed Low to Moderate and the landscape sensitivity as Moderate.

The Proposed Development site will be put forward as a landscape receptor.

12.6.4 Landscape Character of the Study Area

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 already outlined, there will be no visibility in of the Proposed Development in County Kerry, hence only the landscape character of County cork will be discussed below and in Appendix 12-2.

12.6.4.1 County Cork

The current CDP notes that it is proposed to wait until the publication of the National Landscape Strategy before commencing a review of the current 2007 Draft Cork County Landscape Strategy. The plan states that the draft strategy will be used as a supporting background document to inform the CDP in the interim, while improving its practical application in managing change in the landscape of the county.

In the Draft Cork County Landscape Strategy (2007) 76 Landscape Character Areas (LCAs) have been amalgamated into a set of 16 generic Landscape Character Types (LCTs) based on similar physical and visual characteristics. As there is very little detail on the Co. Cork LCAs, it is assumed that the LCTs are to be viewed as the equivalent to LCAs identified in other counties of Ireland and this section focuses on the LCTs falling within the LVIA study area.

There are a number of LCTs within the LVIA landscape character study area, as shown in Figure 12-2 and summarised in Table 12-2 below. However, the ZTV mapping shows that only 3 will have notable theoretical visibility. These are LCT 15a *Ridged and Peaked Upland*, in which the Proposed Development is located as well as LCT 4 *Rugged Ridge Peninsulas* and LCT 16a *Glaciated and Forested Cradle Valley*. Details of these three LCTs have been included in the landscape character assessment tables in Appendix 12-2. Appendix 12-2 also assigns a landscape sensitivity to wind energy development to each LCT based on information contained in the Cork County Draft Landscape Strategy. The tables in Appendix 12-2 also outlines the magnitude of change the LCTs are likely to experience and arrives at a ‘significance of the landscape effects’ based on a combination of the sensitivity coupled with the magnitude of change as outlined in the methodology. Cumulative landscape effects as well as mitigating factors are also addressed.

12.6.4.2 Summary of Potential Landscape Receptors – Landscape Character Areas

The County Cork LCTs falling within the 15 km landscape character study area have been listed in Table 12-2 below, where theoretical visibility obtained from ZTV mapping as well as actual visibility observed on site are also shown. As stated from the outset as the ZTV mapping clearly shows that there will be no visibility in County Kerry, landscape character areas within County Kerry have been excluded.

Table 12-2 Landscape Receptors - Landscape Character Areas

LCT	Theoretical Visibility (ZTV)	Actual Visibility
up to 5 km		
4 Rugged Ridge Peninsulas	Mixture of full and no visibility areas	Partial
15a Ridged and Peaked Upland	Mixture of full and no visibility areas	Partial

LCT	Theoretical Visibility (ZTV)	Actual Visibility
16a Glaciated and Forested Cradle Valley	Mainly no visibility with some patches of partial and full visibility	Partial
5 to 10 km		
9 Broad Marginal Middleground and Lowland Basin	Very minor areas of full visibility	Not anticipated
12a Rolling Marginal and Forested Middleground	Very minor areas of full and partial visibility	Not anticipated
12b Rolling Marginal and Forested Middleground	Full with patches of no visibility	Not anticipated
16b Glaciated Cradle Valleys	Very minor areas of full visibility	Not anticipated
16c Glaciated and Forested Cradle Valley	No visibility	Not anticipated
10 to 15 km		
6a Broad Fertile Lowland Valleys	No visibility	Not anticipated
15b Ridged and Peaked Upland	No visibility	Not anticipated

12.6.5

Landscape Receptor Preliminary Assessment

After identifying the landscape receptors in the study area based on landscape designations derived from the respective CDPs and Landscape Character Types (LCTs) taken from the Draft Cork Landscape Character Assessments, a preliminary assessment will be carried out to screen out landscape receptors that will not or only very marginally impacted by the Proposed Development.

Using the Zone of Theoretical Visibility mapping shown on Figure 12-2 the landscape receptors that will have no theoretical visibility are screened out as shown in below.

Table 12-3 Landscape Receptors Screened Out -**No visibility** indicated by ZTV map

Landscape Receptor Category	Landscape Receptor with no visibility shown on ZTV
Landscape Character Types	6a Broad Fertile Lowland Valleys
	9 Broad Marginal Middleground and Lowland Basin
	12a Rolling Marginal and Forested Middleground
	12b Rolling Marginal and Forested Middleground
	15b Ridged and Peaked Upland
	16b Glaciated Cradle Valleys
	16c Glaciated and Forested Cradle Valley

Following the pre-assessment exercise, the landscape receptors shown in Table 12-4 below have been selected for assessment due to their significance within the study area and the potential landscape effects they may experience due to the Proposed Development.

Table 12-4 Landscape receptors screened in for full assessment

Landscape Receptor Category	Landscape Receptor
Landscape of Proposed Development Site	Landscape of Proposed Development Site
Landscape Character Types	4 Rugged Ridge Peninsulas
	15a Ridged and Peaked Upland
	16a Glaciated and Forested Cradle Valley

The Landscape Character Types above have been assessed in Appendix 12-2 and summarised in Section 12.9.3.1. The landscape effects on the Proposed Development site will be outlined in Section 12.9.3.1.1.

12.7 Visual Baseline

12.7.1 Visual Receptors

The main purpose of establishing the visual baseline is to identify the key visual receptors that should be considered for viewpoint selection. To this end the following have been identified:

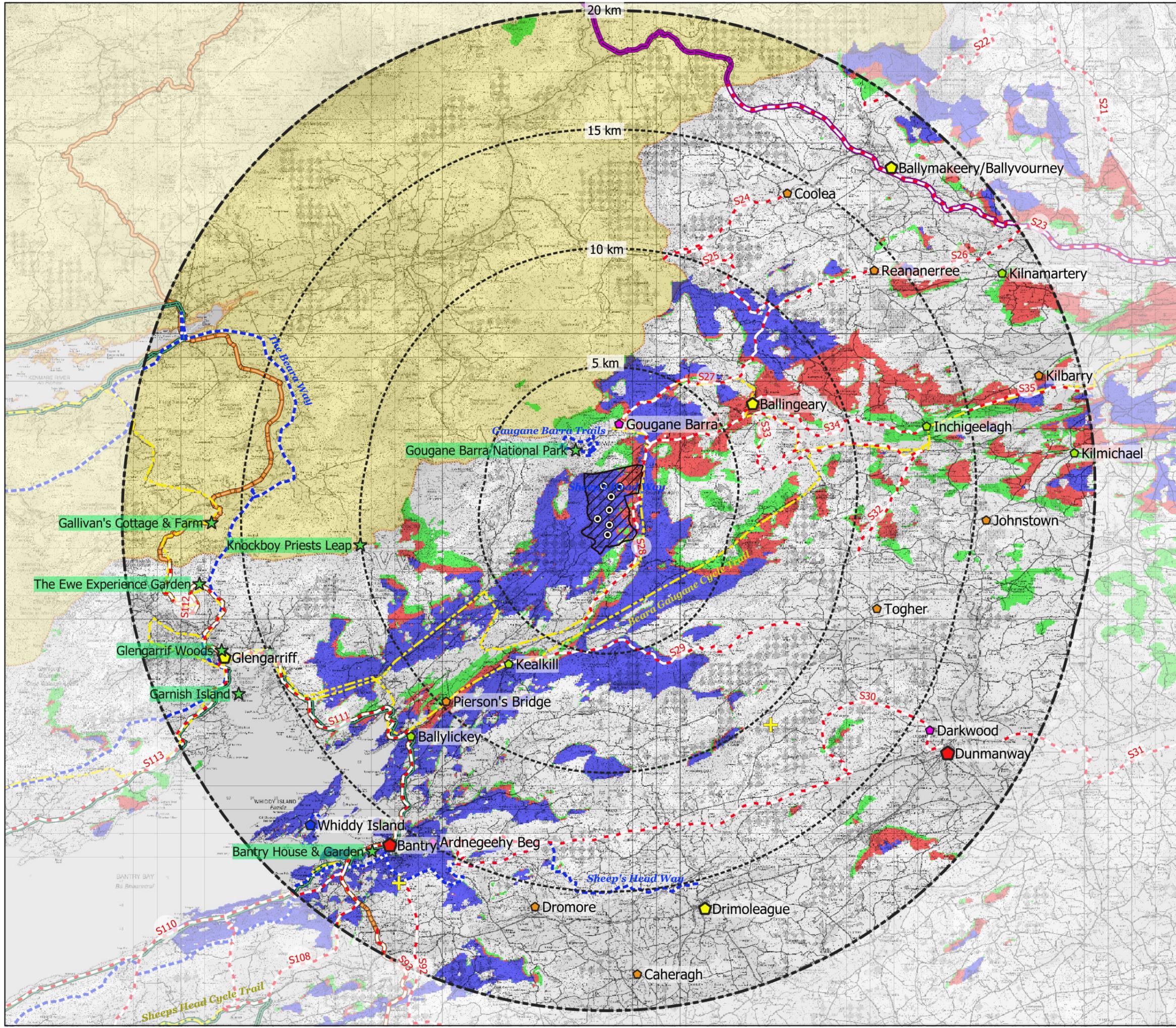
- > Designated Scenic Routes and Scenic Views
- > Settlements and house clusters
- > Recreational and Tourist Destinations
- > Recreational Routes
 - Waymarked Walking Routes
 - Cycle Routes
 - Scenic Drives
 - Tourist Routes (e.g. Wild Atlantic Way)
- > Viewing Points (e.g. marked on OS Maps)
- > Transport Routes

These visual receptors are listed in tables in the following sections along with theoretical visibility at those locations indicated by the ZTV maps. All visual receptors are shown on Figure 12-6 *Half Blade ZTV & Visual Baseline*.

12.7.1.1 Designated Scenic Routes and Scenic Views

12.7.1.1.1 County Cork

Scenic routes within the study area designated in the Cork County Development Plan 2014 are listed in Table 12-5 below. The table lists the scenic route number, the focus of the view from the scenic route stated in the CDP, whether this view is directed towards the proposed turbine and if there is theoretical visibility indicated by the ZTV map.



Map Legend

- ⊙ Proposed Curraglass Turbines
- ▨ EIAR Site Boundary
- - - LVIA Study Area Boundary
- County Kerry
- Half Blade ZTV
 - 5 - 7 Turbines
 - 3 - 4 Turbines
 - 1 - 2 Turbines
- Visual Receptors
 - County Cork Designated Scenic Route
 - Tourist Route - The Wild Atlantic Way
 - Recreational Route - Way Marked Trail
 - Recreational Route - Cycling Trail
 - Transport - National Primary Road
 - Transport - National Secondary Road
 - Recreational and Tourist Destinations
 - Osi Viewing points
- Settlement Hierarchy
 - County Town
 - Key Villages
 - West Cork Island Community
 - Village
 - Village Nuclei
 - Other Locations



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 Ordnance Survey Ireland/
 Government of Ireland

Drawing Title	
Visual Baseline & Half Blade ZTV	
Project Title	
Curraglass Renewable Energy Development, Co. Cork	
Drawn By	Checked By
JW	JM
Project No.	Drawing No.
190301	Figure 12-6
Scale	Date
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Table 12-5 Scenic Routes within 20 kilometres (Co. Cork)

No.	Location of Route	Focus of View	ZTV	Direction
Up to 5 km				
S27	Local Road between Gougane Barra and the Mouth of the Glen.	Views of Coomataggart Mountain, hills, valleys and Gougane Barra.	Partial	Partial
S28	R584 Regional Road, Scenic road at the Pass of Keimaneig to Gougane Barra.	Views of the surrounding remote rural landscape and rugged mountains.	Partial	Yes
S29	R585 Regional Road to Kealkill via Cousane Cao to Derragh Bridge.	Views of remote mountainous landscape.	Partial	Yes
S34	R384 Regional Road between Inchigeelagh and Ballingearry to Keimaneigh.	Views of Lough Allua, Lee River Valley, Shehy Mountains, hills and surrounding rugged landscape.	Partial	Partial
5 to 10 km				
S25	Section of winding local road joining The Coom and Reananerree Road.	Views of Foilanumera, Mweelin and Carrigalougha Mountains.	Partial	No
S26	Local Road between Liscreisig and the Mouth of the Glen.	Views of rugged landscape and valleys.	Partial	Partial
S32	Local Roads from South Lake Road, Inchigeela and Ballingearry, via Curraheen to Tullagh.	Views of Lough Allua and the surrounding Mountains.	No	Partial
S33	Local Road between Ballingearry - branch off S. Lake Road and Kealvaugh.	Views of Lough Allua surrounding lakes, hills and remote rural landscape.	Partial	Partial
10 to 15 km				
S24	Local Road between Coolea and Coom.	Views of the foothills of the Derrnsaggart Mountains, surrounding hills and the Sullane River.	No	No
S30	Local Roads between Dunmanway and Coolkellure, Castledonovan and Bantry.	Views of hills, mountains the Rivers Clodagh, Ilen and Owennashingaun, Lough Bofinna and the surrounding rugged remote rural landscape.	Partial	Partial
S35	Local Road between Dromcarra and Rossmore	Views of rolling hills, open countryside, valley, the River Lee & distant mountain views	Partial	Partial
S111	N71 National Secondary Road from Bantry, Ballylickey and Glengarriff.	Views of Bantry Bay, Whiddy Island, Glengarriff Harbour and	Partial	Partial

No.	Location of Route	Focus of View	ZTV	Direction
		Mullaghmesha, Sheehy, Coomhola and Cobduff Mountains.		
15 to 20 km				
S22	Local road to south east of Derrynasaggart Mountains from Cauncarrig to Bohill.	Views of Derrynasaggart Mountains, rockscapes, river valleys and remote rural landscape.	No	Partial
S23	N22 National Primary Route from Macroom to Ballyvourney to County Boundary.	Views of Derrynasaggart Mountains surrounding hills, Sullane River Valley and rugged landscape.	No	Partial
S31	Local Road, R637 and R586 Regional Roads between Ballineen and Ballincarriga to Dunmanway.	Views of mature woodland, rolling hills and remote rural landscape.	No	Partial
S92	Local Roads between Derreengreanagh and Aghadown via Ballybane.	Views of Mount Kid, Coomnagragh & Knocknaveagh Mountains, Sprat Hill & surrounding remote rural landscape	No	Partial
S93	N71 National Secondary Route between Ballydehob and Parkana.	Views of Bawnaknockane & Durrus Rivers, Mount Kid, Coomnagragh Mountain & hills	No	No
S108	N71 National Secondary Route, R591 Regional Route and Local Road from Bantry via Durrus and Ahakista to Kilcrohane.	Views of Dunmanus Bay and Islands, the Mizen Peninsula, and the Cahir, Seefin, Rosskerrig and Knockboolteenagh Mountains.	Partial	No
S110	Local Road from Bantry to Kilcrohane, Ahakista and Clashadoo.	Views of Dunmanus Bay and Bantry Bay, Whiddy Island, Caher, Seefin, Gouladane, Knockboolteenagh, Adrigole, Glenlough and Sugarloaf Mountains, Hungry Hill, Bere Island, and the Beara Peninsula.	Yes	No
S112	N71 National Secondary Road from Glengarriff to Kenmare (County Bounds).	Views of Glengarriff Harbour and Barraboy, Esk and Caha Mountains.	No	No
S113	R572 Regional Road between Glengarriff, Trafesk, Ardrigole and Castletownbere.	Views of Glengarriff Harbour, Bantry Bay, Whiddy & Bear Islands, Bear Haven, Shrone & Hungry Hills, & the Gowlbeg, Sugarloaf, Caha, Adrigole & Slieve Miskish Mountains	No	No

12.7.1.2 Settlements

In order to identify which settlements within the study area to be considered for viewpoint selection the settlement strategies and hierarchies outlined in the core strategies of the Cork CDP was consulted. The settlement hierarchies are presented by county below.

The network of settlements is set out in Section 2.3 of the Cork County Development Plan 2014 as follows:

- > Cork Gateway
- > Hub Town
- > Ring Towns
- > County Towns
- > Key Villages
- > West Cork Island Communities
- > Villages
- > Village Nuclei
- > Other Locations

Table 12-6 below lists the settlements identified from the Cork CDP within the LVIA study area also noting their county status within the settlement strategy and whether there is theoretical visibility indicated by the ZTV.

Table 12-6. Significant Settlements within the Study Area

Settlement	Settlement Hierarchy	Theoretical Visibility (ZTV)
Up to 5 km		
Gougane Barra	Other Locations	No
5 to 10 km		
Ballingeary	Key Village	Partial
Kealkill	Village	Yes
Pierson's Bridge	Village Nuclei	Partial
10 to 15 km		
Ballylickey	Village	Yes
Coolea	Village Nuclei	No
Inchigealagh	Village	Partial
Reenanerree	Village Nuclei	No
Togher	Village Nuclei	No
15 to 20 km		
Ballymakeery/Ballyvourney	Key Village	No
Bantry	County Town	Partial
Caheragh	Village Nuclei	No
Darkwood	Other Location	No
Drimoleague	Key Village	No
Dromore	Village Nuclei	No

Settlement	Settlement Hierarchy	Theoretical Visibility (ZTV)
Dunmanway	County Town	No
Glengarriff	Key Village	No
Johnstown	Village Nuclei	No
Kilbarry	Village Nuclei	No
Kilmichael	Village	No
Kilnamartary	Village	No
Whiddy Island	Other Location	Partial

12.7.1.3 Recreational and Tourist Destinations

Recreation and tourist destinations were identified after consulting Chapter 8 of Cork CDP as well as checking the most popular destinations in County Cork on Tripadvisor.ie. All are shown on Figure 12-6 and listed in Table 12-7 below

Table 12-7 Recreational and Tourist Destinations in the Study Area

Destination	Description	Theoretical Visibility (ZTV)
Up to 5 km		
Gougane Barra National Forest Park	National Forest Park	No
15 to 20 km		
Bantry House & Gardens	Stately home and ornamental gardens	No
Garnish Island	Ornamental Gardens	No
The Ewe Experience	Sculpture Trail	No
Glengarriff Bamboo Park	Exotic Gardens and Beach	No

12.7.1.4 Recreational Routes

Waymarked walking routes, cycle routes, scenic drives and tourist routes (e.g. the Wild Atlantic Way) were identified within the study area. The routes are shown on Figure 12-6 and are listed in Table 12-8 below along with theoretical visibility shown on ZTV mapping for the routes.

Table 12-8 Recreational Routes in the Study Area

Route Name	Description	Theoretical Visibility (ZTV)
Gougane Barra Trails	Various Walking/Hiking Trails	No
Beara Gougane Cycling Route	Cycle Trail	Partial
Sheep's Head Way	National Waymarked Trail	Partial

Route Name	Description	Theoretical Visibility (ZTV)
Beara Way	National Waymarked Trail	No
Wild Atlantic Way	National Scenic Drive	Partial
Sheep's Head Cycle Route	Cycle Trail	Partial

12.7.1.5 Viewing Points (OSI)

Within the study area there are two viewing points marked on the OSI map none of which are within 10 km of the Proposed Development. They are listed in Table 12-9 below along with the county the view is located in, whether there is theoretical visibility indicated in the ZTV map and if the view is in the direction of the turbines.

Table 12-9 Viewing points marked on OSI map in the study area

Location	ZTV	Direction
10 to 15 km		
Viewpoint on the L-4611 local road in the townland of Annees. overlooking Cullenagh Lake.	No	Partial
15 to 20 km		
The Wild Atlantic View, viewing point off an unnamed road in Dromleigh Heights, Bantry.	Yes	Partial

12.7.1.6 Transport Routes

For the purpose of viewpoint selection national primary and secondary roads as well as regional roads within the study area were assessed in detail. There are no national primary and secondary routes within 10km of the Proposed Development. Transport routes are further assessed within 5 kilometres of the site as part of the route screening analysis and visibility from these routes is discussed separately in Section 12.9.3.3.4.

Table 12-10 Significant Transport Routes within the Study Area

Transport Route	Theoretical Visibility (ZTV)
Up to 5 km	
R584	Partial
R585	Partial
10 to 15 km	
N71	Partial
15 to 20 km	
N22	No visibility
R569	No visibility

Transport Route	Theoretical Visibility (ZTV)
R571	No visibility
R572	No visibility
R586	No visibility
R587	No visibility
R591	Partial
R593	No visibility
R594	No visibility
R599	No visibility

12.7.2 Visual Receptor Preliminary Assessment

After identifying the visual receptors in the study area based on designated scenic routes and scenic views, settlements, recreational and tourist destinations, recreational routes, OSI viewing points and transport routes a preliminary assessment will be carried out to screen out visual receptors that will not be impacted by the Proposed Development.

Using the Zone of Theoretical Visibility mapping shown on Figure 12-6 as well as in the AO ZTV map (Appendix 12-4), the visual receptors that will have no theoretical visibility are screened out as shown in Table 12-11 below.

Table 12-11 Visual Receptors Screened Out - **No visibility** indicated by ZTV map

Visual Receptor Category	Visual Receptor with no visibility shown on ZTV	
Designated Scenic Routes and Scenic Views	S22, S23, S24, S31, S32, S92, S93, S112, S113	
Settlements	County Town	Dunmanway
	Key Village	Ballymakeery/Ballyvourney, Drimoleague, Glengarriff
	Village	Kilmichael, Kilnamartary
	Village Nuclei	Caheragh, Coolea, Dromore, Johnstown, Kilbarry, Reenanerree, Togher
	Other Location	Darkwood, Gougane Barra
Recreation Destinations	Gougane Barra National Forrest Park, Bantry House & Gardens, Garnish Island, The Ewe Experience, Glengarriff Bamboo Park	
Recreation Routes	Gougane Barra Trails, Beara Way	
OSi Viewing Points	Cullenagh Lake Viewing Point	

Visual Receptor Category		Visual Receptor with no visibility shown on ZTV
Transport Routes		N22, R569, R571, R572, R586, R587, R593, R594, R599

Directions have been indicated for viewpoints shown on OSI maps and designated scenic routes by either written text or on accompanying maps in the respective CDPs. Therefore, the viewing points, protected views and scenic routes within the study area, listed in Table 12-12, that are not directed towards the proposed turbines have been screened out from further assessment.

Table 12-12 Designated Scenic Views, Scenic Routes and Viewing Points Screened Out - Direction of View

Visual Receptor Category	Views, Scenic Routes and Viewing Points Screened Out
Designated Scenic Routes and Scenic Views	S25, S108

For the remaining visual receptors visibility was assessed on site. In the case of the visual receptors shown in Table 12-13, below, views towards the turbines were either entirely screened or substantially screened. This along with in some cases distance to the Proposed Development site precluded these locations being selected as viewpoints.

Table 12-13 Visual Receptors Screened Out -no visibility found on site

Visual Receptor Category		Visual Receptor with no significant visibility found on site
Designated Scenic Routes and Scenic Views		S33, S35, S111
Settlements	Key Village	Ballingeary
	Village	Ballylickey, Inchigealagh
	Village Nuclei	Pearson's Bridge
Transport Routes		R591

Following the pre-assessment exercise the visual receptor shown in Table 12-14 have been selected as viewpoints due to their significance within the study area and the potential visual effects they may experience due to the proposed wind energy development.

Table 12-14 Visual receptors screened in and selected as viewpoints

Visual Receptor Category	Description	Viewpoint
Designated Scenic Routes and Scenic Views	S26	12
	S27	11
	S28	8 & 10
	S29	4 & 5
	S30	3
	S34	9

Visual Receptor Category	Description	Viewpoint
	S110	1
Settlements	Bantry	1
	Kealkill	4
	Whiddy Island*	1
Recreational Routes	Beara Gougane Cycling Route	7, 9 & 11
	Sheep's Head Way	1
	Sheep's Head Cycle Route	1
	Wild Atlantic Way	1
OSi Viewing Points	Wild Atlantic View, Bantry	2
Transport Routes	N71	1
	R584	8 & 9
	R585	4 & 5

* Due to the close proximity of Viewpoint 1 to the Whiddy Island this viewpoint will also be used to assess the visual impact on the island.

Furthermore, a viewpoint within 3 kilometres (Viewpoint 6) was also included to assess the visual effects of the proposed turbines in comparison to the previous turbines.

Cumulative Baseline

In terms of cumulative landscape and visual effects only other wind energy projects have been considered, as only these would be described as very tall vertical elements in the landscape and therefore give rise to significant cumulative effects. Other wind energy developments, within 20km of the Proposed Development, were identified by searching past planning applications lodged through the various Planning Authorities (Cork County Council, Kerry County Council, and An Bord Pleanála) online planning portals. The information identified in the initial planning search was then used to verify, by means of a desk-based study and ground-truthing, whether the permitted wind energy developments had been constructed. The list of existing and permitted wind turbines present within the study area are listed in Table 12-15 below.

Table 12-15 Existing and Permitted Wind Farms within 20 kilometres

Wind Farm	Status	No. of Turbines	Blade Tip Height (m)
Co. Cork			
Millane Hill	Existing	9	72.5
Currabwee	Existing	7	70.5
Derragh	Existing	6	150
Glanta Commons	Existing	21	99.5
Shehy More	Permitted (Under Construction)	11	131
Carrigarierk	Permitted (Under Construction)	5	148.5
Cleanrath	Existing	11 (9 built)	150
Knockeenboy	Permitted	6	105.5
Derreenacrinnig West	Permitted	7	81
Knocknamork	Permitted	7	150
Killaveenogue	Existing	10	150
Co. Kerry			
Sillahertane	Existing	10	82.5
Clydraghroe	Existing	4	109.5
Coomagearlaghy	Existing	15	125
Inchicoosh	Existing	6	125
Midas	Existing	23	86/130
Lettercannon	Existing	7	125
Grousemount	Existing	38	107.5



The proposed Curraglass turbines will be assessed alongside the above turbines to separately determine the cumulative landscape and visual effects.

12.9 Likely or Significant Landscape and Visual Effects

12.9.1 'Do-Nothing' Scenario

If the Proposed Development were not to proceed, no changes would be made to the current land-use practice of forestry and the site would continue to be managed under the existing commercial forestry arrangements.

It is anticipated that the Proposed Development site would not change significantly from its present state from a landscape and visual perspective.

In implementing the 'Do-Nothing' alternative, however, the opportunity to capture a significant part of County Cork's renewable energy resource would be lost, as would the opportunity to contribute to meeting Government and EU targets for the production and consumption of electricity from renewable resources and the reduction of greenhouse gas emissions. The opportunity to generate local employment, a development contribution, rates and investment would also be lost. On the basis of the positive environmental effects arising from the project, the do-nothing scenario was not the chosen option.

12.9.2 Construction Phase Effects

It is estimated that the construction phase of the Proposed Development will last between approximately 12 to 18 months. This stage of the development will involve construction of site roads, turbine hardstand areas, met mast, borrow pits, temporary construction compound and the electricity substation as well as the movement of construction and turbine transport vehicles, including temporary upgrades to a proposed turning area along the R584, into and out of the site, to allow the construction of the turbines and associated elements.

12.9.2.1 Landscape Effects

It is considered that this is a Short-term, Imperceptible, Negative effect in terms of landscape effects.

12.9.2.2 Visual Effects

Most of the 12 to 18 months of the construction phase will be close to ground level and therefore not generally visible outside the proposed site boundary. The erection of turbines occurs towards the end of this period, at which point the visual effects will be similar to those during the operational phase. The works required along the haul route will only last for the duration of the construction phase and will be temporary in nature. For more details on the visual effects of the ancillary project elements see 'Ancillary Project Elements' in Section 12.9.3 Operational Phase Effects, below.

Hence, during the construction phase, the proposed turbines and ancillary project elements will give rise to a Short-term Slight, Negative visual effect.

12.9.3 Operational Phase Effects

12.9.3.1 Landscape Effects

12.9.3.1.1 *Landscape Character of the Proposed Development Site*

The introduction of vertical structures in the Proposed Development site, to the south-west of the central ridgeline will result in the landscape character of the Proposed Development site undergoing a change in character from its present condition. However, the site was previously used for wind energy generation until the turbines were dismantled in June 2018. Hence there is a precedent to introducing vertical structures at this site. There will also be a minor localised change around the ancillary project infrastructure.

1.1.1.1.1 Landscape Character Types

An assessment of the effects on landscape character was undertaken for the three County Cork LCTs within the study area that were identified as having notable visibility in the Landscape Receptor Preliminary Assessment above and listed in Table 12-4 of the same section. The individual assessments for each LCT are summarised in Table 12-16 below and included in detail in Appendix 12-2 Landscape Character Assessment Tables.

Table 12-16 Landscape character assessment summary

Landscape Character Types (LCT)	County	LCT Sensitivity to Wind Farm Development	Magnitude of Change	Significance of Landscape Character Effect
15a Ridged and Peaked Upland	Cork	Moderate	Moderate	Moderate
4 Rugged Ridge Peninsulas	Cork	High	Slight	Not Significant
16a Glaciated and Forested Cradle Valley	Cork	Very High	Negligible	Moderate

The greatest landscape effects (“Moderate”) will be experienced in LCT *15a Ridged and Peaked Upland*, where the turbines will be located and LCT *16a Glaciated and Forested Cradle Valley*. While the ZTV indicates extensive visibility of the proposed turbines in approximately half of LCT 15a, screening by largely dense roadside vegetation considerably mitigates the potential landscape effects.

The ‘Moderate’ landscape effects predicted to occur in LCT *16a Glaciated and Forested Cradle Valley* are predominantly a result of sensitivity of the landscape receptor, as shown in Table 12-16 above, and are not due to changes anticipated to the landscape character. The magnitude of change is considered negligible as there will be very minor visibility of the proposed turbines within this LCT. This is primarily due to the topography which screens the site from this high value LCT.

There will be slightly more theoretical visibility in LCT *4 Rugged Ridge Peninsulas* than in LCT 16a, but due to distance from the proposed turbines the landscape effects are considered ‘Not Significant’.

12.9.3.2 Cumulative Landscape Effects

After identifying the cumulative baseline and cumulative status for each of the Cork LCTs it was assessed whether the additional proposed turbines would change the status of the individual LCTs. Although, it was found that the proposed turbines would slightly add to the cumulative landscape status in all LCTs, there will be no change in the cumulative landscape status as outlined in the methodology in Appendix 12-1.

Therefore, the cumulative landscape effects are considered **Low** in all the LCTs brought forward for assessment.

12.9.3.3 Visual Effects

12.9.3.3.1 Assessments of Alternative Turbine Envelope

This LVIA also assessed whether different turbine designs may give rise to visual effects. For the purpose, Viewpoint 7 was chosen as a representative viewpoint to compare the difference between the representative turbine used in all the photomontages (112m hub height and 133m rotor) with an alternative turbine of 120m hub height and 117m rotor diameter. An additional photomontage was prepared using these different turbine dimensions. This additional photomontage is shown in the photomontage booklet following Viewpoint 7. The two different turbine designs shown from this

viewpoint were compared to see if a different turbine design would change the assessment of visual effects of the Proposed Development.

The alternative photomontage prepared for Viewpoint 7 shows that the using an alternate turbine design would have an imperceptible visual impact.

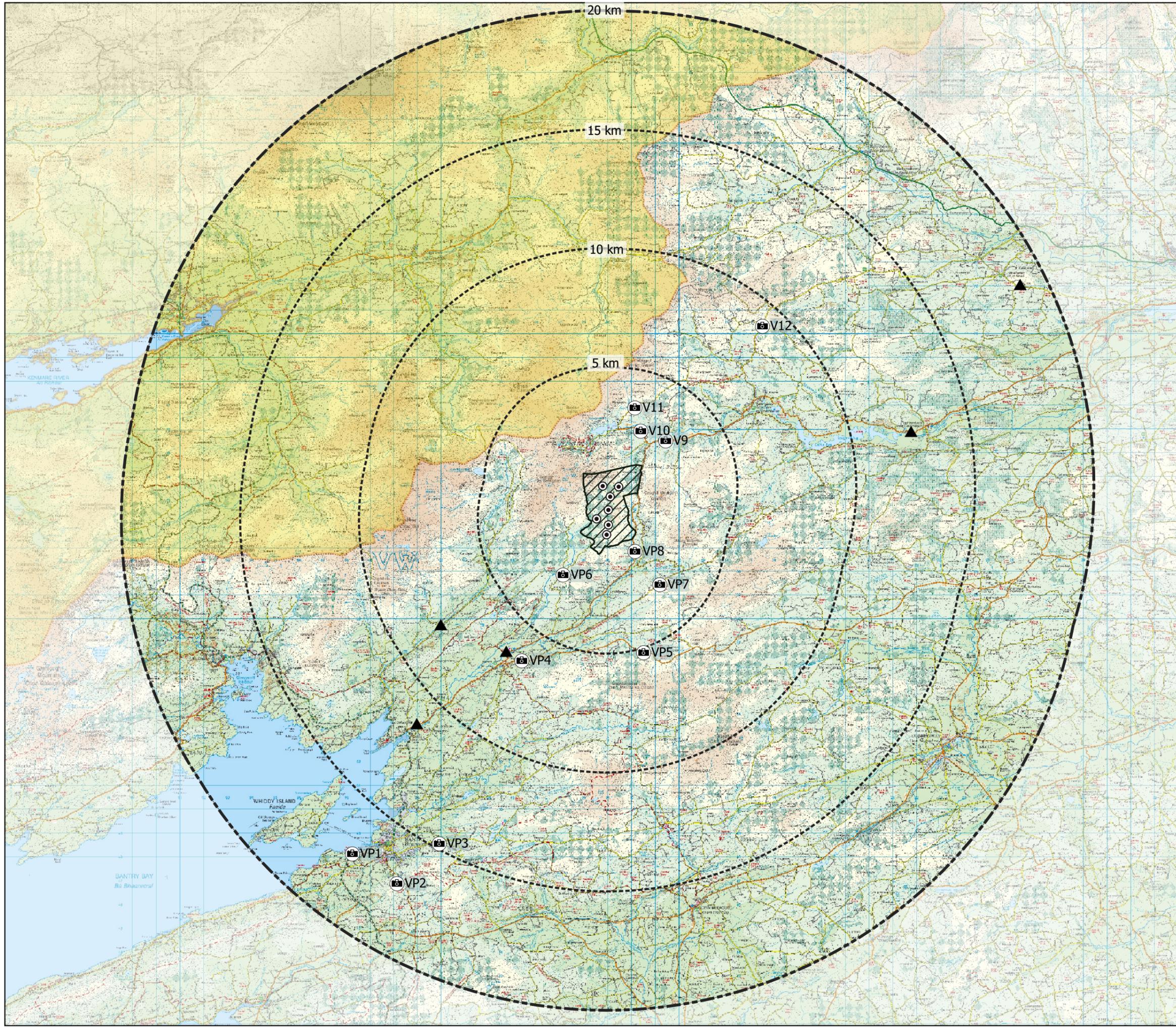
12.9.3.3.2 *Summary of Viewpoint Assessment*

An assessment of the visual effects of the proposed turbines was undertaken from the 12 viewpoint locations identified in Section 12.7.2 above using the assessment methodology described in Appendix 12-1. The locations of these viewpoints are shown in Figure 12-7, below. The individual assessments from the 12 viewpoints are presented in Appendix 12-3 and summarised in Table 12-17 below. Appendix 12-3 and Table 12-17 should be read in conjunction with the photomontage booklet forming Volume 2 of the EIAR.

The locations chosen for photomontages follow a detailed and extensive process including review of baseline information, site visits and high-quality photo taking at multiple locations within the LVIA study area. Many locations, which based on a desktop review had the potential for views of the site, had complete intervening screening or were screened to such an extent that the development of photomontages was not considered useful in terms of the assessment process i.e. little or no visibility towards the Proposed Development. The various locations where very limited or no visibility was observed are shown on Figure 12-7 for information purposes.

The visual effect of the proposed wind turbines was assessed from each viewpoint in terms of the sensitivity of the visual receptors, along with the magnitude of change, as recommended in the GLVIA (2013) guidelines. This, in conjunction with a detailed review of the photomontages themselves and the ZTV maps, informed the visual effects assessment.

Visualisations such as photomontages are tools that can represent the likely effect of a development and are used to inform the reader's prediction of how that development will appear in the landscape. In terms of the predicted visual quality of the proposed turbines however, i.e. whether a visual effect is deemed to be positive, negative or neutral, this involves a degree of subjectivity. What appears to be a positive effect to one viewer could be deemed to be a negative effect by another viewer. All predicted visual effects of the viewpoints below are Long Term and Direct effects.



Map Legend

-  Proposed Curraglass Turbines
-  EIAR Site Boundary
-  LVIA Study Area Boundary
-  County Kerry
-  Photomontage Viewpoints
-  Preliminary Viewpoint - No Visibility



Drawing Title	
Photomontage Viewpoint Locations	
Project Title	
Curraglass Renewable Energy Development, Co. Cork	
Drawn By	Checked By
JW	JM
Project No.	Drawing No.
190301	Figure 12-7
Scale	Date
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Table 12-17 Viewpoint Assessment Summary

VP No	Description	Grid Ref. (ITM)	Approx. distance & direction to nearest turbine	Visual Sensitivity of Receptor(s) (at viewpoint)	Magnitude of Change	Residual Significance of Visual Effect
1	View from the N71 national road in the townland of Abbey. Designated Co Cork scenic route S110 and on the Wild Atlantic Way.	E 498,229 N 548,213	17.1 km SW	High	Negligible	Not Significant
2	View from the 'Wild Atlantic View' viewing point on the L-4713 local road in the townland of Dromleigh South.	E 500,104 N 546,962	17.3 km SW	High	Negligible	Not Significant
3	View from the L-4712 local road in the townland of Ardnageehy Beg. Designated Co Cork scenic route S30.	E 501,883 N 548,640	14.7 km SW	High	Negligible	Not Significant
4	View from the R585 regional road in the townland of Kealkil. Designated as a scenic route S29.	E 505,344 N 556,305	6.3 km SW	High	Negligible	Not Significant
5	View from the R585 regional road in the townland of Maughanaclea. Designated Co Cork scenic route S29.	E 510,482 N 556,673	5.2 km S	High	Slight	Slight
6	View from the L-8781 local road in the townland of Derryfadda.	E 507,093 N 559,941	2.5 km SW	Low	Moderate	Slight
7	View from in the L-8776 local road and Beara Gougane Barra Cycling Route in the townland of Gortloughra.	E 511,163 N 559,531	3 km SE	Low	Moderate	Slight
8	View from the R584 regional road north from the townland of Cappaboy Beg. Designated Co Cork scenic route S28.	E 510,119 N 560,929	1.2 km SE	High	Moderate	Moderate
9	View from the R584 regional road and Beara Gougane Barra Cycling Route in the townland of Inchi More. Designated Co Cork scenic route S34.	E 511,413 N 565,578	2.8 km NE	High	Slight	Slight

VP No	Description	Grid Ref. (ITM)	Approx. distance & direction to nearest turbine	Visual Sensitivity of Receptor(s) (at viewpoint)	Magnitude of Change	Residual Significance of Visual Effect
10	View from R548 regional road and Beara Gougane Barra Cycling Route in the townland of Garrynapeaka, approximately 1.2km east from the Chapel at Gougane Barra Designated Historical and Cultural Structure (within a High Value Landscape area). Designated Co Cork scenic route S28.	E 510,362 N 565,989	2.5 km N	High	Slight	Slight
11	View from the No. L-7406 local road and Beara Gougane Barra Cycling Route in the townland of Rossalougha. It is also approximately 1.3km north-east of the Chapel at Gougane Barra Designated Historical and Cultural Structure (within a High Value Landscape area). Designated Co Cork scenic route S27.	E 510,091 N 566,967	3.4 km N	High	Slight	Slight
12	View from the L-3401 local road in the townland of Augeris. Designated Co Cork scenic route 26.	E 515,482 N 570,399	9.1 km NE	High	Slight	Slight

The assessment of visual effects determined the residual significance of the visual effects to range from ‘not significant’ to ‘moderate’, with the number at findings at each level of significance listed in Table 12-18, below.

Table 12-18 Summary of Viewpoint Impact Assessment Results

Significance of Residual Visual Effect	Description	No. of Viewpoints
Profound	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment	0
Very significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment	0
Significant	An effect, which by its character, magnitude, duration or intensity alters a sensitive aspect of the environment	0
Moderate	An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends	1
Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities	7
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.	4
Imperceptible	An effect capable of measurement but without significant consequences	0

The significance of the residual visual effect was not considered to be “Profound”, “Very Significant” or “Significant” at any of the 12 viewpoint locations. A residual visual effect of “Moderate” was deemed to arise at the nearest of the 12 viewpoint locations. All other viewpoints were assessed as resulting in Slight (7) and Not Significant (4) residual visual effects.

The viewpoint assessment results with regard to specific areas and visual receptors will be discussed in more detail in the following sections.

12.9.3.3.3 Visual Effects in the overall study area

Generally, overall visual effects are strongly guided by ZTV mapping (based purely on topography, in this case 10-meter contour data) as an indication of areas that will have no visibility of proposed turbines and areas that will have theoretical visibility. The level of certainty for areas where no visibility is indicated by ZTV is very high. On the contrary, in areas where the ZTV mapping shows theoretical visibility this will not have taken account of local variations in ground levels not represented by the 10 metre contour data and more importantly vertical objects such as vegetation, buildings and other structures that will block views of the proposed turbines.

The ZTV map for the proposed Curraglass turbines generally shows a narrow band of intermittent theoretical visibility stretching from the south-west to the north-east. There will be no visibility in County Kerry save for some very minor patches in remote areas near the county border. There will also not be any visibility in extensive areas beyond 10 kilometres from the south stretching up to the east. From the

east to the north there are patches of full theoretical visibility that gradually reduce in size and frequency with distance from the proposed turbines.

12.9.3.3.4 *Visual effects within five kilometres of the site*

Route Screening Analysis

In order to comprehensively demonstrate the varying characteristics of the roads and to record the actual visibility in comparison to the theoretical visibility shown on the ZTV mapping, a methodology was developed termed Route Screening Analysis, and this was undertaken from all roads within a five-kilometre radius of the proposed turbines. The full methodology is outlined in Appendix 12-1 and the categories recorded were as follows:

- Little/no screening - mainly open and with some very light vegetation (Plate 12-9)
- Intermittent/Partial Screening - light deciduous roadside vegetation and vegetation with short gaps which would allow intermittent or partial views (see Plate 12-10)
- Dense Screening - vegetation which is dense enough to block views e.g. coniferous forestry (see Plate 12-11)



Plate 12-9 Example of 'little/no screening' along a local road south west of the turbines; marked as point 28 on Fig 12-8

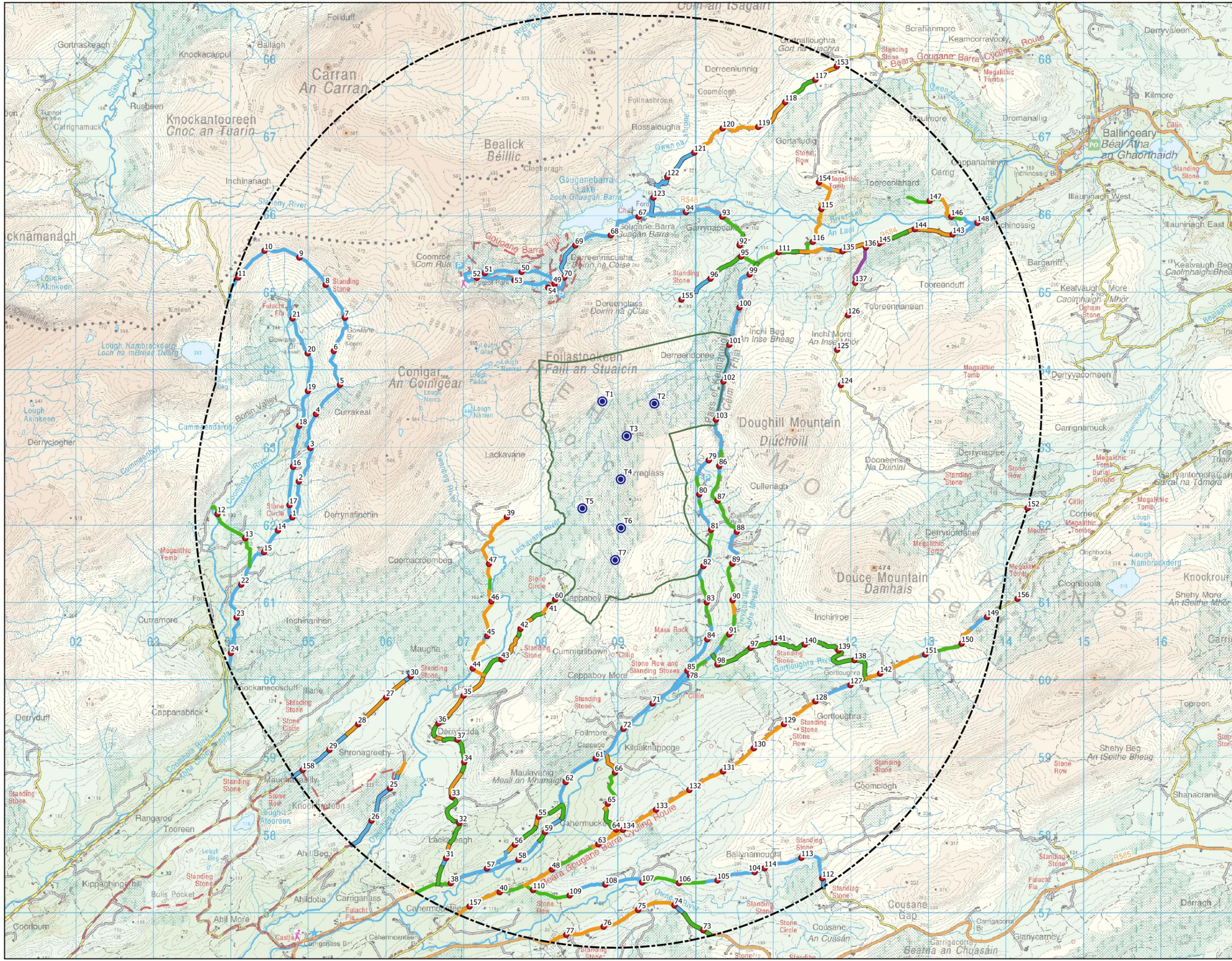


Plate 12-10 Example of ‘intermittent/partial screening’ on Local road to the east of R584 and the turbines; marked as point 141 on Fig 12-8



Plate 12-11 Example of Route Screening category - dense screening; marked as point 102 in Figure 12-8 on the R584 to the east of the turbines.

Figure 12-8 below outlines the route screening within a five-kilometre radius of the proposed turbines. This figure indicates that the majority of the roads within 5 kilometres of the site have intermittent/partial screening. Therefore, the full theoretical visibility indicated by the ZTV for these roads will be substantially reduced by screening.



Map Legend

- Site Boundary
- Turbines Locations
- 5km Buffer
- Photo Locations (every 500m)
- Little/No Screening
- Intermittent Screening
- Dense Screening
- Little/No Screening (Combined Both Sides)
- Intermittent Screening (Combined Both Sides)
- Dense Screening (Combined Both Sides)
- No Access/Private Road

02 03 04 05 06 07 08 09 10 11 12 13 14 15 16

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Route Screening

Project Title: Curraglass Renewable Energy Development, Co. Cork

Drawn By: ÓM	Checked By: MW
Project No.: 190301	Drawing No.: Figure 12-8
Scale: 1:43000	Date: 19.06.2020

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Roads around the Proposed Development site within 1 kilometre are the R584 and local roads. Figure 12-8 shows that the dominant screening type is ‘dense screening’ with some smaller sections of ‘intermittent/partial screening’ and ‘little/no screening’ within 1 kilometre of the turbines. The R584, passing to the east of the site, has for the vast majority ‘dense screening’ towards the site as shown in Plate 12-12.



Plate 12-12 Example of ‘dense screening’ along the R584 to the east of the turbines; marked as point 102 in Figure 12-8

Within 1-3 kilometres of the site, ‘dense screening’ remains the dominant category with more intermittent/partial screening’ in the area, alongside some small areas of ‘little/no screening’. Within 3 kilometres there are also two scenic routes. S27 is Local Road between Gougane Barra and the Mouth of the Glen and S28 is a scenic road at the Pass of Keimaneig to Gougane Barra. Gougane Barra is a popular scenic area with historic buildings, lake views and a forest park. The area around Gougane Barra is almost entirely of the category of ‘dense screening’ as shown in Plate 12-13



Plate 12-13 Example of 'dense screening' along the local road in the Gougane Barra forest park to the north of the turbines; marked as point 102 in Figure 12-8

Between 3 and 5 kilometres, there appears to be an even distribution of all three categories of screening. With the western side being predominantly 'dense screening' and the north and south sides being both a mix of 'intermittent/partial screening' and 'Little/no' screening.

Within this area are the villages of Kealkill and Ballingeary. The R584 regional road mentioned above connects these two villages and passes along the eastern edge of the Proposed Development. The majority of the R584, it is categorised as 'dense screening'. This is still the case as the R584 leaves the southern end of the route screening assessment areas as shown in Plate 12-14. At the northern end of the assessment area, as the R584 moves towards Ballingeary Village the majority of the route is still 'dense screening' as shown in Plate 12-15, there are also short sections of 'little/no screening'.



Plate 12-14 Example of dense screening along the R584 outside Kealkill village at the southern edge of the assessment area; marked as point 58 in Figure 12-8



Plate 12-15 Example of dense screening along the R584 outside Ballincary village at the northern edge of the assessment area; marked as point 144 in Figure 12-8

Viewpoints (within 5km of the site)

Six of the selected viewpoints fall within five kilometres of the proposed turbines. Of these, Viewpoints 8, 9, 10 and 11 are located on Co. Cork designated scenic routes and Viewpoint 7 on the Beara Gougane Cycling Route. Hence, these viewpoints will be discussed under the respective parts of Section 12.9.3.3.6 Visual Effects on Specific Visual Receptors.

The remaining viewpoint, Viewpoint 6, was chosen in particular to assess the change in visual effects arising from the previous 75m turbines versus the proposed turbines and is discussed below.

12.9.3.3.5 *Comparison of Visual Effects of Previous and Proposed Wind Turbines*



Plate 12-16 Photomontage from near Viewpoint 6 showing the wind turbines previously present on site



Plate 12-17 Photomontage from Viewpoint 6 showing the proposed wind turbines

Plate 12-16 shows a photomontage of the original 75m turbines approximately 50m south-west of Viewpoint 6 and Plate 12-17 above show the proposed turbines from Viewpoint 6, are in the townland of Derryfadda approximately 2.5 km south-west of the Proposed Development. While the vertical spatial extent of the proposed turbines in the view is greater than that of the previous turbines, horizontally the previous wind turbines occupy a similar area within this landscape. The landscape, when viewed from this area, has the capacity to absorb the proposed seven turbine layout without effecting the sensitivity of the landscape. This has been evident throughout the lifetime of the ten-turbine layout and the difference between both layouts is not of a sufficient scale to materially alter the landscape or visual effects.

Ancillary Project Elements

For the purposes of this LVIA, a number of individual elements of the Proposed Development, ancillary to the proposed wind turbines, have been grouped together for the assessment of landscape and visual effects, given the similar nature of the works required. These operational project elements include the proposed roads, turbine hardstand areas, met mast, borrow pits, temporary construction compound and the electricity substation may all give rise to potentially similar landscape and visual effects.

Other than a few short stretches of proposed new road all ancillary project elements are to be located west of the ridgeline and will be fully screened to the north-east, east, south-east and south. The higher ground of Foilastookeen and Conigar screen all these elements from the north and north-west. Hence, the only area which may have some visibility of the ancillary elements is in the Lackavane River Valley to the south-west of the Proposed Development.

Landscape and visual effects arising from the proposed ancillary project elements will therefore be imperceptible, localised and long-term where seen.

Electricity Substation

The proposed electricity substation is to be located in the southern part of the Proposed Development site adjacent to the location of the existing substation. The existing substation is visible from the Lackavane River Valley to the south-west, hence, it is anticipated that the proposed substation will also be visible from this area. However, screening by adjacent coniferous forestry may partially conceal the structure. Hence, the visual impact of the proposed electricity substation will be localised, long-term and not significant.

Borrow Pits and Temporary Construction Compound

Two borrow pits are proposed as part of the development. Borrow Pit 1 is located approximately 70 metres northeast of Turbine No. 3. The Borrow Pit 2 is located further south within the site, approximately 180 metres north of Turbine No. 6, due east of the proposed substation. No visibility of these borrow pits is anticipated beyond the Proposed Development site boundary.

Road Construction, Turbine Hardstands and Turbine Delivery Route

Every use will be made of the existing access tracks on site, however, some new internal roads will need to be constructed. Some vegetation clearance will occur as a result of the construction of these roads and the hardstands associated with each of the turbines. The majority of these hard surfaces will be screened by existing forestry. The preferred delivery route also includes the assessment of a proposed turning area along the R584. Details of the required works for these elements are contained in Chapter 4. The visual impact of these hard surfaces will be localised. The visual effect is considered long-term, localised, but only slight in significance and will diminish with time due to natural revegetation.

Meteorological Mast

The proposed permanent meteorological mast will be a slender structure up to 112 metres in height, and in itself will not be imposing structures in terms of visual impact. The landscape impact will primarily constitute vegetation clearance around the base of the mast. The visual effect of the proposed met mast is considered to be long term but Not Significant, given its slender lattice form and will fade from view at a distance of anything more than a few kilometres.

12.9.3.3.6 *Visual Effects on Specific Visual Receptors*

Designated Scenic Routes

Of the 21 County Cork scenic routes identified in the study area, nine were screened out as the ZTV mapping showed that intervening landform will screen views. Another two were excluded as the focus of the scenic route, as outlined in the CDP, was directed away from the Proposed Development and in the case of three scenic routes, no views towards the proposed turbines could be established during the site visit. The remaining seven scenic routes, S26, S27, S28, S29, S30, S34 and S110, were brought forward for viewpoint assessment and the visual effects on these routes are discussed below in more detail.

Scenic Route S26

Scenic route S26 starts in the townland of Ballingearry and heads first northwards, then eastwards on the L-3402 local road until it finishes at the junction with the N22. The ZTV the ZTV indicates limited visibility from this scenic route. Viewpoint 12 is located in the south-western section with full theoretical visibility and residual visual effects are considered 'Slight'.

Scenic Route S27

Scenic route S27 heads north and westwards on local roads L-7406 and L-3402 from Gougane Barra and finishes in the townland of Bealanageary. The ZTV the ZTV indicates limited visibility from this scenic route. The Route Screening Assessment shows that there is dense roadside screening along the closest part to Gougane Barra and the proposed turbines. Viewpoint 11 is located on the most western 3.5-kilometre section showing full theoretical visibility. Despite the ZTV map showing full visibility along this stretch, the route screening analysis and local topographical variations observed on site made it difficult to locate a suitable viewpoints. Hence, Viewpoint 11 can be viewed as an exception to the general visibility from this scenic route. From this viewpoint the residual visual effects are considered 'Slight'.

Scenic Route S28

The nearest scenic route to the Proposed Development is S28, which starts in Gougane Barra and runs

first eastwards, before turning southwards through the Pass of Keimaneigh. From there it carries on southwards and westwards, finishing in the townland of Maulavanig. Theoretical visibility is partial for the majority of this scenic route, with no visibility shown by the ZTV maps for the first 650 metres from Gougane Barra and the last approx. 3.5 kilometres. Furthermore, the Route Screening Assessment shows that along this 10.73-kilometre scenic route only approx. 2 kilometres have intermittent roadside screening and less than 300 metres are open, indicating that along the vast majority of the S28 scenic route the proposed turbines will be screened from viewers. Viewpoints 8 and 10 were selected on two areas with intermittent roadside screening to assess the visual effects on S28. Viewpoint 8 is the nearest viewpoint and here the residual visual effects were 'Moderate', while at Viewpoint 10 they were found to be 'Slight'.

Scenic Route S29

Scenic route S29, runs eastwards along the R585 from the village of Kealkill through Cousane Gap and finishes in the townland of Derragh. In the western part of S29 there is nearly consistent full theoretical visibility until approx. 0.75 kilometres west of Cousane Gap, from there eastwards there will be no visibility of the proposed turbines on this scenic route, including at Cousane Gap. VP 4 and 5 were selected for the western part of this scenic route. In terms of the residual visual effects, at Viewpoint 4 it was 'Not Significant' and Viewpoint 5 'Slight'.

Scenic Route S30

Scenic route S30 is a long stretch of road south of the proposed turbines starting in the west of Dunmanway and runs on a series of local roads finishing in a loop just to the east of Bantry. The entire scenic route will have no visibility of the proposed turbines except on its most eastern tip, where Viewpoint 3 is located. At this location the residual visual effects that will arise from the Proposed Development will be 'Not Significant'.

Scenic Route S34

This scenic route is on the R384 Regional Road starting at Inchigeela, passes through Ballingearry and finishes at Keimaneigh. The ZTV map indicates predominantly partial visibility with significant patches of no visibility. The Route Screening Assessment shows that viewpoint selection along this route was made difficult by extensive stretches of intermittent roadside screening, however Viewpoint 9 shows the visual effects at the most western end of this route, closest to the proposed turbines. Here the residual visual effect was found to be 'Slight'.

Scenic Route S110

N71 National Secondary Route, R591 Regional Route and Local Road from Bantry via Durrus and Ahakista to Kilcrohane. S110 has intermittent full visibility in the area within the study area. The greatest visibility of the turbines was to be found at Viewpoint 1 and here primarily due to distance the residual visual effect was found to be 'Slight'.

There will be no significant effects on scenic routes.

Settlements

Of the 24 settlements identified in the study area the 'Visual Receptor Preliminary Assessment' screened out 16 as the ZTV mapping showed that there would be no visibility. A further four were screened out as no visibility of the Proposed Development could be established on site. Hence, viewpoints were selected for the remaining three settlements Bantry, Kealkill and Whiddy Island.

An example of a settlement considered for inclusion in the list of viewpoints was Ballylickey. The draft photomontage prepared is shown in Plate 12-18 below. The image was taken on the N71 from the carpark of the Ouvane Falls Inn. Due to the very limited visibility, only one turbine may be visible behind deciduous vegetation, of the proposed turbines it was not included as a viewpoint in the accompanying booklet for the overall assessment.



Plate 12-18 Photomontage showing a wireframe of the proposed turbines overlaid onto a view taken from Ballylicky

In Bantry ZTV mapping shows that the majority of the town will have no visibility, with patches of visibility only evident in the outskirts of the town. Furthermore, local buildings and vegetation screens views in many of the remaining areas. Hence a viewpoint was chosen to the west of Bantry, overlooking Bantry Bay. The viewpoint (VP21) is adjacent to Bantry cemetery and on the Wild Atlantic Way tourist route. This viewpoint was also used to assess the visual effects of nearby Whiddy Island. All turbines can be seen in the distance in this expansive view and the residual visual effect was deemed 'No Significant'.

The ZTV shows full theoretical visibility for Kealkill Village. However, on the ground effective screening by buildings and vegetation obstructs views of the site for the vast majority of the village. Viewpoint 20, taken from the eastern outskirts of the village, presents the most open view of the site from this general area. Here the residual visual effects were found to be 'Not Significant'.

There will be no significant effects on settlements.

Transport Routes

Of the 13 regional and national roads identified in the study area 9 transport routes were screened out by the ZV map showing no theoretical visibility and one due to no significant visibility found on site. This left the N71 national road and the R584 and R585 regional roads to undergo the full assessment.

There will be no visibility along the most southern part of the N71 within the study area. Full theoretical visibility starts approx. 2.5 kilometres to the west of Bantry until the eastern outskirts of the town. Then there is a section of no visibility that stretches north of Lahadane. From there is a mixture of full and partial theoretical visibility interspersed with no visibility until Ardnatrush More. On the sections of the N71 north and west of Ardnatrush More there will be no further visibility. Viewpoint 1 was selected for the only section of the N71 with significant visibility and here the residual visual effect was found to be 'Not Significant'.

There is partial theoretical visibility from junction of the R584 with the N71 until just beyond the village of Kealkill. Photomontages were attempted at two locations along this western stretch of the R584, but none could be found. There is a stretch of no visibility east of Kealkill until the R584 turns north towards the Pass of Keimaneigh. From there is partial visibility interspersed with no visibility until just east of the village of Ballingearry. Along the remainder of the scenic route there will be no visibility apart from a

stretch of partial visibility just west and east of Inchigeelagh. Furthermore, the Route Screening Assessment shows significant roadside screening particularly in the parts closest to the proposed turbines. Viewpoints 8 and 9 were selected to assess the visual effects on R584. Viewpoint 8 is the nearest viewpoint and here the residual visual effects were 'Moderate', while at Viewpoint 9 they were found to be 'Slight'.

In the western part of the R585 there is nearly consistent full theoretical visibility until approx. 0.75 kilometres west of Cousane Gap, from there eastwards there will be no visibility of the proposed turbines on this regional road, including at Cousane Gap. Viewpoints 4 and 5 were selected for the western part of this scenic route. In terms of the residual visual effects, at Viewpoint 4 it was 'Not Significant' and Viewpoint 5 'Slight'.

There will be no significant effects on transport routes.

Scenic Viewing Points, Recreational Routes and Destinations

The 'Wild Atlantic View' to the south of Bantry is a popular local picnic area overlooking Bantry Bay and the mountainous backdrop. Viewpoint 2 was selected for this location and here mainly due to distance the residual visual effect was found to be 'Not Significant'.

Within the study area the Wild Atlantic Way (WAW) follows the N71 around Bantry Bay until west of Bantry and will be affected as described in the transport route section above. At Newtown West the WAW leaves the N71 to follow the L4703 local road. Along this road full theoretical visibility is interspersed with no visibility.

The routes of the Sheep's Head Way and Sheep's Head Cycle Route either coincide or run broadly in parallel up to Bantry within the study area. Here full theoretical visibility is interspersed with no visibility. Beyond Bantry they diverge. The Sheep's Head Cycle Route follows the N71 northwards and description of theoretical visibility can be found in the transport route section above. From Bantry the Sheep's Head Way follows local road in a southward's direction, where the ZTV map shows mainly full theoretical visibility. It then follows an off-road track and will have no visibility with a short patch of full theoretical visibility to the south-east of Bantry

Viewpoint 1 lies on all three of the above recreation routes and here the residual visual effect was found to be 'Not Significant'.

The Beara Gougane Cycling Route runs from Cork City to the Beara Peninsula. Within the study area there are two alternative sections of the route, running primarily on local roads but also short sections of the R584 and the N71. The ZTV map show theoretical visibility for the majority of this cycle route within 10 kilometres of the turbines, beyond this the vast majority of the route will have no visibility. Six potential viewpoints were identified for this route, however, two of these while showing theoretical visibility on the ZTV map were found to have no actual visibility of the proposed turbines. The other four viewpoints, 4, 7, 9 and 11, will have residual visual effects of 'Not Significant' to 'Slight'.

There will be no significant effects on recreational routes and destinations.

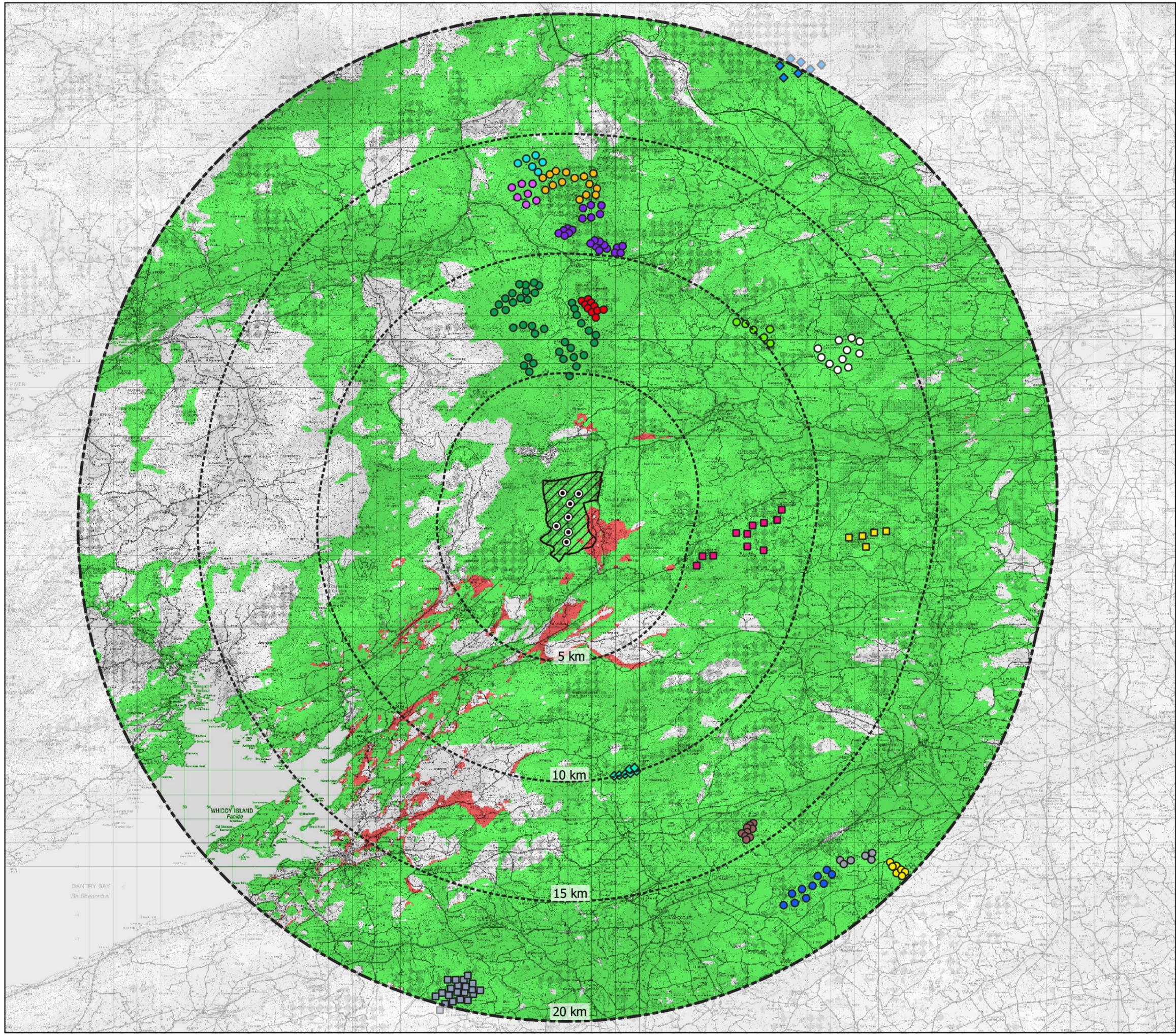
1.1.1.2 Cumulative Visual Effects

All the existing permitted and existing wind turbines for the 20 kilometre study area have been listed in Section 12.8 *Cumulative Baseline*. The closest of these are the Grousemount wind turbines approximately 5 kilometres to the north in Co Kerry and there is no intervisibility between these turbines and the proposed Curraglass turbines due to the intervening topography.

Existing and permitted turbines have been taken into consideration alongside the proposed turbines. Where they are visible in the 12 No Viewpoints they have been shown alongside the proposed turbines and cumulative visual effects have been assessed. Of the twelve viewpoints other turbines will only be seen in three viewpoints to the south of the proposed turbines. In all three of these viewpoints the cumulative visual effects are considered 'Low' due to the other turbines appearing in the far distance with clear visual separation.

A comparative ZTV (Figure 12-9 below) shows that the cumulative visibility over that of the existing and permitted turbines will only increase in a small number of tiny pockets due to the addition of the proposed Curraglass turbines.

Hence cumulative visual effects overall are deemed 'Imperceptible'.



Map Legend

- ⊙ Proposed Curraglass Turbines
 - LVIA Study Area Boundary
 - ZTV - Areas of Cumulative Theoretical Visibility
 - Current - Any Existing or Permitted Turbines
 - Additional Visibility - Curraglass Turbines Only
- Other Wind Farms in the LVIA Study Area**
- Cleanrath - Existing/ Permitted
 - Coomaghearlahy - Existing
 - Currabwee - Existing
 - Derragh - Existing
 - Grousemount - Existing
 - Inchincoosh - Existing
 - Killaveenogue - Existing
 - Knockeenboy - Permitted
 - Midas - Existing
 - Lettercannon - Existing
 - Milane Hill - Existing
 - Sillahertane - Existing
 - ◆ Derreenacrinnig West - Permitted
 - ◆ Knocknamork - Permitted
 - Carrigarierk - Permitted (Under Construction)
 - Glanta Commons - Existing
 - Shehy More - Permitted (Under Construction)



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Drawing Title

Comparative Cumulative Half Blade ZTV

Project Title

Curraglass Renewable Energy Development, Co. Cork

Drawn By

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Project No.

190301

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Date

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12.9.4 Decommissioning Phase Effects

The landscape and visual effects during decommissioning are anticipated to be similar to those that occur during the construction phase.

There will be a temporary landscape and visual impact associated with the removal of the turbines and ancillary infrastructure from the site, resulting in Short-term Slight, Negative visual effect.

If the turbines on site are not recommissioned or replaced with new turbines, the landscape will revert to its present condition. Once the turbines have been removed from the site, there will be an associated visual impact, which would either be perceived as positive or negative depending on the viewer.

12.10 Conclusion

The Zone of Theoretical Visibility (ZTV) map for the proposed Curraglass turbines generally shows a narrow band of intermittent theoretical visibility stretching from Bantry Bay in the south-west to the north-east of the 20km study area. The ZTV shows that there will be no landscape or visual effects in County Kerry.

12.10.1 Landscape Effects

There will be local landscape effects by the introduction of vertical structures in the development site, however, the site has a history of wind energy development. The previous turbines were dismantled in June 2018.

Three County Cork Landscape Character Types will have significant theoretical visibility of the proposed turbines, but only *LCT 15a Ridged and Peaked Upland*.

LCT 15a Ridged and Peaked Upland, where the turbines will be located and *LCT 16a Glaciated and Forested Cradle Valley* will experience ‘Moderate’ landscape effects. However, screening by topography and vegetation are significant mitigating factors.

There will be slightly more theoretical visibility in *LCT 4 Rugged Ridge Peninsulas* than in *LCT 16a*, but due to distance from the proposed turbines the landscape effects are considered ‘Not Significant’.

12.10.2 Cumulative Landscape Effects

Although, it was found that the proposed turbines would slightly add to the cumulative landscape status in all the three LCTs that will have theoretical visibility, there will be no change in the cumulative landscape status.

Therefore, the cumulative landscape effects are considered **Low** in all the LCTs.

12.10.3 Visual Effects

Key visual receptors, such as scenic routes and views, settlements, recreational destinations and routes as well as major transport routes were identified within the study area, after which those where visibility could be excluded due to ZTV mapping or sit surveys were screened out. The remaining visual receptors were selected as 12 viewpoints for which photomontages were prepared to assess the visual effects on the visual receptors. The visual assessment concluded that residual visual effects of “Moderate” was deemed to arise at one of the 12 viewpoint locations. All other viewpoints were assessed as resulting in Slight (7), Not Significant (4) or Imperceptible (4) residual visual effects.

12.10.4 Cumulative Visual Effects

Cumulative visual effects were assessed in terms of increase in spatial extent of turbines within the views of the selected viewpoints, visual separation of the proposed turbines from the permitted turbines and the perceived difference of scale between the existing/permitted turbines and the proposed turbines. The nearest existing or permitted turbines are at a distance of approximately 5 kilometres.

Existing or permitted turbines will only be visible in three of the 12 viewpoints . In all three of these viewpoints the cumulative visual effects are considered 'Low' due to the other turbines appearing in the far distance with clear visual separation. Hence cumulative visual effects overall are deemed 'Imperceptible'.