Planning and Environmental Consultants

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Environmental Impact Assessment Report

Briskalagh Renewable Energy Development

Chapter 13 – Landscape and Visual

Contents

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13. LANDSCAPE AND VISUAL

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13.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) addresses the potential landscape and visual impacts of the Proposed Project, with an emphasis on the likely significant direct and indirect effects of the Proposed Project upon the landscape and visual amenity. It covers the assessment methodology, a description of the Proposed Wind Farm site within the existing landscape setting, as well as the landscape policy and relevant guidance. It includes a description of the landscape policies of County Kilkenny and bordering counties (Counties Laois and Tipperary) with specific reference to wind energy and the Landscape and Visual Impact Assessment (LVIA) study area in which the Proposed Project is located.

The landscape of the Site and wider LVIA Study Area is described in terms of its existing character, which includes a description of landscape values as well as the landscape's sensitivity to change. The LVIA of the Proposed Project incorporates the use of theoretical visibility mapping, representative viewpoints, and photomontages. The potential impacts in both landscape and visual terms are then assessed, including the cumulative impacts.

The assessments in this chapter were informed by site visits, verified photomontages, ZTV mapping, a Route Screening Analysis, and an impact assessment methodology which follows best practice guidance for LVIA. The assessments are supported by two volumes and five appendices as follows:

- Volume 2: Photomontage Booklet, presenting existing and cumulative visualisations of the proposed turbines from 16 No. representative viewpoints in the LVIA Study Area;
- Volume 3: Blue-Sky Photomontage Booklet, a duplicate photomontage booklet including graphic alterations of the sky, as requested by the local planning authority;
- Appendix 13-1: LVIA Methodology, outlining the detailed methodology and guidance used for the assessments reported in Chapter 13;
- Appendix 13-2: LCA Assessment Tables, assessing effects on designated Landscape Character Areas (LCAs);
- Appendix 13-3: Photomontage Viewpoint Assessment Tables, a visual impact assessment of the 16 No. representative viewpoints presented in the Photomontage Booklet, including assessment of cumulative effects;
- Appendix 13-4: LVIA Baseline Map, a large A0 map showing all baseline landscape features, visual receptors, ZTV and viewpoints;
- Appendix 13-5: Photowire Booklet, presenting draft photomontage visualisations from 21 No. viewpoint locations in the LVIA Study Area which were not selected for the final Photomontage Booklet;

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

13.1.1 Statement of Authority

MKO has developed extensive expertise and experience over the last 15 years in the Landscape and Visual Impact Assessment of a range of projects, including multiple large scale wind energy developments.

This LVIA was led by Jack Workman MSc, TMLI. with support from Dija Mazonaite BSc (Hons) and Alan Roache MSc. Jack Workman is a chartered member of the British Landscape Institute as a Technician Member (TMLI) and he is the Landscape & Visual Project Director at MKO. He is an Environmental Scientist and Landscape and Visual Impact Assessment (LVIA) specialist. Jack Workman's primary role at MKO is producing the LVIA chapter of EIA reports for large infrastructure

developments. Jack Workman holds an MSc. in Coastal and Marine Environments and a BSc. in Psychology, he is a member of the Landscape Research Group, as well as holding a membership with the Chartered Institute of Water and Environmental Management.

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Dija is an Environmental Scientist and LVIA Specialist at MKO. Dija has a BSc (Hons) in Geography & Geosystems and was recognised as a University Scholar at the University of Galway. Dija's primary role at MKO is producing the LVIA chapter of EIA reports for large infrastructure developments. Since joining MKO, Dija has conducted and project managed all aspects of LVIA for a broad range of commercial infrastructure developments including wind and solar energy projects, grid infrastructure, extraction industry and Strategic Housing Developments. Dija's key strengths include proficiency in GIS tools such as ArcGIS and QGIS, conducting landscape and visual impact assessments and capturing image data through drone surveys and photomontages. Dija is an affiliate member with the Landscape Institute and is also a member with IEMA.

Alan is an Environmental Scientist and LVIA Graduate with MKO. His primary role at MKO is producing the LVIA chapter of EIAR reports. Alan holds an MSc. In Environmental Leadership from University of Galway. Since joining MKO, Alan has worked widely on renewable energy infrastructure, commercial, recreational, and residential projects.

This report was reviewed by Michael Watson. Michael is an Environmental Director at MKO, overseeing a team of highly skilled environmental professionals working on EIAR for a wide range and scale of projects, in particular large-scale infrastructure, housing, commercial and renewable energy development. His key strengths include project strategy, expert knowledge of the EIA Directive, and in-depth knowledge of the various disciplines contributing to EIAR and the Habitats Directive. Michael has been the Head of the Environment Team at MKO for over nine years. He is a key member of the MKO senior management team responsible for developing the business, mentoring team members, fostering a positive culture and promoting continuous employee professional development. Michael holds an MA in Environmental Management from NUI Maynooth, is a Member of IEMA, a Chartered Environmentalist (CEnv) and a Professional Geologist (PGeo).

13.1.2 Proposed Project Description

The Proposed Project comprises the construction of 7 No. wind turbines and all associated works. The proposed turbines will have an overall tip height of 185 metres.

As detailed in Section 1.1.1 in Chapter 1, for the purposes of this EIAR, the various project components are described and assessed using the following references: 'Proposed Wind Farm', 'Proposed Wind Farm site', 'Proposed Grid Connection' and the 'Site'. Please see Section 1.1.1 of this EIAR for further details. A detailed description of the Proposed Project is provided in Chapter 4 of this EIAR.

13.1.2.1 Essential Aspects of the Proposed Project from an LVIA Perspective

This LVIA follows 'The Guidelines for Landscape and Visual Impact Assessment Third Edition' (hereafter, GLVIA3) published by Landscape Institute (LI) & Institute of Environmental Management and Assessment (IEMA) (2013) as well as 'Notes and Clarifications on Aspects of GLVIA3: Landscape Institute Technical Guidance Note 2024-01' (hereafter, LI TGN 24-01) published by the Landscape Institute (LI) (2024). This guidance states that.

> *"It is important to make sure that the project description provides all the information needed to identify its effect on particular aspects of the environment. For LVIA it is important to understand, from the project description, the essential aspects of the scheme that will potentially give rise to its effects on the landscape and visual amenity."*

For the purposes of this chapter of the EIAR 'the proposed turbines' refers to the 7 no. turbines which form part of the Proposed Wind Farm. The tall, vertical nature of the proposed turbines make them the most prominent elements of the Proposed Project from a landscape and visual perspective and have the most potential to give rise to significant landscape and visual effects. In this regard, the proposed turbines are deemed to be the 'essential aspect' of the Proposed Project which will give rise to effects on the landscape and visual amenity and therefore a primary focus of the LVIA conducted in this chapter.

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The proposed 30m meteorological mast is also a tall vertical structure; therefore, it is included in the photomontage booklet and is fully considered throughout this chapter. However, it will be substantially less visible than any turbine given its shorter and slender lattice form.

Other components of the Proposed Project including the proposed substation, are not deemed to be as visually prominent as the proposed turbines, however, they have the potential to give rise to localised landscape and visual effects. These elements are given full consideration throughout this chapter.

13.1.3 Mitigation by Good Design

Through the iterative project design process, informed by early-stage impact assessment work, landscape modelling, ZTV mapping and photomontage preparation, public and stakeholder consultation every effort has been made to bring forward the optimum design for the Proposed Wind Farm with respect to landscape and visual factors. The Proposed Project layout that is the subject of this LVIA, already incorporates the following landscape and visual design considerations for good wind farm design, with a particular focus on site selection:

- The proposed turbines are strategically sited within a modified working landscape with limited visibility from large areas of the LVIA Study Area and designated high-sensitivity landscape and visual receptors.
- The characteristics of the elevated landforms and terrain surrounding the proposed turbines provide visual enclosure, obscuring visibility and reducing the visual envelope of the Proposed Project from vast areas of the wider landscape and LVIA Study Area.
- The turbine layout has been designed to create a coherent arrangement of turbines, contiguous and connected to each other visually and with consistent spacing in line with the sitting of wind farms within Hilly and Flat Farmland Landscape Types in the 'Wind Energy Development Guidelines for Planning Authorities' published by the Department of the Environment, Heritage and Local Government (DoEHLG) in 2006: hereafter, 'the Guidelines' .
- Siting of proposed turbines adheres to the minimum 500m set back distance from residential receptors in the Guidelines and also the recommended 4 times tip height set back distance to third party properties, explicitly set out for residential visual amenity in the 'Draft Revised Wind Energy Development Guidelines' published by the Department of Housing, Planning and Local Government (DoHPLG in 2019): hereafter, 'the draft Guidelines' .
- As a result of the community consultation process, and through engagement with statutory consultees, the layout evolved culminating with the final layout iteration where it was decided to omit a turbine, which was the closest turbine to the settlement of Kilmanagh, resulting in a 7-turbine final layout.
- The proposed turbines are sited within a landscape characterised by agricultural fields bordered by mature hedgerows and treelines which provide visual screening of the Proposed Wind Farm, limiting its visibility from receptors in a large proportion of the wider landscape setting.
- The layout of the Proposed Project ensures minimal loss of valuable landscape receptors and biodiversity corridors. In addition, as part of the Proposed Project, it is proposed to plant, a 5m riparian buffer in the form of hedgerows along both sides of a 1.1km segment of the Tullaroan Stream within the Proposed Wind Farm site. The proposed riparian buffer comprises an area of 17,115m^2 of planting. Please see Chapter

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6 Biodiversity and Appendix 6-4 Biodiversity Management and Enhancement Plan for details.

- The onsite 38kV substation is the only above-ground component of the Proposed Grid Connection, and it is situated within the Proposed Wind Farm site. The substation is within an agricultural field enclosed by mature vegetation, which provides visual screening and substantially limits views of the proposed structure.

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13.1.4 Scoping Replies/Pre-Planning Meeting

A scoping and consultation exercise has been carried out by MKO, as detailed in Chapter 2 of this EIAR. A pre-planning consultation meeting took place with Kilkenny County Council (KCC) on the 29th of February 2024.

KCC requested for Photomontages to be shown with a blue-sky background. In accordance with best practice guidance, a photomontage booklet was prepared without graphic alteration of the sky (See Volume 2 of this EIAR). In response to the request by KCC, a dedicated blue-sky photomontage booklet (See Volume 3 of this EIAR) has been included with this application, as well as the standard photomontage booklet

KCC requested that several Photomontages be captured from the settlement of Kilmanagh. As part of this LVIA, 6 No. Photomontage Visualisation were captured from Kilmanagh. 3 No. Viewpoints are included in the Volume 2 Photomontage Booklet and 3 No. Viewpoints are included as Photowires in the Appendix 13-5 Photowire Booklet.

KCC also noted that as the Wind Energy Strategy is subject to a draft ministerial direction, the Proposed Project will be assessed on its own merit with national and regional policy as well as landscape assessments.

A pre-planning consultation meeting was conducted with An Bord Pleanála on the 9th of February 2024, however, no topics of note relating to LVIA were raised by the Board.

A detailed summary of the topics discussed at each of these pre-planning meetings is included in Section 2.6 of Chapter 2 of this EIAR. All feedback and communications detailed in Chapter 2 have been taken on board when compiling this chapter and assessment.

13.2 Brief Methodology and Assessment Criteria

This section broadly outlines the methodology and the guidance used to undertake the landscape and visual impact assessment of the Proposed Wind Farm; a more detailed description of the methodology is outlined in Appendix 13-1 – *LVIA Methodology*. There are five main sections to this assessment:

- Visibility of the proposed turbines (e.g. ZTV mapping)
- Landscape Baseline
- Visual Baseline
- Cumulative Context
- Likely and Significant Effects – outlining the assessment of landscape, visual and cumulative effects.

13.2.1 Scope and Definition of the Landscape and Visual Impact Assessment (LVIA) Study Area

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The Proposed Wind Farm is the key focus of the assessments in this Chapter as the proposed turbines are the primary essential aspect of the Proposed Project under assessment of the LVIA (as detailed previously in Section 13.1.2.1).

GLVIA3 (LI, IEMA, 2013) refers to the identification of the area of landscape that is to be covered while assessing landscape and visual effects, it states:

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

Landscape and visual baseline mapping and viewpoint selection are based on a wider study area referred to as the 'LVIA Study Area.' The geographical parameters for this LVIA were determined by desktop studies, survey work undertaken, the professional judgement of the assessment team, experience from other relevant projects and policy guidance or standards, such as:

- Appendix 3 of the Guidelines.
- GLVIA3 (LI & IEMA, 2013)

The distance at which a ZTV is set from a Proposed Wind Farm development usually defines the parameters of the LVIA Study Area. The LVIA Study Area was chosen as 20 kilometres for landscape and visual effects as is suggested by the Guidelines;

> *'For blade tips in excess of 100m, a Zone of Theoretical Visibility radius of 20km would be adequate' (The Guidelines Page 94; Page 152, the draft Guidelines).*

Through experience conducting LVIA for other wind energy development projects, the assessment team determined that no significant effects on landscape character are likely to arise beyond distances of 15km from the proposed turbines. Therefore, a study area of 15km, hereafter referred to as the 'LCA Study Area', is deemed appropriate for effects on landscape character in relation to the assessment of effects upon designated Landscape Character Areas.

Furthermore, as prescribed by best practice guidance, the professional judgement of the assessment team, 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 sensitive landscape receptors beyond a 20 km radius from the proposed turbines, 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 and designated Landscape Character Areas (LCAs) beyond a 15 km radius from the proposed turbines, where it is judged that potential significant effects on landscape character are unlikely to occur;
- Effects on visual receptors beyond a 20 km radius from the proposed turbines, where it is judged that potential significant effects are unlikely to occur;
- Cumulative landscape and visual effects beyond a 20 km radius from the proposed turbines, where it is judged that potential significant cumulative effects are unlikely to occur.

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13.2.2 LVIA Guidance

The legislation and general guidance on Environmental Impact Assessment is set out in Chapter 1 of this EIAR. The LVIA reported in this chapter was guided and informed by guidance documentation specifically pertaining to the LVIA. Details of the guidance used to conduct this LVIA are outlined in the LVIA Methodology Appendix – *Appendix 13-1*.

13.2.3 Baseline Landscape and Visual Information

In order to carry out this assessment, an initial desk study of baseline information was undertaken that has informed the LVIA, and this included the following:

Landscape

- Policies and objectives contained in the relevant county development plan (Counties Kilkenny, Laois, and Tipperary) pertaining to landscape and wind energy.
- Landscape designations in the LVIA Study Area (Amenity Areas; Views and Prospects; Landscape Character Areas)
- Landscape characteristics of designated LCAs in the LCA Study Area
- Landscape character of the Proposed Wind Farm site based on:
    - Site Surveys undertaken in 2023 and 2024.
    - Characterisation of the Proposed Wind Farm site as defined in relation to specific Landscape Character Types defined in the Guidelines.

Visual

- Identification of visual receptors in the LVIA Study Area;
- Preliminary analysis of visibility of the Proposed Wind Farm from visual receptors using ZTV mapping and on-site visibility appraisals.
- Visibility in close proximity to the Proposed Wind Farm according to a Route Screening Analysis (RSA), a method developed by MKO to quantify visual screening relative to the proposed turbines.

13.2.4 Assessment of Potential Impacts

The methodology includes clearly documented methods based on the GLVIA3 (LI & IEMA, 2019) guidance, in order to arrive at an assessment. These 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. Residual landscape and visual effects are graded upon an 'impact assessment classification of significance' scale, as defined by the Environmental Protection Agency of Ireland (EPA, 2022).

Assessment of potential impacts uses photomontages, whereby the potential effects arising as a result of the proposed turbines are assessed from viewpoint locations representative of prominent and sensitive landscape and visual receptors located within the LVIA Study Area. The photomontages are included in Volume 2 of this EIAR and a comprehensive assessment of each viewpoint is included in Appendix 13-3. Detailed information on the methodology used for the production of photomontages and the methods used for LVIA are presented in the methodology appendix - Appendix 13-1. Throughout this chapter 'theoretical visibility,' is referred to, this is based on Zone of Theoretical Visibility (ZTV) mapping which is addressed in the following section of this chapter (Section 13.3).

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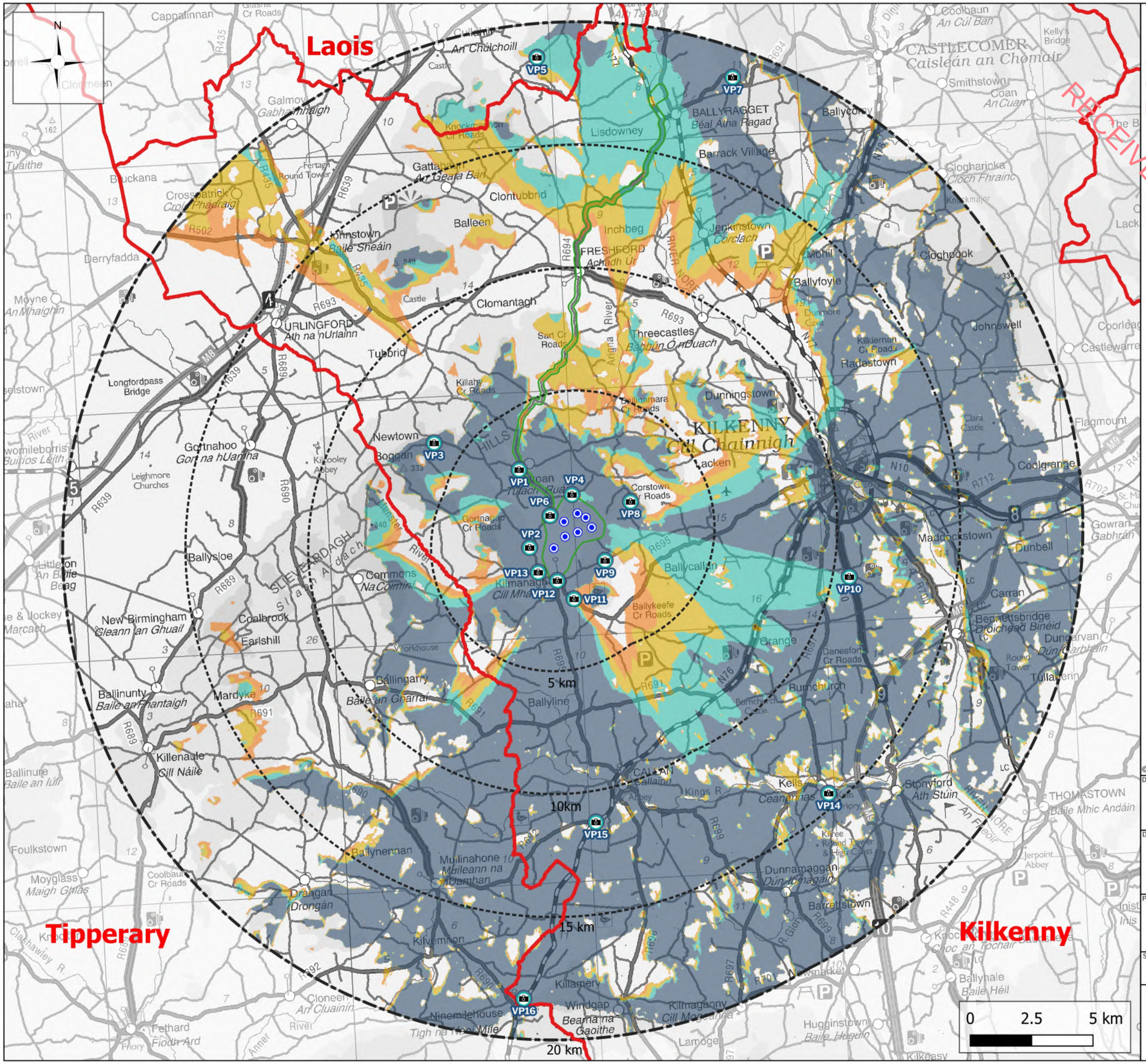
13.3 Visibility of the Proposed Project

13.3.1 ZTV Mapping: Theoretical Visibility of the Proposed Turbines

Zone of Theoretical Visibility (ZTV) mapping is an important step in the LVIA process, in that it clearly shows which areas of the LVIA Study Area will have theoretical visibility of the proposed turbines and which areas will have no theoretical visibility.

The ZTV mapping methodology outlined in Section 1.3 of Appendix 13-1 was used to examine the theoretical visibility of the 7 no. proposed turbines from all landscape and visual receptors within the LVIA Study Area, using the half blade height of the wind turbines as points of reference. As noted in Appendix 13-1, actual visibility on the ground is substantially less than predicted by the ZTV mapping due to intervening factors such as visual screening from above ground natural and man-made features, atmospheric weather, and/or localised topography.

Generation of the ZTV utilises large scale topographical data (interpolation across 10m OSI contour data) and does not account for topographical variation of smaller scale (e.g., < 10 metre). Therefore, in reality, small, localised undulations within the landscape are likely to further inhibit visibility of the proposed turbines than is represented in the ZTV map. Other above ground features of the landscape such as vegetation and man-made elements are also likely to obscure the proposed turbines from view from many areas where the ZTV indicates there is full visibility. In this regard, the ZTV is a useful tool to indicate where there is no theoretical visibility of the proposed turbines, therefore, receptors located in these areas can be scoped out from further assessment.



Map Legend

- Proposed Turbine Locations
- EIAR Study Area Boundary
- LVIA Study Area
- County Borders
- Photomontage Viewpoint Locations

Zone of Theoretical Visibility

- 1-2 Turbines Theoretically Visible
- 3-4 Turbines Theoretically Visible
- 5-6 Turbines Theoretically Visible
- 7 Turbines Theoretically Visible

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Drawing No.

Figure 13-1

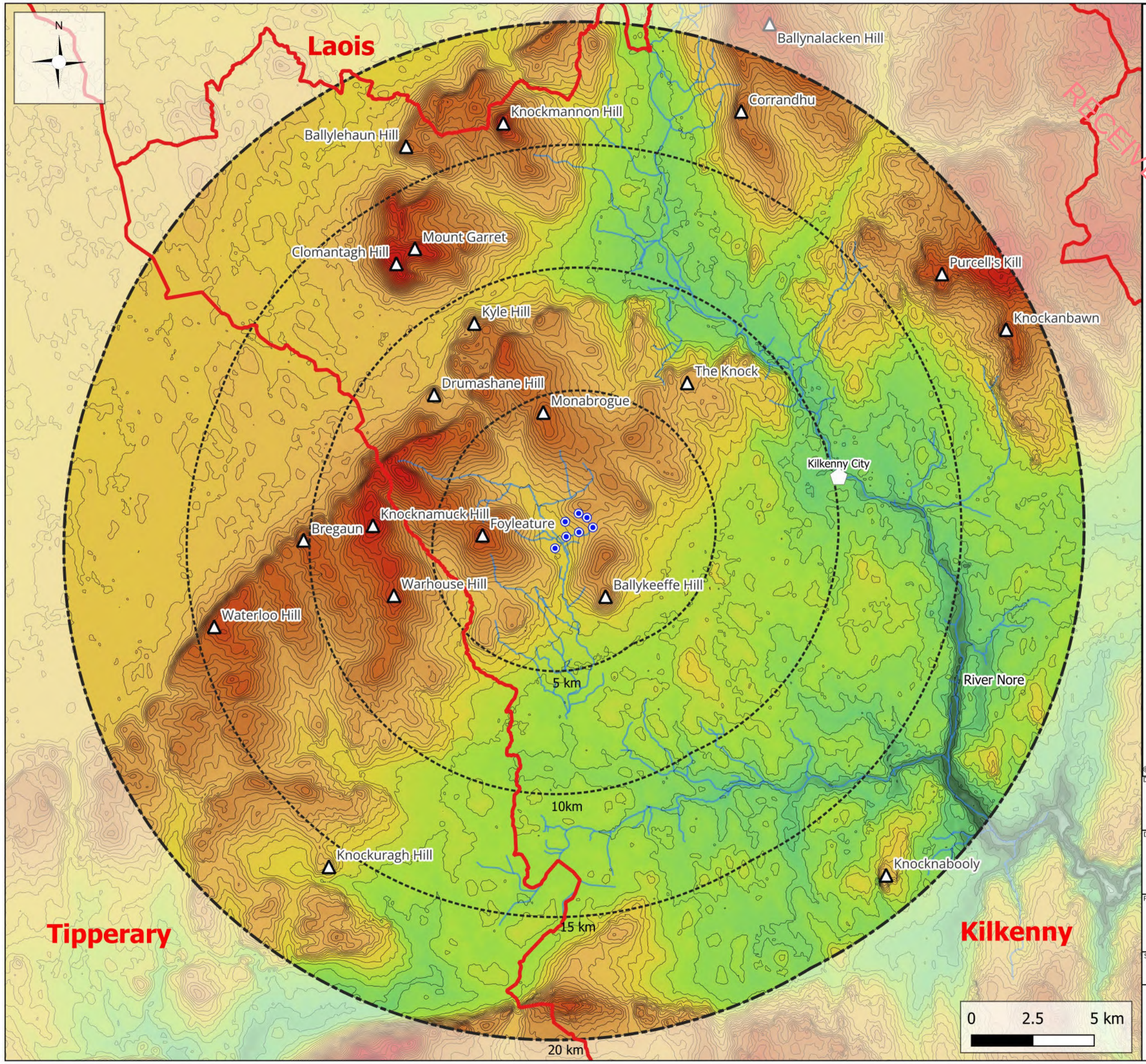
Drawing Title

Zone of Theoretical Visibility

Project Title

Briskalagh Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:150,000	230502	01/10/2024	AR	JW



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Map Legend

- Proposed Turbine Locations
- LVIA Study Area
- County Borders

Key Population Centre

- Kilkenny City

Elevation Above Ordnance Datum (Metres)

- 25
- 50
- 75
- 100
- 150
- 200
- 250
- 300
- 350
- Topographic Peaks
- 10 metre contours
- River Water Bodies

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Drawing No.

Figure 13-2

Drawing Title

Physical Landscape Features

Project Title

Briskalagh Renewable Energy Development

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13.3.2 Half Blade ZTV of the Proposed Turbines

A ZTV map of the proposed turbines is shown above in Figure 13-1. The ZTV mapping methodology is comprehensively outlined in Section 1.3 of Appendix 13-1. Separate colour bands are used on each ZTV map presented in this chapter to indicate the number of proposed turbines of which the half blade will potentially be visible. The legend on each map shows the number of theoretically visible proposed turbines for each corresponding colour, which are as follows:

- Orange: 1-2 proposed turbines theoretically visible
- Yellow: 3-4 proposed turbines theoretically visible
- Teal: 5-6 proposed turbines theoretically visible
- Navy: 7 proposed turbines theoretically visible

Figure 13-2 shows the topographical features and elevation gradients existent within the receiving landscape of the LVIA Study Area. The geography of these topographical features defines the distribution of theoretical visibility illustrated in Figure 13-1.

The topographical characteristics of the Proposed Wind Farm site and surrounding landscape setting is defined by the Slieveardagh Hills. The Slieveardagh Hills begin at the southwest of the LVIA Study Area and extends in a north-easterly direction to the north of the proposed turbines. This landform includes topographical peaks such as the Waterloo Hill, Warhouse Hill and Knocknamuck Hill, as indicated on Figure 13-2. The Proposed Wind Farm is located within the foothills of this topographical feature. The topography also rises in elevation to the east of the Proposed Wind Farm site which causes the proposed turbines to be enclosed to a substantial degree by this surrounding landform. The Proposed Wind Farm is located 7.5km from the peak of Knocknamuck, which is the highest point of the Slieveardagh Hills, at 340m AOD. The Proposed Wind Farm is located approximately 3km from the peak of Foyleature to the west, rising to approximately 290 metres AOD, and is the most substantial topographical feature in close proximity to the Proposed Wind Farm. To the north of the proposed turbines the peak at Monabrogue rises to 260 metres AOD. It is also noteworthy that a peak in elevation in the townland of Ballycuddihy (228m AOD) is located to the east of the Site, and along with Ballykeeffe Hill (222m AOD), which is located approx. 2.3km to the southeast of the Proposed Wind Farm site. Overall, the surrounding topography as discussed provides natural visual screening of the proposed turbines.

To the northeast, east and southeast, the topography is flat and low-lying, and is generally representative of an agricultural landscape, with elevation gradually sloping towards the River Nore, located to the east of the Proposed Wind Farm site. Further to the northeast, beyond the River Nore, the level of elevation rises towards the Castlecomer Plateau, which extends beyond the extent of the LVIA Study Area in this direction. To the south, a raised plateau adjacent to Slievenamon is partially located within the border of the LVIA Study Area.

To the north of the Site, beyond the Slieveardagh Hills, Spahill and Cullahill are relatively prominent topographical features, with the remainder of the topography to the north and northwest surrounding these hills being flat.

Description of Theoretical Visibility within 5km of the Proposed Turbines

As a result of the topographical features surrounding the Proposed Wind Farm described above, full theoretical visibility within 5km of the proposed turbines is mostly limited to within the valley created by the surrounding peaks. This full theoretical visibility extends up the sides of this valley, but generally not beyond the highest points on all sides of the valley. Given the lack of larger topographical features to the northwest of the proposed turbines, full theoretical visibility extends out beyond 5km (to 7.7km) from the nearest proposed turbine in this direction.

Approximately 3km to the west of the proposed turbines, the peak in elevation (within the townland of Foyleature) creates areas of partial and no theoretical visibility. There is also an area of partial and no theoretical visibility as a result of topographical screening to the southeast of the Site by the peaks in elevation at Ballykeeffe Hill (211m AOD). To the north and northeast, small patches of both partial and no theoretical visibility also exist again as a result of screening from the surrounding topography.

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Description of Theoretical Visibility beyond 5km of the Proposed Turbines

The Slieveardagh Hills provide substantial topographical screening of the proposed turbines, creating large areas of no theoretical visibility to the west and southwest as far as the extent of the LVIA Study Area. There is only one area of theoretical visibility beyond 5km of the proposed turbines in this direction, located on the eastern side of Knocknamuck and Warhouse Hill, beyond which the proposed turbines are fully screened from view, including the majority of the parts of the LVIA Study Area located within County Tipperary.

In general, to the south and southeast of the proposed turbines, the landscape is relatively flat with large areas of full theoretical visibility, although some small, localised undulations in the topography create small patches of partial and no theoretical visibility in this direction, extending to the border of the LVIA Study Area. A notable exception to this is along the banks of the River Nore, which has primarily no theoretical visibility. In addition, Ballykeeffe Hill, located within 5km of the proposed turbines provides substantial topographical screening of the proposed turbines within and beyond 5km, creating an area of partial and no theoretical visibility to the southeast of the proposed turbines which extends out to 10km.

To the north and northeast of the Site, visual screening from the northern stretch of the Slieveardagh Hills create large patches of partial and no theoretical visibility beyond 5km from the proposed turbines. Beyond 11km from the proposed turbines, this visual screening effect reduces and a mixture of full, partial and no theoretical visibility emerges, with full theoretical visibility increasing to the east of the proposed turbines, extending out to the border of the LVIA Study Area. This pattern results from the increasing elevation in this part of the LVIA Study Area, where the landform rises into the Castlecomer Plateau. There are also smaller patches of no theoretical visibility in this part of the LVIA Study Area (east, northeast, and north), given the undulating nature of the landform here.

To the northwest of the proposed turbines, the Slieveardagh Hills again provide substantial topographical screening with only limited areas primarily comprised of partial theoretical visibility arising where either the landform rises (i.e. Cullahill and Spahill) and where a small gap in the ridgelines created by the Slieveardagh Hills give rise to partial theoretical visibility. Aside from these areas, there is no theoretical visibility of the proposed turbines.

Overall, beyond 5km from the proposed turbines, theoretical visibility is primarily concentrated to the southwest, south, east and northeast.

13.3.2.2 On-Site Appraisal of Actual Visibility During Field Surveys

As mentioned previously, the ZTV map is a useful tool to indicate areas where there will be no visibility of the proposed turbines. In practice, vast areas of the LVIA Study Area which have an indication of full theoretical visibility by the ZTV map (Figure 13-1) are likely to have no visibility of the proposed turbines due to visual screening from other above ground features existent within the landscape.

Multiple field surveys were conducted during 2023 and 2024 to determine the actual visibility from locations where the ZTV has indicated full theoretical visibility. These surveys determined that visual screening from localised undulations in topography, vegetation and man-made elements substantially reduce the likelihood of viewing turbines in vast areas of the LVIA Study Area, in particular areas beyond 5km from the proposed turbines to the southwest, south, and east, including Kilkenny City.

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In most instances, visual screening existent in the gently undulating and highly vegetated landscape beyond 5km from the proposed turbines did not permit open views in the direction of the proposed turbines. Visibility is only likely to occur in isolated, elevated vantage points where open, long-ranging landscape views in the direction of the proposed turbines were found. Representative photomontages were captured from elevated locations where open views towards the proposed turbines were found. Visual effects arising from such locations are assessed in Section 13.7 – *Likely Significant Landscape and Visual Effects*.

Disproportionate Visual Screening Effect

Any landscape feature that blocks a view and prevents a clear onward view has a 'visual screening effect,' whether it is a one-metre-tall wall, a two-metre-high roadside hedgerow, a five-metre-high building, or a 15-metre tree. As a full visual screen, such features only allow a person to see over them, thereby pushing the person's line of sight higher into the sky rather than along the level of the ground.

The impact of visual screening elements such as vegetation (forestry, road-side hedgerows, and trees) and buildings (particularly within cities, towns, and villages) on long range visibility are accentuated in flat lowland landscapes, this is called a disproportionate visual screening effect. The graphic in Figure 13-3 below best explains this 'disproportionate screening effect'. A ZTV may indicate full theoretical visibility of the proposed turbines from an open field or roadway. However, when a receptor is located at the same base elevation as a turbine, a feature such as a distant treeline has the capacity to greatly restrict or completely obscure visibility of the proposed turbine. Distance becomes a substantial factor determining visibility of proposed turbines as it is difficult to see beyond a few kilometres above visual screening within a flat landscape.

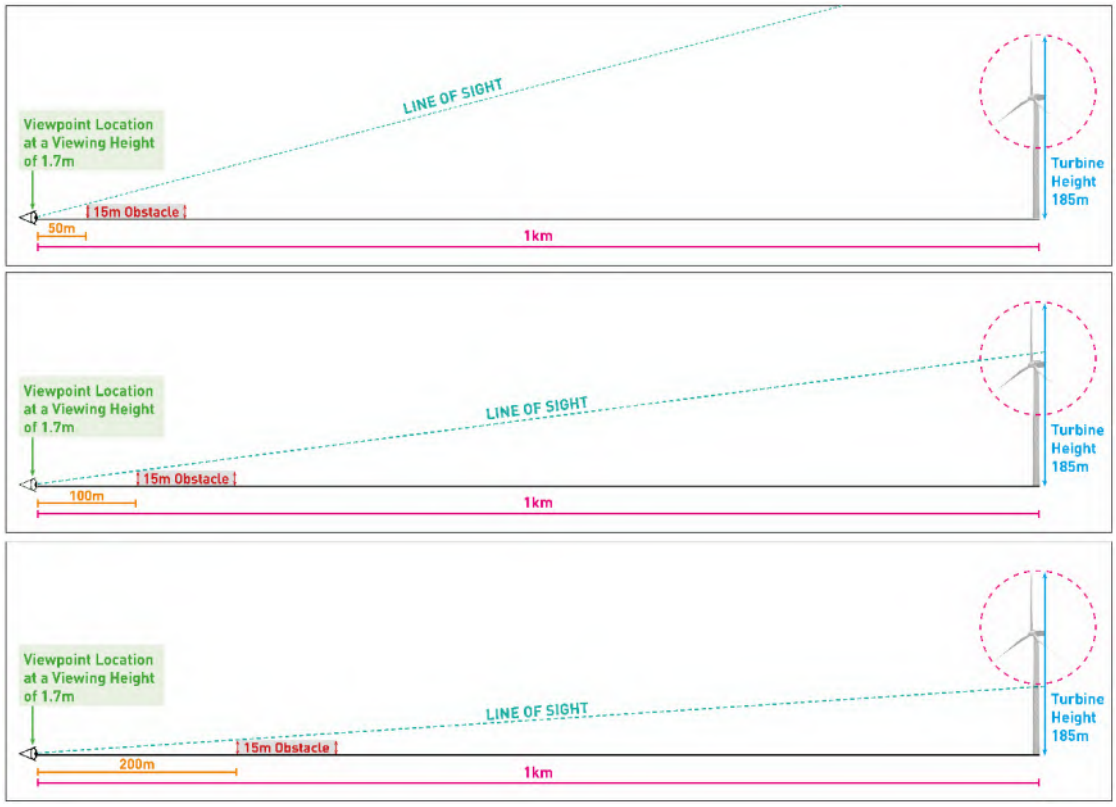

Figure 13-3 Disproportionate Visual Screening Effect

Figure 13-3 above illustrates the disproportionate screening effect that small features in the landscape can have on screening a proposed wind turbine from view. The figure shows a 185-metre-tall wind turbine located one kilometre from a viewing location. The illustration in Figure 13-3 is modelled proportionally to ensure measurement accuracy and scaled to fit this report. A 15-metre-tall obstacle, such as a treeline

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is used as the landscape feature giving rise to the visual screening effect. In the three examples shown, the 15-metre obstacle is shown at 50 metres, 100 metres and 200 metres from the viewing location, and the resultant line of sight is shown as a blue line running from the viewing location upwards over the top of the obstacle.

13.3.3 Visibility in Close Proximity to the Proposed Wind Farm – 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, a methodology was employed termed Route Screening Analysis (RSA), and this was undertaken from all roads within a three-kilometre radius of the proposed turbines. The full methodology is outlined in Section 1.3.3 of Appendix 13-1 and the categories recorded were as follows:

- **'Little/No'** visual screening: areas of the road that are mainly open with open views in the direction of the proposed turbines (see example below in see Plate 13-1);
- **'Intermittent/Partial'** visual screening: areas of the road where there are intermittent or partial views in the direction of the proposed turbines (see Plate 13-2);
- **'Dense/Full'** visual screening: areas of the road with dense visual screening, sufficient to block views in the direction of the proposed turbines (see Plate 13-3).

The results of the route screening survey are mapped in Figure 13-4, showing the extent at which each screening classification is present on all public roads within 3 km of the proposed turbines. Screening along the R695 regional road was recorded to a distance of 5 km as this is considered to be a relatively prominent and well trafficked transport route in close proximity to the proposed turbines.

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Map Legend

- Proposed Turbine Locations
- County Borders

Route Screening Analysis

- Class 1 - Little/No Visual Screening
- Class 2 - Intermittent/Partial Visual Screening
- Class 3 - Full Visual Screening

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Drawing No.

Figure 13-4

Drawing Title

Route Screening Analysis

Project Title

Briskalagh Renewable Energy Development

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Plate 13-1 Example of 'Little/No Visual Screening'

Plate 13-2 Example of 'Intermittent/Partial Visual Screening'

Plate 13-3 Example of 'Full Visual Screening'

R695 Regional Road

The R695 regional road passes within 1.3km of the nearest turbine at its closest location, running from east to west, and later to the south of the proposed turbines. The road is classified as having a mix of roadside screening, with stretches of Little/No Visual Screening along the eastern part of this section beyond 3km. Along the rest of the road the visual screening becomes a mixture of Full Visual Screening, Intermittent/Partial Visual Screening, and Little/No Visual Screening. The final section to the south of the proposed turbines and beyond 3km predominantly has Intermittent/Partial and Full Visual Screening.

Inner Perimeter Roads

There are five local roads within 1km of the proposed turbines. The L5024 to the north of proposed turbines is primarily classed as Intermittent/Partial and Full Visual Screening. The L5023 to the west of the proposed turbines is primarily Intermittent/Partial with some small patches of Little/No Visual Screening and Full Visual Screening. The L1008 to the southwest has a mixture of the three screening classes. The L10112 to the east is classed primarily as Full Visual Screening with a short stretch of Intermittent/Partial Visual Screening. The L10103 is a short local road to the north-east of the proposed turbines is primarily classed as Full Visual Screening with a very small stretch of Little/No Visual Screening recorded at the end of the route.

Outer Perimeter Roads

Between 1-3km from the nearest proposed turbine, the local roads to the east have a mixed class of visual screening, with limited instances of long stretches of Little/No Visual Screening along the L1010, meaning that views of proposed turbines from these roads will in general be intermittent. To the south and west, the local road network has less visual screening, with some large stretches of Little/No Visual Screening apparent along the L1011. However, between 2km and 3km from the nearest proposed turbine, there are

some instances of Little/No Visual Screening along the R695, but these views will be intermittent. To the east, there is mixed screening of the proposed turbines. To the north, the local road network is primarily classed as Full Visual Screening or Partial/Intermittent Visual Screening with some smaller stretches of Little/No Visual Screening further away from the proposed turbines. Local roads to the northeast are almost completely classified as a mixture of Full Visual Screening and Partial/Intermittent Visual Screening.

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Table 13-1 Route Screening Table

Screening Class	Length of Road Mapped in Figure 13-4 (kilometres)	Percentage Distribution of Screening on the Surveyed Roads
Little/No Visual Screening	12.8	23%
Partial/Intermittent Visual Screening	19.2	35%
Full Visual Screening	23.5	42%

Full Visual Screening was recorded for 42% of the surveyed roads, making it the most common pattern of visual screening category evident along the majority of roads, as seen in Figure 13-4 above. This was followed by Intermittent/Partial Visual Screening which was recorded for 35% of the roads surveyed. Lastly, the least common visual screening category recorded was Little/No Visual Screening which accounted for 23% of all routes surveyed. The mosaic pattern of visual screening evident along the majority of the roads suggests that there will be intermittent visibility along most of the routes, with visibility varying along any route, offering short stretches where there is open visibility, but quickly transitioning into Partial/Intermittent or Full Visual Screening. The majority of views along the routes surveyed will provide either Full Visual Screening or Partial/Intermittent Visual Screening, particularly in close proximity to the proposed turbines, with these levels of visual screening recorded along 77% of the road network.

Given that there is at least some level of visual screening (either Partial/Intermittent or Full Visual Screening) present on the majority of the roads that were route screened, this suggests that the widespread full theoretical visibility indicated on the ZTV within 5km is not fully representative of the actual on ground visibility of the proposed turbines.

The outcomes of the RSA and on-site visibility appraisals provide a strong indication of locations where visibility of the proposed turbines will occur and where potential effects on receptors will arise and not arise in close proximity to the Site. These methods are therefore a useful tool (as well as ZTV mapping) for ensuring a focussed approach in selection of photomontage viewpoints and assessment of effects on receptors surrounding the Proposed Wind Farm such as local residential visual amenity. The RSA is therefore also considered and discussed in Section 13.7.3.3.4 – Residential Visual Amenity.

13.4 Landscape Baseline

The Landscape Baseline reports relevant policy pertinent to the LVIA, as well as a description of the receiving landscape of the Site and its wider setting. This is broken down into the following sections:

- **Landscape Designations and Policy Context** – Policy setting pertaining to the location and nature of the Proposed Project Site from a landscape perspective based on:
  - Kilkenny City and County Development Plan 2021-2027
  - Tipperary County Development Plan 2022-2028
  - Laois County Development Plan 2021-2027

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- **Landscape Character of the Proposed Wind Farm site** – A description of the physical landscape and characteristics of the Site and its immediate setting, this includes the following considerations:
  - Landscape characteristics based upon findings from site visits conducted in 2023 and 2024.
  - An appraisal of landscape value and the susceptibility of the landscape to change, and a determination of landscape sensitivity.
- **Landscape Characterisation of the Proposed Wind Farm site as defined in the Guidelines** – A review of the guidance relating to the siting and design of wind energy developments in specific landscape types in the context of the landscape characteristics and landscape type of the Site.
- **Landscape Character of the Wider Landscape Setting** - A description of the wider landscape setting, including the identification of designated Landscape Character Areas (LCAs) located within a 15 km LCA Study Area and a preliminary analysis using ZTV mapping.

13.4.1 Landscape Designations and Policy Context

This sub-section reviews the specific policies and objectives of various planning policy documents relating to the landscape, planning, and the locational sitting of wind farms, as they relate to the Proposed Wind Farm site.

The Proposed Project is located in County Kilkenny, therefore, the Kilkenny County Development Plan 2021 – 2027 (hereafter referred to as the KCDP) was consulted to identify landscape designations existent in the LVIA Study Area. Additionally, general landscape policy and landscape policy pertaining to wind energy development are also included in this section of the LVIA, providing context for the selection of the Proposed Wind Farm site as a landscape suitable for a wind energy development.

The KCDP is used as the principal policy document consulted for landscape policy. However, as demonstrated by the ZTV mapping, two other counties, Tipperary, and Laois, are also located in the LVIA Study Area and comprise areas with theoretical visibility of the proposed turbines. Consequently, the County Development Plans of counties Tipperary and Laois were also consulted to identify relevant landscape designations existent within the LVIA Study Area.

13.4.1.1 County Kilkenny

Section 9.2.12 of the KCDP sets out the management and protection of landscape contained within the county, and specifically states that;

> *"the onus shall be on the developer to satisfactorily demonstrate that such new development can be adequately absorbed into its surrounding landscape without significant adverse visual impacts to its overall landscape value."*

The same section sets out a number of factors for consideration in relation to landscape including Landscape Character Assessment, Landscape Character Types and Areas and Landscape Character Values, as well as Landscape Areas of Highly Scenic and Significant Visual Amenity Value. In addition to these, *Section 9.2.12.6* outlines the views and prospects designated under the KCDP. These factors are all addressed individually in the following sections.

General Development Management Requirements set out in the KCDP relating to landscape include:

> *"Where necessary, to require that applications are accompanied by a visual impact assessment, particularly in upland areas, river valleys and areas of greater sensitivity.*

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To facilitate appropriate development that reflects the scale, character, and sensitivities of the local landscape throughout the county, and require that developments minimise the loss of natural features such as trees, hedgerows, and stone walls.

To facilitate, where appropriate, developments that have a functional and locational natural resource requirement to be situated on steep or elevated sites (e.g. reservoir, telecommunications, or wind energy structures) with reference to the appropriate County strategies currently in place, and to ensure that any residual adverse visual impacts are minimised or mitigated.

To ensure that development in upland areas or on steep slopes will not have a disproportionate or dominating visual impact (due to excessive bulk, scale, or inappropriate siting) and will not significantly interfere or detract from scenic upland vistas, or when viewed from public areas, scenic routes, viewpoints, or settlements.

To have particular regard to the potential impacts of new development on sensitive upland areas, and to materially consider the difficulty of establishing and maintaining screening vegetation when assessing development proposals in these areas.

To maintain the visual integrity of areas of greater sensitivity in the county and ensure that any development in these areas is appropriately sited and designed. Applicants shall demonstrate that the proposed development can be assimilated into the landscape and will not have a disproportionate visual impact on the landscape."

The assessment of landscape and visual impacts reported below in Section 13.7 addresses and is cognisant of the specific Development Management Requirements set out above. There are additional Development Management Requirements set out in the following sections related to specific designations in the KCDP.

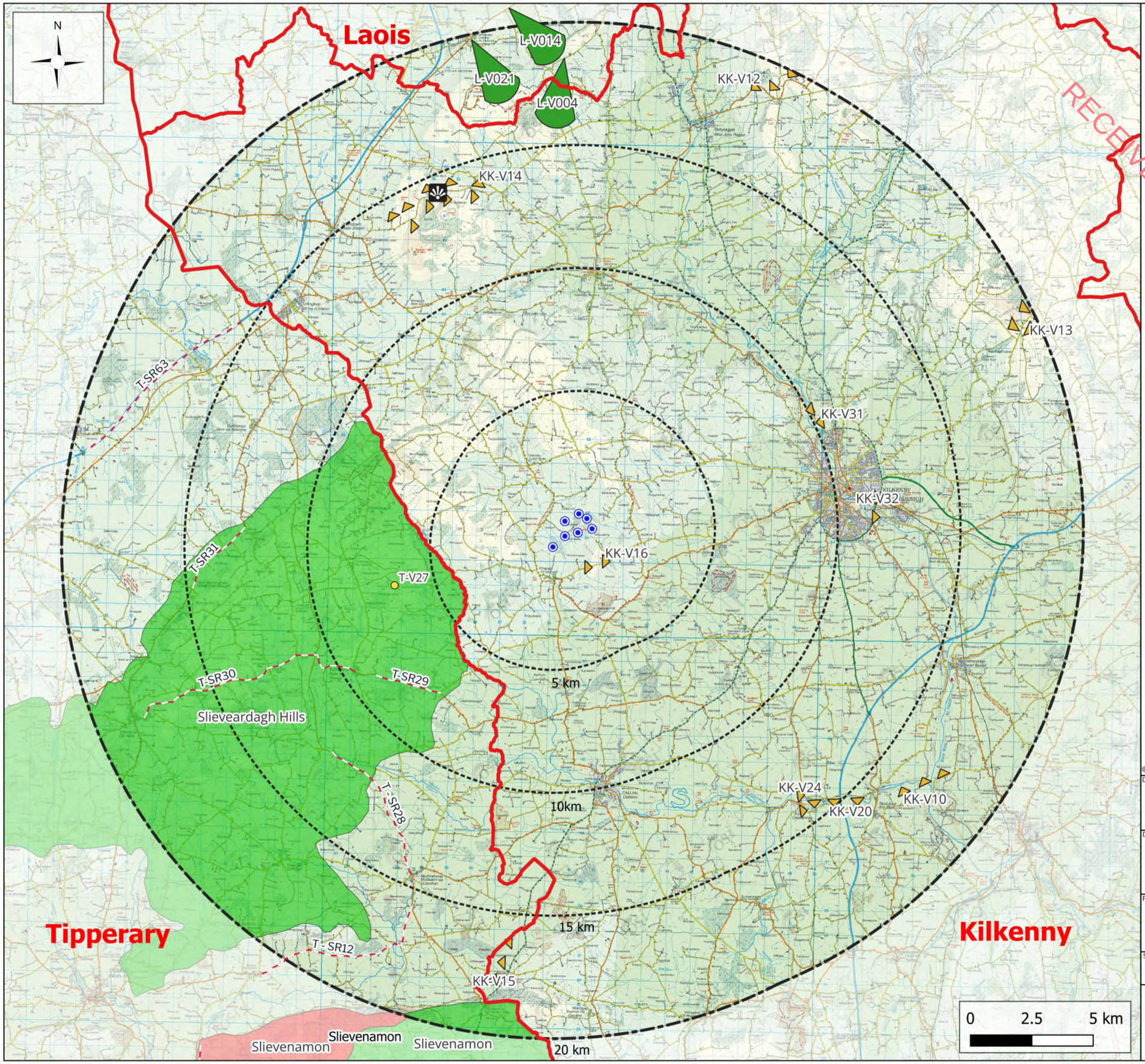
13.4.1.1.1 Views and Prospects

Section 9.2.12.6 of the KCDP states that;

"There is a need to protect and conserve views and prospects adjoining public roads and river valleys throughout the county where these views are of high amenity value. In conserving views, it is not proposed that this should give rise to the prohibition of development along these routes but development, where permitted, should not seriously hinder, or obstruct these views and should be designed and located to minimise their impact."

The views and prospects designated in the KCDP are listed in *Appendix H* of the KCDP and are also shown on *Figure 9.2* of the KCDP. The designated views and prospects located within the LVIA Study Area can be seen in two mapping Figures below (Figure 13-5 and Figure 13-6)[1]. The designated views and prospects listed in Table 13-2 below after the mapping figures.

[1] *For purposes of clarity, continuity, and reference to mapping figures in this chapter; designated scenic views are labelled 'V' and scenic routes 'SR', each is prefixed by the first letter of the county in which it is located e.g., 'KK' for Kilkenny, 'T' for Tipperary and 'L' for Laois. The last number in each label corresponds to the label or number assigned to each designation in the respective county development plans (e.g., KK-V14 = Kilkenny – Scenic Route No. 14).*



Map Legend

- Proposed Turbine Locations
- LVIA Study Area
- County Borders

Designated Scenic Routes and Views

- County Kilkenny Protected Views (KCDP)
- County Laois Protected Views (LCDP)
- County Tipperary Scenic Routes (TCDP)
- County Tipperary Scenic Views (TCDP)
- OSI Viewing Points

Tipperary Primary and Secondary Amenity Areas

- Primary Amenity Areas
- Secondary Amenity Areas

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Drawing No.

Figure 13-5

Drawing Title

Landscape Policy Context

Project Title

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Scale	Project No.	Date	Drawn By	Checked By
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Laois

Tipperary

Kilkenny

L-V014
L-V021
L-V004
KK-V12
KK-V14
KK-V13
KK-V31
KK-V32
KK-V16
KK-V24
KK-V20
KK-V10
KK-V15
T-V27
T-SR63
T-SR31
T-SR30
T-SR29
T-SR28
T - SR12
Slieveardagh Hills
Slievenamon
Slievenamon
5 km
10km
15 km
20 km
0 2.5 5 km

Map Legend

- Proposed Turbine Locations
- LVIA Study Area
- County Borders

Designated Scenic Routes and Views

- County Kilkenny Protected Views (KCDP)
- County Laois Protected Views (LCDP)
- County Tipperary Scenic Routes (TCDP)
- County Tipperary Scenic Views (TCDP)
- OSI Viewing Points

Tipperary Primary and Secondary Amenity Areas

- Primary Amenity Areas
- Secondary Amenity Areas

Zone of Theoretical Visibility

- 1-2 Turbines Theoretically Visible
- 3-4 Turbines Theoretically Visible
- 5-6 Turbines Theoretically Visible
- 7 Turbines Theoretically Visible

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Drawing No.

Figure 13-6

Drawing Title

Landscape Policy Context & ZTV

Project Title

Briskalagh Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
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Table 13-2 Designated Views and Prospects in County Kilkenny within the LVIA Study Area

Reference (KCDP)	Description (KCDP)	Map Ref
V16	View East towards Kilkenny City on the Kilkenny/Kilmanagh Road No. LP 1011 between the junction with road nos. LT10111-4 and LT10112-10.	KK-V16
V10	View Northwest over the valleys and the confluence of the River Nore and King's River on the Stoneyford/Bennettsbridge Road (LP4202) between the junctions with road no's LT 42022-6 (Ballycoam) and LS8200.	KK-V10
V12	Views overlooking Castlecomer and Ballyragget on the Castlecomer/Ballyragget Road (R694) between its junctions with road nos. LT5852 and LT5847.	KK-V12
V13	Views southwest over Kilkenny City and southeast over Carlow on Ballysallagh/Kanesbridge Road No. LP 1851 between the junctions with road nos. LT6654 and LS5886.	KK-V13
V14	Views north and east on the Johnstown/Gattabaun Road No. LP1805 between junctions with Road nos. LT18054 and LT18056.	KK-V14
V20	Views south over King's River Valley on Road no. LS5067 between Kells and the R713 (Waterford Road).	KK-V20
V24	View of Kells Priory from Kells village along LP1027.	KK-V24
V31	Panoramic view of River Nore Valley from Bleach Road.	KK-V31
V32	View of River Nore Valley to east from Ossory Bridge	KK-V32

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The KCDP also contains the following Development Management Requirements related to designated views and prospects:

> *"The Council will preserve and support the improvement of places or areas from which views or prospects of special amenity value exist."*
>
> *"To ensure that development in the River Valleys will not adversely affect or detract from either protected views (see Appendix H) (especially from bridges) or distinctive linear sections of river valleys (especially open floodplains) when viewed from settlements.*

As the scenic amenity designations listed in the previous table and shown in the mapping are of a visual nature, they are comprehensively addressed in Section 13.5 of this Chapter – Visual Baseline, where ZTV mapping and on-site appraisals determine the likely visibility of the proposed turbines within these scenic views.

13.4.1.1.2 Landscape Character Assessment

A Landscape Character Assessment prepared for County Kilkenny in 2008, a supporting document of the KCDP, titled *Landscape Appraisal of County Kilkenny 2008-2016*, hereafter referred to as (LACK),

identifies four Landscape Character Types (LCTs) which are subdivided into 14 Landscape Character Areas (LCAs). This is also outlined in *Sections 9.2.12.2* and *9.2.12.3* of the KCDP. The KCDP states that

> *"The Council will protect and sustainably manage the landscape character of County Kilkenny, having regard to the findings of the landscape character assessment and the Development Management Requirements as set out in this chapter for the sustainable development of the county and appropriate conservation of its landscape character."*

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Landscape Character Types

The four designated LCTs within County Kilkenny are:

- Upland Areas
- Lowland Areas
- River Valleys, and
- Transitional Areas

The Proposed Wind Farm is located within lands designated as Upland Areas. The underground cable route forming part of the Proposed Grid Connection passes through all four LCTs.

Landscape Character Areas

As stated above, the LCTs are subdivided into 14 geographically specific LCAs. Section 9.2.12.3 of the KCDP describes LCAs as *"units of the landscape that are geographically specific and have their own character and sense of place."* Some of these LCAs are further subdivided into multiple parts, such as LCA A and LCA A1. In total, there are 23 subdivided LCAs and each of these subdivided LCAs are assessed individually as a separate LCA. These are shown and listed on *Figure 9.2* of the KCDP. The Proposed Wind Farm is located within LCA A – Slieveardagh Hills (North and South) as identified on *Figure 9.2* of the KCDP. Following the *Landscape Appraisal of County Kilkenny* the Proposed Wind Farm is specifically located within the southern part of the Slieveardagh Hills. The *Landscape Appraisal of County Kilkenny* goes on to describe this LCA as follows:

> *"The Slieveardagh Uplands (Hills) are located in the northwest of County Kilkenny and extend into the neighbouring County of Tipperary. The undulating hills situated within County Kilkenny lie to the west of the Nore Valley and to the north of the Kilkenny basin.*
>
> *At the south hills, the terrain slopes from the Nore Valley to the highest point of 333m above sea level near the village of Ballybeagh.*
>
> *The elevated nature of this physical area provides a defined skyline with scenic views over southwest Kilkenny and the neighbouring county of Tipperary.*
>
> *Although this area is generally perceived as having no significant landscape value (refer to Document 2), the northern hills are perceived as having certain ecological and scenic value. The zone is also perceived as having development potential."*

The LACK also lists a number of Critical Landscape Factors for this LCA:

> *"**Elevated Vistas:** As a result of the elevated road level and the lack of tall vegetation, there are long distance views towards the Kilkenny Lowlands and the Castlecomer Plateau*
>
> ***Slopes:** Sloping land often provides an area with its character and offers a potentially increased elevation, intensifying the visual prominence of any feature over greater distances, as in the case of the Slieveardagh Hills. Slope also provides an increased opportunity for development to*

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penetrate primary and secondary ridgelines when viewed from lower areas of the public realm such as the roads and population centres in this area.

Prominent Ridgelines: *These occur as either primary ridgelines (visible only against the sky from any prospect) or secondary ridgelines (visible at least from some prospects below a distant primary ridge line). In this upland environment of the Slieveardagh Hills, nearly all ridgelines are primary when viewed from the lowland areas. Ridge lines perform the important roles of providing an area with its identity, acting as dominant landscape focal points, and defining the extent of visual catchments. Therefore, the main concern for the natural linear features formed by the ridgelines of the Slieveardagh Hills is to avoid penetration by development that will interrupt and reduce the integrity of such elements.*

Undulating Topography: *Gently undulating topography is presented within the upland area of this character unit. The physical shielding of a built form within the lee of hill where it does not break the skyline renders it visually unobtrusive and reflective of landscape scale. Furthermore, the dynamic and complex nature of undulating land encloses vistas and helps to provide a realistic scale and visual containment not available in open lands.*

Low Vegetation: *Low vegetation, represented in this unit by grassland, moorland, and generally low hedgerows, is generally uniform in appearance, failing to break up vistas and allowing long distance visibility, and therefore, providing an inability to absorb development.*

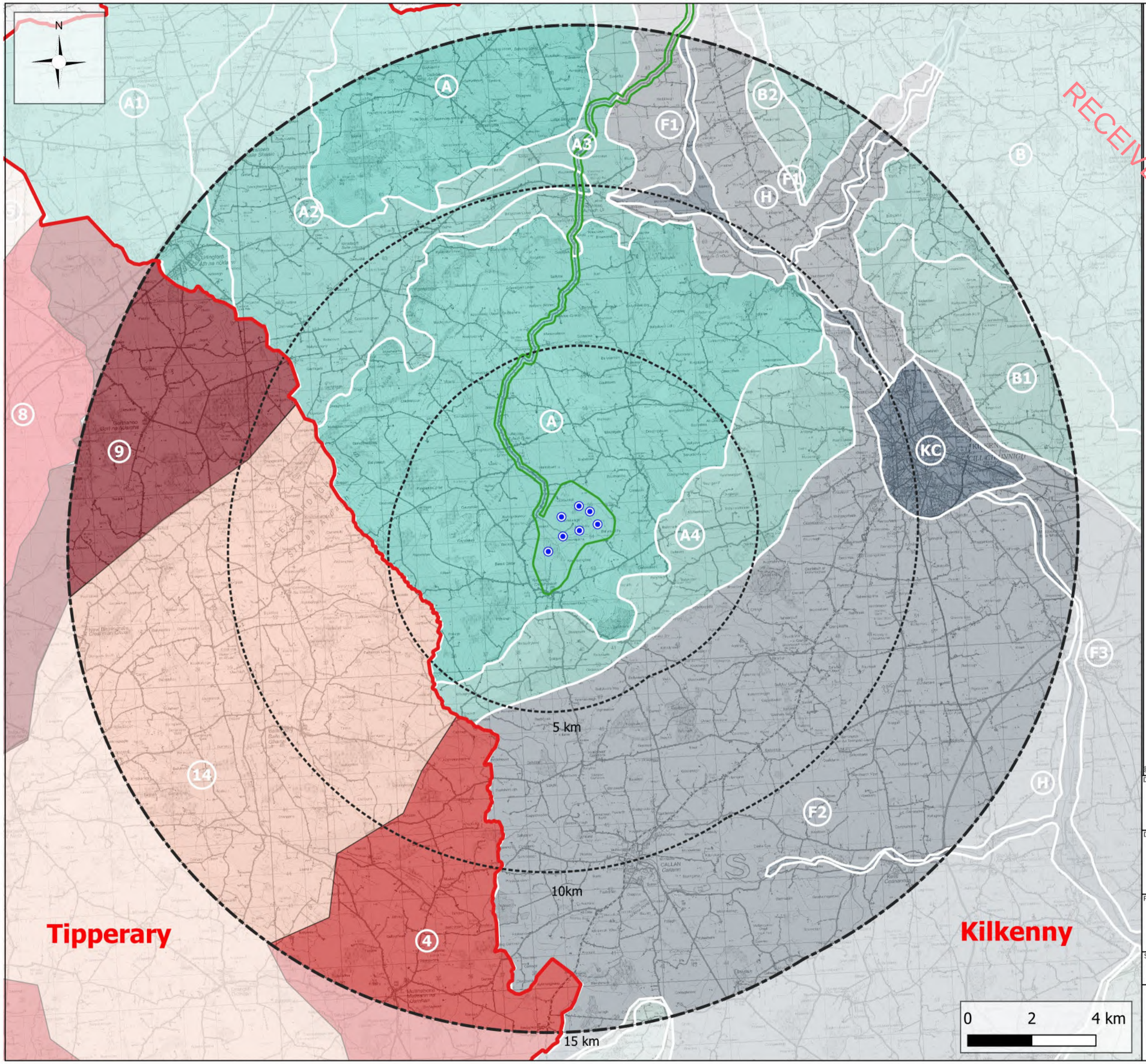
Shelter Vegetation: *Shelter vegetation, represented in certain areas of this unit by coniferous plantations and broadleaved woodlands, provides visual screening, enclosing vistas and helping to provide a visual containment not available in open, low-vegetation lands."*

These Critical Landscape Factors are fully considered as part of the impact assessment outlined in Appendix 13-2 – LCA Assessment Tables and are discussed further below in Section 13.7.

There are 16 no. subdivided LCAs in total, identified in the KCDP, that are located within the LCA Study Area (15km from the nearest proposed turbine, see Section 13.2.1 above).

- LCA A – Slieveardagh Hills (North)
- LCA A – Slieveardagh Hills (South)
- LCA A1 – Slieveardagh Western Transition Zone
- LCA A2 – Slieveardagh Central Transition Zone
- LCA A3 – Slieveardagh Eastern Transition Zone
- LCA A4 – Slieveardagh Southern Transition Zone
- LCA B – Castlecomer Plateau
- LCA B1 – Castlecomer Southern Transition Zone
- LCA B2 – Castlecomer Western Transition Zone
- LCA C – South Western Hills
- LCA C1 – South Western Hill Northern Transition
- LCA F1 – Kilkenny Northern Basin
- LCA F2 – Kilkenny Western Basin
- LCA F3 – Kilkenny Eastern Basin
- LCA G – South Kilkenny Lowlands
- LCA H – Nore Valley

A full description of the key characteristics and Critical Landscape Factors (as outlined in the LACK) of LCAs scoped in for further assessment below in *Section 13.4.3.2* are included in the LCA impact assessment tables comprising Appendix 13-2. Figure 9.2 of the KCDP also contains KC – Kilkenny City, separating the settlement from the other LCAs. Considering the nature of this urban area, Kilkenny City is fully considered and assessed as a settlement in its own right as a visual receptor below in Section 13.5 Visual Baseline, rather than a Landscape Character Area.



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Map Legend

- Proposed Turbine Locations
- EIAR Study Boundary
- LCA Study Area
- County Borders

Tipperary Landscape Character Areas

- T-LCA 4 - River Suir Central Plain
- T-LCA 8 - Littleton Raised Bog
- T-LCA 9 - Littleton, Farmland Mosaic & Marginal Peatlan
- T-LCA 14 - Slieveardagh Hills and Farmland Mosaic

Kilkenny County Development Plan

- KK-LCA A - Slieveardagh Hills (North)
- KK-LCA A - Slieveardagh Hills (South)
- KK-LCA A1 - Slieveardagh Western Transition Zone
- KK-LCA A2 - Slieveardagh Central Transition Zone
- KK-LCA A3 - Slieveardagh Eastern Transition
- KK-LCA A4 - Slieveardagh Southern Transition Zone
- KK-LCA B - Castlecomer Plateaux
- KK-LCA B1 - Castlecomer Southern Transition Zone
- KK-LCA B2 - Castlecomer Western Transition
- KK-LCA C - South Western Hills
- KK-LCA C1 - South Western Hills Northern Transition
- KK-LCA F1 - Kilkenny Northern Basin
- KK-LCA F2 - Kilkenny Western Basin
- KK-LCA F3 - Kilkenny Eastern Basin
- KK-LCA H - Nore Valley (South)
- KK-LCA KC - Kilkenny City

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Drawing No.

Figure 13-7

Drawing Title

Landscape Character Areas

Project Title

Briskalagh Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:115,000	230502	02/10/2024	AR	JW

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Special Value Landscapes

Section 9.2.12.4 of KCDP notes that:

"the special landscape value of several of the Landscape Character Areas illustrated in Figure 9.2 – in particular Brandon Hill Uplands and the River Valley Areas of the Rivers Nore, Barrow and Suir have been identified as being highly scenic and visually pleasing, and as having significant visual amenity value and tourism potential within the county."

The KCDP contains the following Development Management Requirement related to the areas identified above;

> *"To ensure that development within the Landscape Character Areas of Brandon Hill Uplands and the River Valleys of the Nore, Barrow and Suir, which are highly scenic and visually pleasing, and of significant visual amenity value, are carefully sited and designed and can be successfully assimilated into the landscape."*

The proposed turbines are not located within any LCAs identified as being of special value. Therefore, the proposed turbines will not directly alter the physical fabric of these LCAs.

There is only one high value landscape within the LCA Study Area. LCAH - Nore Valley is located approximately 9.6km from the nearest proposed turbine at its closest point. The underground cable route forming part of the Proposed Grid Connection passes through this LCA briefly as it merges from the R694 Regional Road into the N77 National Road near the settlement of Ballyragget.

As it is a designated Landscape Character Area in the LACK, LCA H – Nore Valley is addressed in Section 13.4.4.3 LCA Preliminary Analysis, as an LCA, where it is scoped out from further assessment in the Preliminary Analysis due to the distribution of theoretical visibility illustrated on the ZTV map and the low lying nature of the lands along this densely vegetated riparian corridor.

13.4.1.1.3 Landscape Character Sensitivity

Section 9.2.12.5 of the KCDP describes the sensitivity of LCAs as "its overall resilience to sustain its character in the face of change and its ability to recover from loss or damage to its components."

Section 9.2.12.5 continues to outline the sensitivity of the LCAs identified within County Kilkenny. The KCDP states that:

> *"The Landscape Character Assessment identified areas throughout the county that are highly sensitive to development and have a limited capacity for change. These areas are identified on Figure 9.3. These areas take account of areas of higher altitude in the county and of land cover. In general areas of elevated topography, with low growing or sparse vegetation and little existing development are landscapes of high sensitivity and have a low potential to absorb new development."*

Section 5 of the *Landscape Appraisal for County Kilkenny* establishes five sensitivity classifications in the 'Sensitivity Zoning Key', these are reported below:

- *Class 1 – Degraded (Areas Characterised by breakdown of natural process/pollution)*
- *Class 2 – Robust (Areas of existing development and infrastructure. New development reinforces existing desirable land use patterns).*
- *Class 3 – Normal (A common character type with a potential to absorb a wide range of new developments).*
- *Class 4 – Sensitive (Distinctive character with some capacity to absorb a limited range of appropriate new developments while sustaining its existing character)*

- *Class 5 – Vulnerable (Very distinctive features with a very low capacity to absorb new development without significant alterations of existing character over an extended area)*

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These five sensitivity classes are assigned to each LCA in the LACK. In most instances, more than one sensitivity Class is assigned to each LCA. *Section 5.4* of the LACK defines 'Pasture Lands' as 'Normal Landscapes,' and describes these as follows:

> *"These tend to be confined to low lying or gently undulating areas where conditions are relatively fertile and therefore suitable to support tall vegetation, which could screen and therefore absorb development. The vegetation is often in the form of small copses of trees or mature hedgerows which sub-divide fields."*

The Proposed Wind Farm site is comprised primarily of pasture, as outlined in Section 13.4.2 below. Therefore, in line with the above noted policy, the landscape of the Proposed Wind Farm site is classed as Normal, classified as *"a common character type with a potential to absorb a wide range of new developments."*

Sensitive Landscape Features

In addition to the broad landscape designations outlined above, at a more specific level, as stated in Section 9.2.12.5, the Landscape Character Assessment identifies areas throughout the county that are highly sensitive to development and have a limited capacity for change. Section 4.2.2. of Appendix K of the KCDP notes that *"In some areas, where sensitivity arises because of altitude or steepness, a closer focus on features will reveal that the most sensitive area may be the environs of a prominent ridge line, or visibility from a main settlement"* and continues to state that the highest landscape sensitivity arises from a combination of *"elevated steep-sided ridgelines, Slopes in excess of 10% and altitudes in excess of 200m".*

These features are mapped on Figure 9.3 Landscape Sensitivities in Chapter 9 Heritage of the KCDP, reproduced in Figure 13-8 below showing the location of the Proposed Wind Farm within Figure 9.3 of KCDP.

Section 4.2.2 of the KCDP continues to note that;

> *"The mapping of the sensitivity of these areas and features should not be viewed as a prohibition on development, however the visual impact of any large-scale wind energy development in proximity to these features of sensitivity needs to be addressed in a Landscape Impact Assessment report."*

As seen in Figure 13-8 below, the Proposed Wind Farm site is situated near contours, ridgelines, and gently steep landscape areas. Some surrounding land, which encloses the proposed turbines, has altitudes exceeding 200 meters and would therefore be considered as designated 'sensitive landscape features' in context of the KCDP. From an LVIA perspective, the elevated landforms and ridgelines enclosing the Proposed Wind Farm site are advantageous for reducing the visual exposure of the Proposed Wind Farm from a large proportion of the LVIA Study Area. No designated 'sensitive landscape features' are present within the Proposed Wind Farm site itself. However, this LVIA chapter recognizes the designations of the ridgelines, and these are thoroughly assessed in Section 13.7 - Likely Significant Landscape and Visual Effects.

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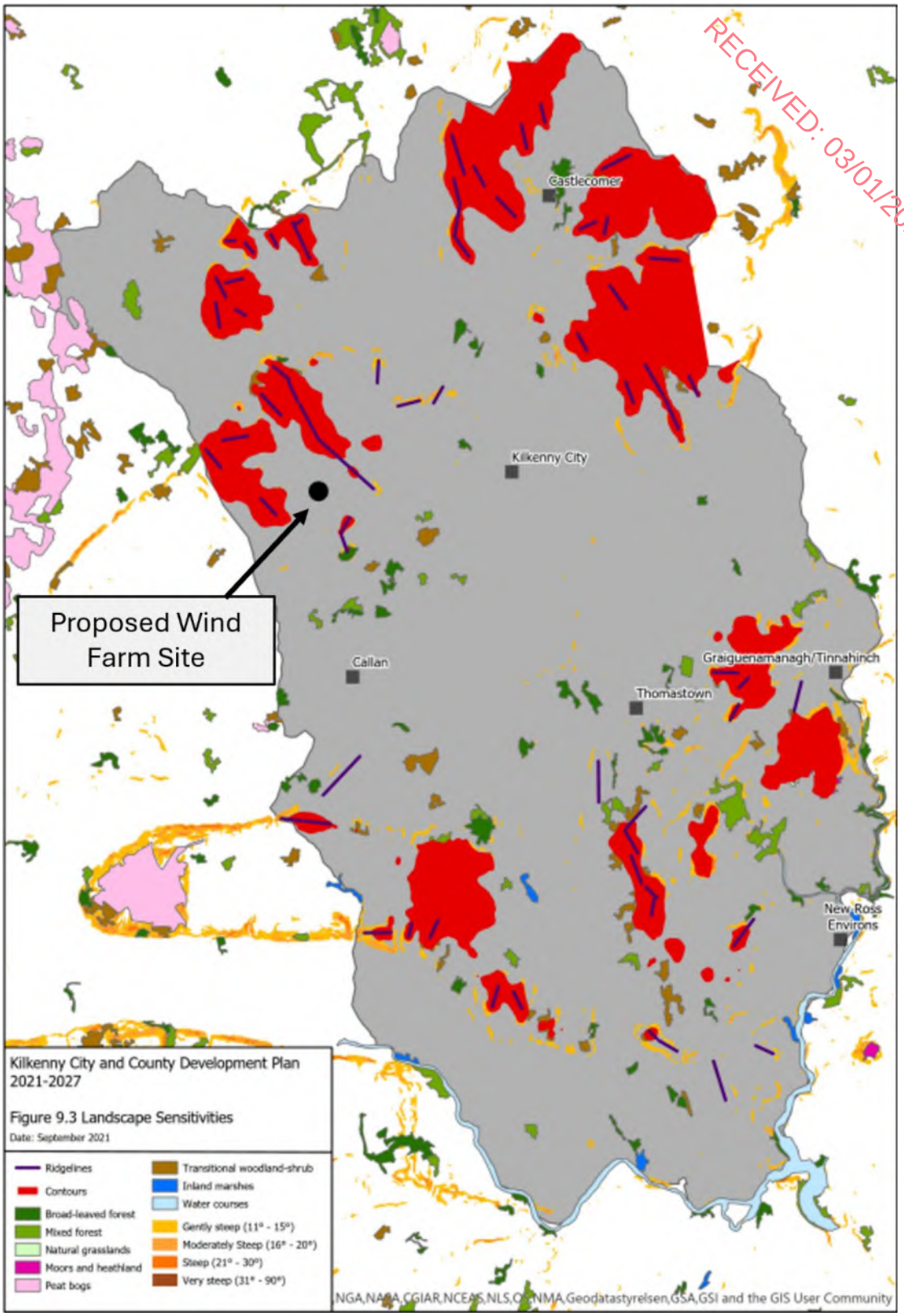
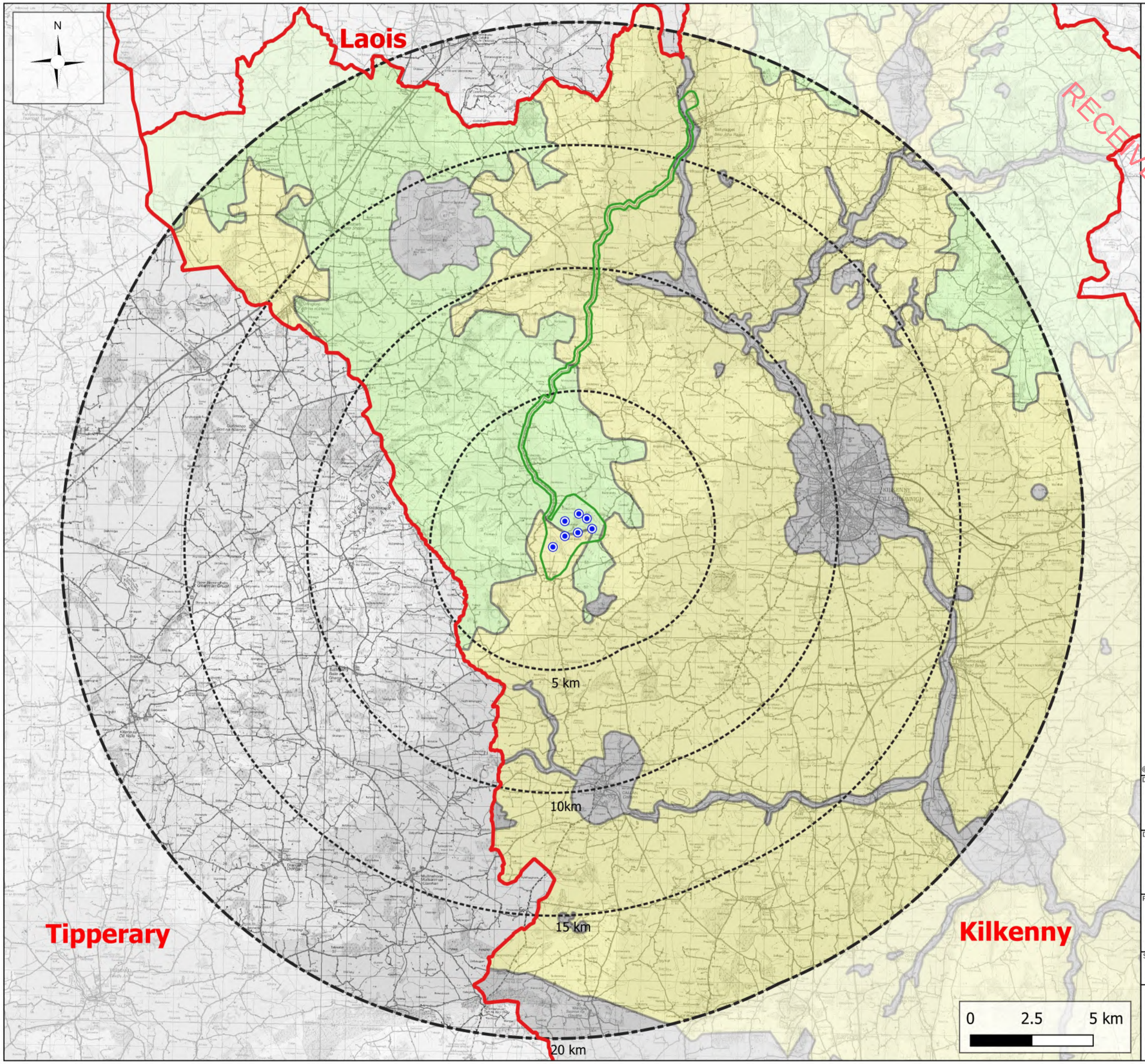


Figure 13-8 KCDP Landscape Sensitivity Map (Extracted and edited from Figure 9.3 of KCDP)



Map Legend

- Proposed Turbine Locations
- EIAR Study Boundary
- LVIA Study Area
- County Borders

Wind Energy Strategy Areas

- Acceptable in Principle
- Open for Consideration
- Not Normally Permissible

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Drawing No.

Figure 13-9

Drawing Title

Wind Energy Strategy

Project Title

Briskalagh Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:150,000	230502	02/10/2024	AR	JW

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13.4.1.1.4 Wind Energy Strategy

The Kilkenny Wind Energy Strategy is detailed in in Section 11 of the KCDP - *Renewable Energy* and Appendix K – Wind Energy Strategy. Section *11.5.2* of the KCDP states that

> *"A wind energy strategy has been developed for this plan building on the strategies from previous development plans and having regard to Government policy generally and the Draft Revised Wind Energy Development Guidelines"*

In accordance with the draft Guidelines requirements, the KCDP divides the county into three policy areas for the development of wind farms:

> *"(a) acceptable in principle;*
>
> *(b) open to consideration for wind energy development*
>
> *(c) not normally permissible."*

The KCDP outlines that both quantitative and qualitative factors are used to estimate the potential for impact of Wind Energy developments on the landscape. As stated in the KCDP, in accordance with the draft Guidelines, these are comprised in four parts, being:

- *"Landscape sensitivity (ranging from very low sensitivity to very high sensitivity)*
- *Visual presence of the wind energy development (ranging from minimal presence to highly dominant)*
- *Aesthetic impact of the wind energy development on its landscape context (ranging from major positive impact to major adverse impact)*
- *Significance of the impact (ranging from insignificant to major)"*

It is important to note that as outlined in detail in Section 2.4.4 of Chapter 2, the WES is subject to a draft ministerial direction. As the previous County Development Plan has since expired and the wind strategy area named above shall be taken not to have come in effect, the Renewable Energy Polices and Wind Strategy Areas cannot be taken into account. At the time of writing, the development has been assessed in line with the adopted KCDP as there has been no update on the ministerial direction.

However, as the Wind Energy Strategy considers landscape factors, including landscape designations and sensitivities, the WES and its policy areas have been appropriately considered within this Landscape and Visual Impact Assessment (LVIA) Chapter.

As seen in Figure 13-9 (above) most of the proposed turbines and infrastructure of the Proposed Wind Farm is located within an area designated as 'Acceptable in Principle', with 2 of the proposed turbines (turbines T6 and T7) located within an area classified as 'Open for Consideration'. Appendix K of the KCDP describes these designations as follows:

> *"**Acceptable in Principle**: This is the preferred area for wind energy development, characterised by high wind speeds, and no significant conflict with environmental designations or sensitivities.*
>
> ***Open for Consideration:** This area is characterised by no significant conflict with environmental designations or sensitivities."*

Section 11.5.2 of the KCDP discusses large scale wind energy developments and states that:

> *"Large-scale wind energy developments will, in usual circumstances, only be considered in 'Acceptable in principle' areas. The rationale behind this policy is to minimise the visual impacts of such large-scale developments, in addition to effects on the environment of County Kilkenny*

as a whole, as well as to facilitate appropriate grid connections. These will be assessed in accordance with the Wind Energy Development Guidelines."

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Section 13.4.1.1.3, 'Landscape Character Sensitivity' previously, highlights that there are no 'Sensitive Landscape Features,' such as steep slopes or elevated ridgelines, within the Proposed Wind Farm site itself. The KCDP defines the highest landscape sensitivity as arising from a combination of *"elevated steep-sided ridgelines, slopes exceeding 10%, and altitudes over 200m".* Despite this, within the surrounding area, peaks exceeding 200m within the 'Acceptable in Principle' area have already been deemed suitable for wind energy development. In contrast, areas classified as 'Open to Consideration' are at significantly lower elevations and feature less prominent ridgelines compared to those in the 'Acceptable in Principle' areas.

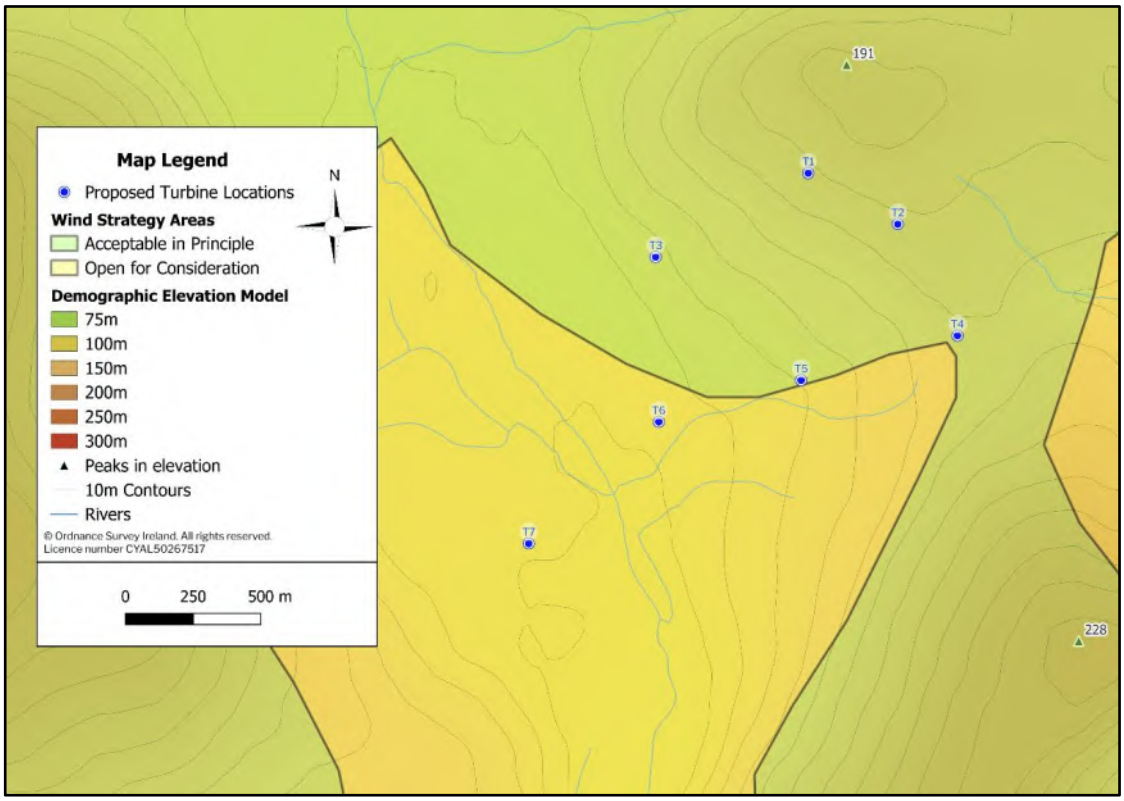

Figure 13-10 Wind Energy Designations in relation to the proposed turbines (Background in DEM)

It can be considered that, on a broader scale, the delineation of strategy area borders is determined by overarching policy considerations rather than specific landscape value. As depicted in Figure 13-11 below, all proposed turbines are located within a single landscape unit, characterised by low elevation agricultural fields, typical of a modified, remote, working landscape of local value.

Section 4.1 of Appendix K states *that "available wind speed is therefore a key factor in determining the economic viability of potential wind energy locations,"* suggesting that wind speeds are the primary consideration in the delineation of area borders, as reflected in Figure 13-12 below, where these borders correspond closely with mapped variations in wind speed (see Figure 1 of Appendix K – Wind Energy Development Strategy). While landscape sensitivity is referenced in the Wind Energy Strategy within the

KCDP, the comparison between Figure 13-11 and Figure 13-12 below indicates that the mapped wind speed is the major driver in the positioning of these borders.

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Figure 13-11 Wind Energy Strategy in comparison to landscape

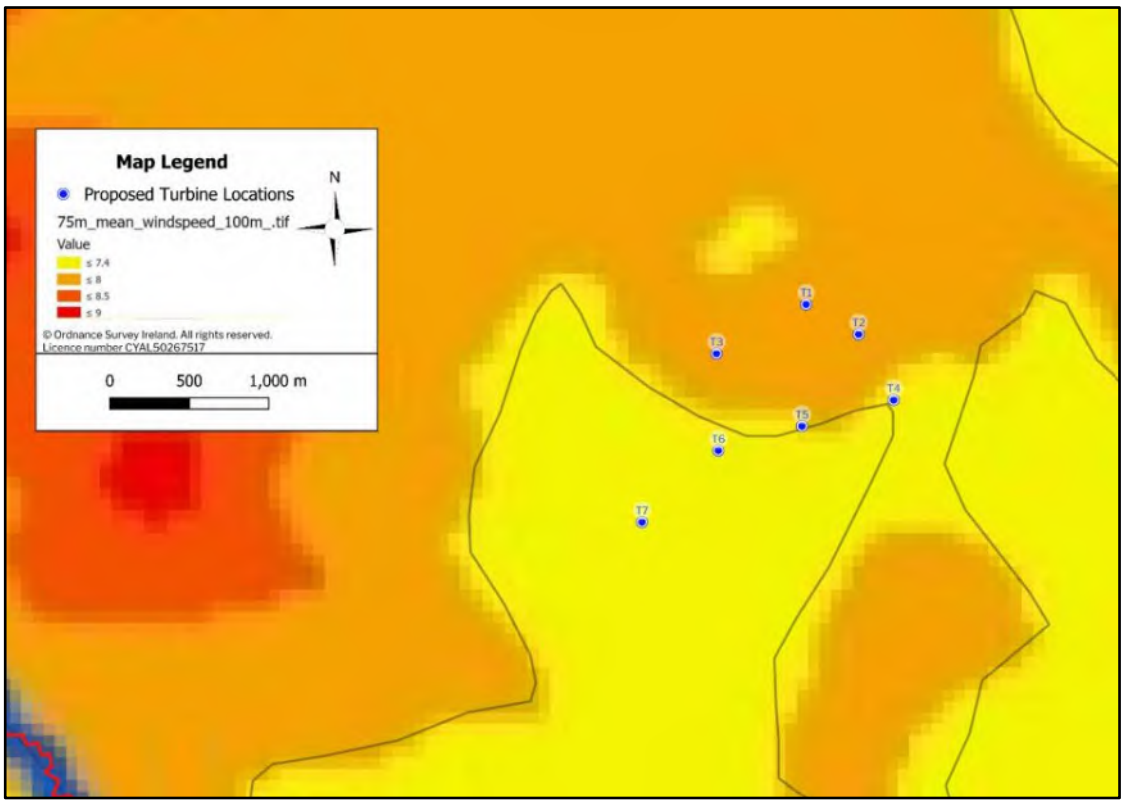

Figure 13-12 Wind Energy Strategy with wind speeds figures and maps extracted from the KCDP (Figure 11.4)

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Overall, the landscape of of the Proposed Wind Farm site is consistent across different area designations and is characterized as a modified agricultural landscape of low sensitivity. This consistency reflects the absence of sensitive landscape features, supporting the suitability of the site for wind energy development. The Proposed Wind Farm is situated within a landscape of low sensitivity, aligning with the Guidelines, as discussed in Section 13.4.3.5 and throughout the entirety of Chapter 13.

Additionally, the delineation of the strategy area borders is primarily driven by wind speed data rather than landscape considerations. This is evidenced by the consistent landscape character across the Proposed Wind Farm site and the varying wind speeds, as discussed in Section 4.1 of Appendix K of the KCDP.

Furthermore, in terms of visual impact, the KCDP states that *"the rationale behind this policy is to minimize the visual impacts of such large-scale developments."* As discussed in Section 13.5 Visual Baseline and Section 13.7.3.4 Visual Effects, the turbines within the Proposed Wind Farm site are not likely to give rise to significant visual effects, thereby aligning with the wind energy policy's intent. This reinforces the appropriateness of the Proposed Wind Farm's location within the areas designated both as 'Acceptable in Principle' and 'Open to Consideration.'

13.4.1.2 Archaeological Landscapes

Section 9.3.1.1 of the KCDP defines an archaeological landscape as '*a natural landscape that has been deliberately modified by a group (or groups) of people during a particular archaeological period (or periods). It provides context and meaning to individual archaeological sites and helps us to understand how our ancestors lived. Such landscapes have the potential to be of cultural, economic, social, and/or environmental value.'*

The planning policy in *Section 9.3* of the KCDP highlights the following policy relevant to archaeological landscapes:

> *'The Council will have regard to the archaeological landscapes associated with the areas listed above in the Plan and may, if considered necessary, require an impact assessment for proposed development which could have a significant impact on the identified landscape.'*

Section 9.3.1 of the KCDP states that *'the Council carried out a Preliminary Audit of Archaeological Landscapes in County Kilkenny in 2019'*, which identified a number of potential archaeological landscape sites, including 3 sites which were selected as a priority for protection, as follows:

- Freestone Hill and environs
- The Lingaun River Valley - specifically the megalithic monuments within it and the relationships between them
- Tory Hill and environs

These landscape receptors are discussed further in Section 13.4.4.1 - Historic Landscape Character.

13.4.1.3 Landscape Policy within the Other Surrounding Counties

While the Site is located in Co. Kilkenny, Counties Tipperary and Laois are located within the LVIA Study Area. As indicated by the ZTV mapping there is theoretical visibility of the proposed turbines in each of these counties within the LVIA Study Area. Therefore, relevant designations pertinent to the LVIA conducted in this chapter are identified and listed below from the following County Development Plans:

- Tipperary County Development Plan 2022-2028
- Laois County Development Plan 2021-2027

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Landscape Character Areas of Tipperary

A Landscape Character Assessment was carried out for Tipperary County Council in 2016 (the *Landscape Character Assessment for Tipperary, Volume 3, Appendix 3* of the TCDP) (hereafter referred to as the LCAT) identifies areas of County Tipperary within two landscape designations:

- Landscape Archetypes – Termed 'Generalised Landscape Character Areas' includes four High level landscape classifications across the county, See Map 3.2;
- Landscape Character Types – This designation includes seven different landscape type classifications.
- Landscape Character Areas (LCAs) – 23 No. designated LCAs defined in mind of the specific landscape characteristics which give each area a unique identity.

The Landscape Character Areas (shown on Figure 1 in Appendix 3 of the TCDP) which are located within the LCA Study Area are listed below;

- LCA 4 – River Suir Central Plain
- LCA 8 – Littleton Raised Bog
- LCA 9 – Littleton, Farmland Mosaic and Marginal Peatland
- LCA 14 – Slieveardagh Hills Farmland Mosaic

Section 11.9 of the TCDP contains the following policy objectives relating to landscape;

> ***"11-16** Facilitate new development which integrates and respects the character, sensitivity, and value of the landscape in accordance with the designations of the Landscape Character Assessment, and the schedule of Views and Scenic Routes (or any review thereof). Developments which would have a significant adverse material impact on visual amenities will not be supported"*
>
> ***"11-17** Ensure the protection of the visual amenity, landscape quality and character of designated 'Primary' and 'Secondary' amenity areas. Developments which would have a significant adverse material impact on the visual amenities of the area will not be supported. New development shall have regard to the following:*
>
> ***a)** Developments should avoid visually prominent locations and be designed to use existing topography to minimise adverse visual impact on the character of primary and secondary amenity areas.*
> ***b)** Buildings and structures shall integrate with the landscape through careful use of scale, form, and finishes.*
> ***c)** Existing landscape features, including trees, hedgerows and distinctive boundary treatment shall be protected and integrated into the design proposal."*

The landscape sensitivity of each landscape character area identified in the TCDP is assigned in *Section 5.2* of *Appendix 3*. These sensitivity ratings are listed below:

- Class Zero: Could be improved by change.
- Class One: Low sensitivity to change.
- Class Two: Moderate sensitivity to change.
- Class Three: High Sensitivity to change.
- Class Four: Special Landscape – Very low capacity for change.
- Class Five: Unique – Change would alter the character to the landscape

The landscape sensitivity assigned to each LCA within the LCA Study Area are listed below:

- **LCA 4** – Class One: Low sensitivity to change
- **LCA 8** – Class Three: High Sensitivity to change

- ***LCA 9*** – Class One: Low sensitivity to change
- **LCA 14** – Class Two: Moderate sensitivity to change

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Landscape Character Areas of Laois

The County Laois Landscape Character Assessment is located within *Appendix 6* of the Laois County Development Plan 2021 – 2027 (LCDP). *Section 11.10* of the LCDP identifies 7 no. Landscape Character Areas that are actually landscape types that occur throughout the county. These are listed below and are shown on *Map 11.7* of the LCDP:

- Hills and Upland
- Lowland Agricultural Areas
- River Corridors and Lakes
- Mountain Areas
- Peatland Areas
- Urban Fringes
- Rolling Hills

There are no Laois LCAs located within the LCA Study Area.

13.4.1.4 Designated Scenic Amenity – Counties Tipperary and Laois

Counties Tipperary and Laois protect scenic amenity within their respective counties through the designation of scenic views, prospects, and scenic routes. Both counties have differing naming conventions and policy objectives pertaining to their respective designations. In a general sense, it is a policy objective for each county to take additional care in the protection of the unique and valuable scenic views which fall within the following designations:

- County Tipperary – Scenic Routes and Views and
- County Laois – Scenic Views and Prospects

Designated scenic amenity and views from these counties within the LVIA Study Area are mapped previously in Figure 13-5 and Figure 13-6 and listed in Table 13-3 below.[2]

Table 13-3 Scenic Views, Protected Views, Scenic Routes, and Key Amenity Areas within the LVIA Study Area

Development Plan Reference No.	Description (from respective County Development Plan)	Map Reference
County Tipperary		
V12	*Views to Slievenamon along Cloneen - Mullinahone road (R692)*	T-SR12
V27	*War House Hill, views east and west*	T-SR27
V28	*Views south to Slievenamon along R690*	T-SR12
V29	*Views to the south along road R691.*	T-SR29

[2] *For purposes of clarity, continuity, and reference to mapping figures in this chapter; designated scenic views are labelled 'V' and scenic routes 'SR', each is prefixed by the first letter of the county in which it is located e.g., 'KK' for Kilkenny, 'T' for Tipperary and 'L' for Laois. The last number in each label corresponds to the label or number assigned to each designation in the respective county development plans (e.g., KK-V14 = Kilkenny – Scenic Route No. 14).*

V30	*Views to the west and south along road R691.*	T-SR30
V31	*Views to the west between Glengoole and Ballysloe, along road R689.*	T-SR31
County Laois		
V004	*Views towards Knockmannon Hill*	L-V004
V021	*Views of Cullahill Castle and Knockmannon Hill*	L-V021

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As the scenic amenity designation listed in Table 13-3 (above) are of a visual nature, they are comprehensively addressed in Section 13.5 of this Chapter – Visual Baseline, where ZTV mapping and on-site appraisals determine the likely visibility of the proposed turbines within these scenic views or from scenic routes.

13.4.2 Tipperary - Primary and Secondary Amenity Areas

Section 11.7.1 of the TCDP states the following in relation to Primary and Secondary Amenity Areas:

> *"Having consideration to the LCA and the overriding objectives of the Plan, the Council has designated 'Primary' and 'Secondary' amenity areas (Figure 11.1), which include, amongst others, Lough Derg, and the Glen of Aherlow/Galtee Mountains. These areas are particularly notable by virtue of their scenic and visual quality and offer significant opportunities for tourism development and rural recreational activities. The Council will seek to ensure that a balance is achieved between the protection of sensitive landscapes and the appropriate socio-economic development of these areas. In this respect, development proposals will be required to demonstrate that they integrate and respect the visual quality of the amenity area."*

There are two Secondary Amenity Areas, and one Primary Amenity Area located within the LVIA Study Area which are shown on Figure 13-5 above. The Slieveardagh Hills Secondary Amenity Area is located approximately 3.9km west of the nearest proposed turbine at its closest point and comprises a large area within this part of the LVIA Study Area. The Slievenamon Secondary Amenity Area is located 18.5km south of the nearest proposed turbine. The Slievenamon Primary Amenity Area is located approximately 19.9km south of the nearest proposed turbine. This part of this Primary Amenity Area within the LVIA Study area comprises a very small area of land.

A preliminary analysis was conducted using ZTV mapping to determine likely visibility of the proposed turbines from these Amenity Areas, which is presented below in Section 13.4.4.3. Sensitive landscape receptors scoped in for further assessment were then considered for the selection of photomontage viewpoints.

13.4.3 Landscape Character of the Proposed Wind Farm site

Landscape character refers to the distinct, recognisable, and consistent pattern of elements that occur in a particular type of landscape and how people perceive this. It reflects particular combinations of natural components such as geology, landform, soils, cultural perception, and vegetation with human influence such as land use and human settlement. The identification of landscape character as outlined in the 'Landscape and Landscape Assessment Consultation Draft of Guidelines for Planning Authorities' (DoELG, 2000) comprises the identification of primarily physical units (areas defined by landform and landcover) and, where appropriate, of visual units.

The Proposed Wind Farm site was visited multiple times during 2023 and 2024 where an assessment of topography, drainage, landcover and land use was conducted in conjunction with other LVIA surveys.

Information gathered during these visits have informed the following descriptions of the Site. The landscape character of the Proposed Grid Connection is discussed at the end of this section.

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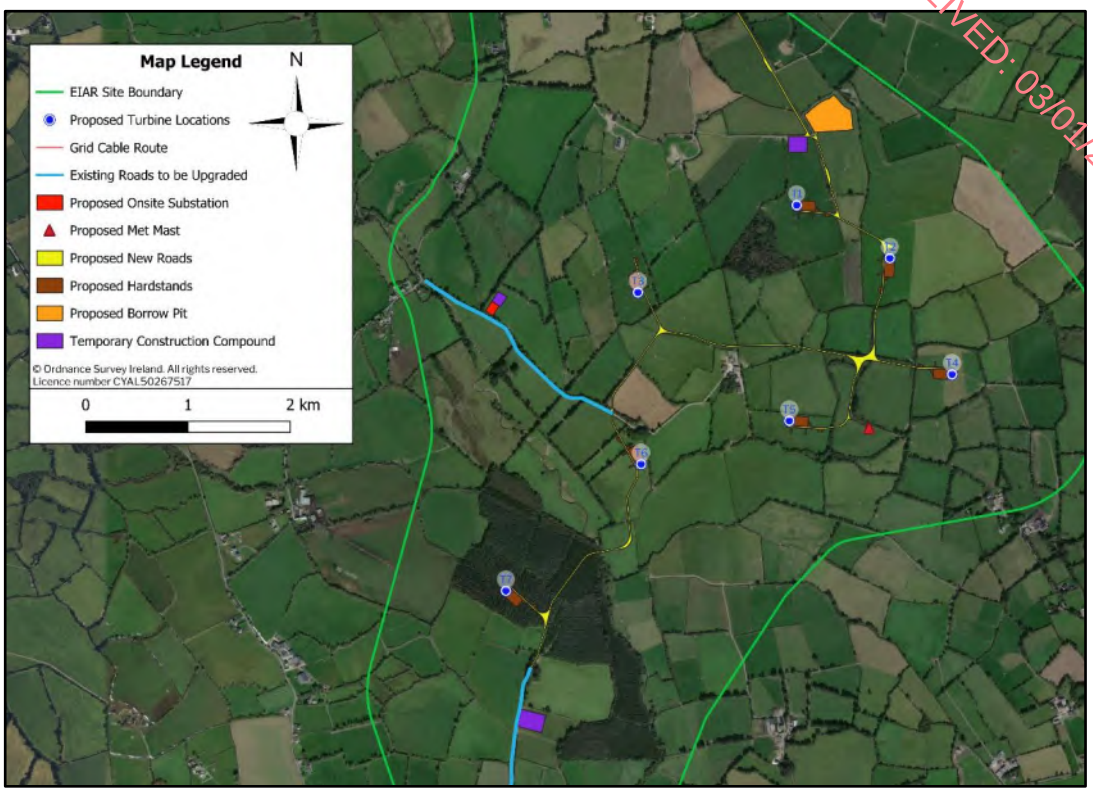

Figure 13-13 Aerial View of the Proposed Wind Farm

Landform and Drainage

The Proposed Wind Farm is located within 2 no. WFD river sub-catchments. The vast majority of the Proposed Wind Farm is located in the Munster River sub-catchment (Munster_SC_010) whilst a small area in the northeast is mapped in the Nore_SC_090 sub-catchment. Within the Munster River sub-catchment, the Proposed Wind Farm is mapped in 2 no. WFD river sub-basins. The northern section of the Proposed Wind Farm is located in the Tullaroan Stream_020 river sub-basin whilst the majority of the Proposed Wind Farm is mapped in the Tullaroan Stream_020 river sub-basin (please refer to Chapter 09 of this EIAR for more information).

The Tullaroan Stream flows to the south, dissecting the Proposed Wind Farm, as seen in Figure 13-14 below, and continues southwards before discharging into the Munster River ~5.7km to the south. Further downstream the Munster River discharges into the King's River to the northwest of Callan (~7.7km from the Proposed Wind Farm). The King's River discharges into the River Nore ~17km to the southeast. The drainage of the Proposed Wind Farm site is assessed in detail in Chapter 09 of this EIAR.

The Proposed Wind Farm site is drained by several tributaries of the Tullaroan Stream. Many of these streams originate within the Proposed Wind Farm site and flow downslope into the Tullaroan Stream.

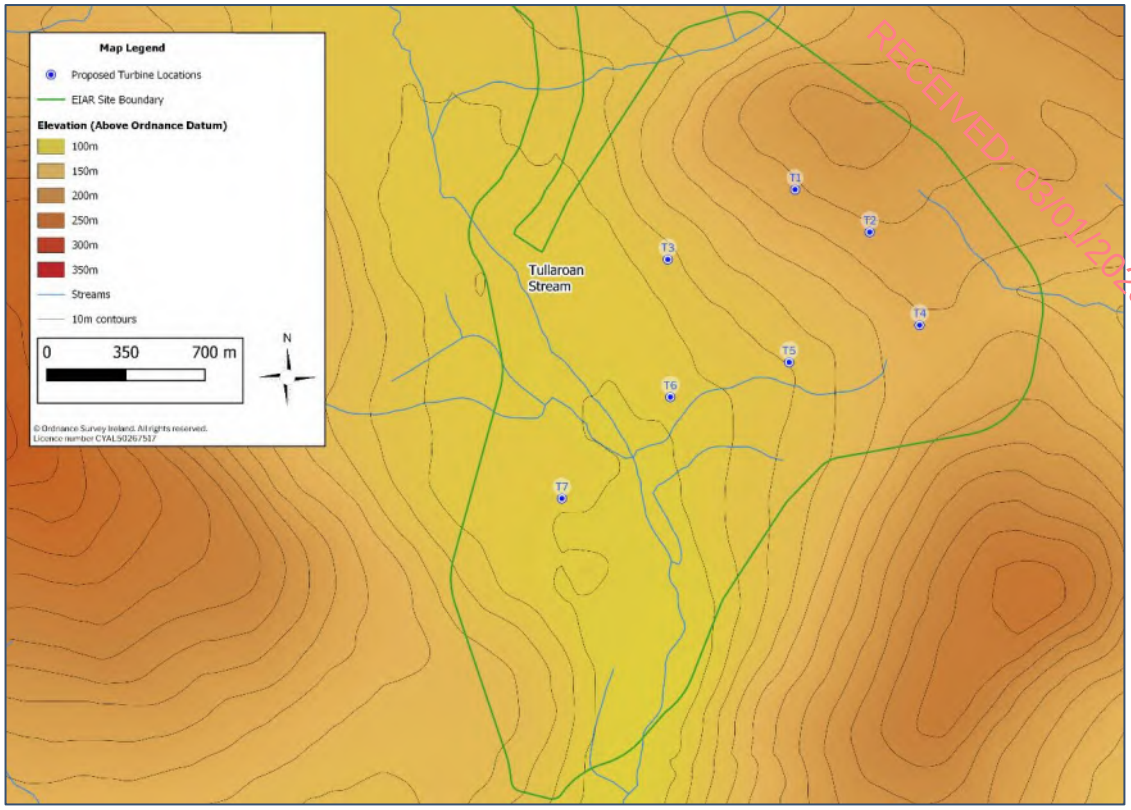

Figure 13-14 Physical Features Map of the Proposed Wind Farm

As seen in Figure 13-14 above, the topography surrounds and encloses the Proposed Wind Farm to a substantial extent, providing a high degree of visual screening of the proposed turbines beyond 5km. In particular, the Slieveardagh Hills screen views of the proposed turbines from vast areas to the west of the proposed turbines

Plate 13-4 below shows a view captured from a drone to the east of the Proposed Wind Farm. This image provides perspective on the scale and context of the landscape within which the Proposed Wind Farm is sited, it illustrates the landform characteristics of the small river valley which encloses the proposed turbines in multiple directions. The uplands of the Slieveardagh Hills are visible in the background of the drone image to the west, beyond the slightly lower lands where the proposed turbines are located (illustrated by a white dotted line). A rolling ridgeline is visible in the foreground of the drone image it extends from a hill in the townland of Ballycudihy to the left (south) of the image to a local hill in the townland of Oldtown beyond the right (north) side of the image. These local hills and connecting ridgeline are shown in the topography map above as an elevated landform enclosing the Proposed Wind Farm to the north-east and the south-east. The map above and image below illustrate how the landform characteristics of the Proposed Wind Farm site and its immediate landscape setting creates visual enclosure and a sense of containment. This visual enclosure ultimately limits the visual exposure of the proposed turbines outside of this small river valley, as is evident in ZTV mapping, photomontage (and photowire) visualisations and the impact assessments in this Chapter. Drone images are not representative of actual ground level views as perceived by visual receptors, rather, these are useful visual aids to provide context of the scale and characteristics of the Proposed Wind Farm site within its landscape setting.

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Plate 13-4 Drone image facing west and captured to the east of the Proposed Wind Farm, capture at 170 metres Above Ground Level

Landcover and Land-Use

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.

The landcover of the Proposed Wind Farm is predominantly of a working agricultural landscape with fields enclosed by hedgerows and treelines. These agricultural fields cover the vast majority of the Proposed Wind Farm site with the exception of a small tract of conifer forestry located towards the southern portion of the Proposed Wind Farm.

Plate 13-5 View southwest from field next to proposed location of Turbine T06

A majority of the Proposed Wind Farm site is primarily comprised of gently sloping agricultural land, such as that shown in Plate 13-5 and Plate 13-6, where agricultural pastureland fields are bordered by established hedgerows and treelines.


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Plate 13-6 View northwest from the proposed location of Turbine T06

Plate 13-7 View north in direction of proposed turbine T07

As mentioned above, along with agricultural fields, the southern portion of the Proposed Wind Farm site contains a patch of commercial forestry, as shown in Plate 13-7 above. Turbine T07 is located within this area of forestry.

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Plate 13-8 View southwest toward commercial forestry where the proposed Turbine T07 is located

Plate 13-9 View northwest between proposed turbine T06 and T07 with the Tullaroan Stream visible in the foreground


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Plate 13-10 View southeast toward proposed turbine T04

Views within the Proposed Wind Farm site

Views within the Proposed Wind Farm site itself primarily consist of a modified working agricultural landscape. External views from the agricultural lands are generally contained by the presence of hedgerows and treelines bordering the fields, with the exception of some views to the west and south of the Proposed Wind Farm site. However, it must be noted that these are short-ranging views which are largely contained due to the surrounding topography. It is noted that the landscape of the Proposed Wind Farm site has clearly been subject to substantial levels of human interference and modification. The Proposed Wind Farm site has some open views to the south towards Kilmanagh and beyond as seen in Plate 13-11 below.

Plate 13-11 View south toward the Proposed Wind Farm from the field where the proposed turbine T01 is located

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Plate 13-12 View east towards Ballycuddihy Hill from the south of the site, approx. 360m east from proposed turbine T07

Plate 13-13 View east *towards* a rise in elevation *from the north of the Proposed Wind Farm site, nearby to proposed turbine T01Proposed Grid Connection*

The proposed borrow pit is located at the northern extent of the Proposed Wind Farm site, approximately 270 metres from the nearest proposed turbine, The area is primarily composed of gently undulating agricultural fields, enclosed by hedgerows and treelines. The borrow pit itself is situated on slightly elevated ground of approx. 183m, surrounded by undulating terrain, with open views of the surrounding rolling topography (as seen in Plate 13-14 and Plate 13-15 below).

Plate 13-14 Views of the undulating terrain and towards the surrounding landscape from within the proposed borrow pit location


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Plate 13-15 Views of the surrounding landscape from within the proposed borrow pit location

As shown by the images above, it is likely that the proposed borrow pit will be visually exposed within the landscape when viewed from the elevated ridgelines enclosing the Proposed Wind Farm site. The proposed borrow pit will therefore have a visual impact from receptors located at elevated vantage points surrounding the site, although these effects will be Short-Term and will be limited following completion of the construction phase. The landscape and visual effects of the proposed borrow bit (as well as other non-turbine components) during both the construction and operational phase are discussed and assessed in Section 13.7.2.4.

The proposed 38kV substation is located approximately 494m west of the nearest proposed turbine, T03. The landcover of the proposed substation location is comprised of one agricultural field, seen in Plate 13-16 below, and is located to the east of the L-5023 local road, and in the west of the Proposed Wind Farm site. This location is set back from the nearest residential receptor by 240 metres and only short-range views are available in this field, as shown in the image below. Visibility of the proposed substation will be limited due to the visual screening from localised landform undulations and mature boundary vegetation enclosing the field. Landscape and visual effects arising as a result of this element of the Proposed Project are discussed in full below in Section 13.7.

Plate 13-16 View facing northwest of the field in which the proposed substation is located

As discussed in detail in Section 4.3.2.4 of this EIAR, it is proposed to connect the onsite 38 kV substation within the Proposed Wind Farm site to the existing 110 kV Ballyragget substation in Moatpark, Co Kilkenny via 38 kV underground electrical cabling. The underground electrical cabling route is approximately 23km in length and is located primarily within the public road corridor, with a short section of the route (approximately 260m) located within the Proposed Wind Farm site. As the Proposed Grid Connection cabling is underground infrastructure, this will mitigate the potential for significant adverse landscape and visual effects once the infrastructure is installed. The full underground electrical cabling

route and its associated construction methodology is detailed within Chapter 4 of this EIAR and an assessment of landscape and visual effects during the construction and operational phase of the Proposed Grid Connection is included later in this chapter.

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13.4.3.2 Landscape Value and Sensitivity of the Proposed Wind Farm site

Landscape values were assessed in order to determine the landscape sensitivity of the Proposed Wind Farm site as well as the wider landscape setting and establish the capacity of the immediate landscape in which the Proposed Wind Farm will be built, as it is prescribed by best practise guidance *"as part of the baseline description the value of the potentially affected landscape should be established"* (Page 80, GLVIA 3). Comprehension of the landscape value and its susceptibility to change enables determination of the sensitivity of the landscape at a micro level (the development site) and its capacity to absorb the infrastructure of a wind farm development.

Determination of landscape value takes into consideration the scenic amenity designations, the sensitivity and value designations found in the local landscape policy as well as other indications of landscape value attached to undesignated landscapes. Table 13-4 below describes various factors that aid in identifying landscape value. These factors and indicators were appraised collectively to determine a landscape value for the Site. The Landscape value and susceptibility to change were then considered in forming a landscape sensitivity classification of either **Low, Moderate, High** or **Very High** for the Site.

Table 13-4 Indicators of Landscape Value and Sensitivity

Indicator	Description
Landscape Designations	No sensitive County Kilkenny Landscape Designations fall within the Proposed Wind Farm site itself. The Proposed Wind Farm site is located within LCA A of County Kilkenny – Slieveardagh Hills (South). This LCA is given stated in Appendix C (LACK) of the KCDP as 'having no significant landscape value.' The zone is also perceived as having development potential within the LACK. There is a designated protected view within the KCDP located approximately 1.6km south of the Proposed Wind Farm, however, as outlined in Section 13.4.1 above, this view is directed east, away from the proposed turbines.
Landscape Elements Quality / Condition	This refers to the physical state of the landscape and the condition of individual elements. Due to the site use for agricultural purposes, the Proposed Wind Farm site is a modified working landscape, with the majority of the proposed turbines located within grassland agricultural fields with the exception of turbine T07, which is located within commercial forestry.
Scenic/Aesthetic Qualities	The Proposed Wind Farm site has some rural aesthetic qualities given the relative lack of buildings and infrastructure present on the site. It is mostly undulating agricultural farmland fields defined by vegetated field boundaries; however, these views are common throughout the local area and due to the Proposed Wind Farm site's intensive agricultural land-use, it is noted that the landscape has been subject to substantial levels of human interference and modification. Views from within the Proposed Wind Farm site are generally contained given the surrounding topography and the treelines and hedgerows present on site.

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Indicator	Description
Rarity or Conservation Interests	The majority of habitats within the Proposed Wind Farm site consist of homogenous swards of grazed improved agricultural grassland comprising mainly of perennial rye grass along with existing farm roads, hedgerows, watercourses, and woodland habitats. Field boundaries comprise mainly very dense managed and unmanaged hedgerow habitat dominated by hawthorn (Crataegus monogyna), elder (Sambucus nigra), blackthorn (Prunus spinosa) and mature ash (Fraxinus excelsior). The Tullaroan Stream bisects the Site east west and is located in the west of the Site, flowing in a southerly direction.
Wildness / Naturalness	The Proposed Wind Farm site is primarily comprised of agricultural land; therefore, it is considered to be a landscape highly modified by human interference. The Proposed Wind Farm site is relatively underdeveloped in terms of buildings and other infrastructure, therefore, there is a degree of 'wildness' considering the setback from human settlement. It is noted however, that a farmyard is also located within the Proposed Wind Farm site. Furthermore, the tract of woodland within the Proposed Wind Farm site also adds a degree of 'wildness' to the area.
Recreational Values	The 'North Kilkenny Cycling Track' runs through the Site north-west of the Proposed Wind Farm for an approximate stretch of 4.5km. It is scoped in for assessment in Section 13.5 below.
Cultural Meaning / Associations	Two recorded monuments are located within the Proposed Wind Farm site. These include a moated site and an enclosure. Two items of local cultural heritage merit comprising a stone outbuilding (CH1) and a lime kiln (CH2) were also noted within the Proposed Wind Farm site but are not located within the footprint of any proposed infrastructure.

In consideration of the factors detailed in the table above, and the designations outlined in the KCDP, the landscape value of the Proposed Wind Farm site is deemed to be **'Low.'** The Proposed Wind Farm site is predominantly located within a modified working landscape with minimal aesthetic qualities attributable to the Proposed Wind Farm site itself. There are no scenic amenity or landscape designations pertaining to the Proposed Wind Farm site, and views from the nearby designated protected view are directed away from the Proposed Wind Farm. There is no recreational value to the Proposed Wind Farm site considering that it is privately owned agricultural land. In consideration of these factors, the susceptibility of the Proposed Wind Farm site to the proposed change is considered **'Low.'** On balance, the landscape sensitivity of the Proposed Wind Farm site is deemed **'Low.'**

13.4.3.3 Landscape Characterisation of the Proposed Wind Farm site as defined in the Guidelines

The following section considers the Guidelines and is cognisant of the draft Guidelines. These documents 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 are '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.

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In consideration of Kilkenny County Council landscape designations (noted above in Section 13.4.1.1 and site visits conducted by the MKO Landscape and Visual team, the physical characteristics of the Proposed Wind Farm site is best described by 'Hilly and Flat Farmland' landscape character type. Therefore, the best practice siting and design strategies prescribed for Hilly and Flat Farmland (the Guidelines) were implemented for the Proposed Project.

13.4.3.3.1 *Hilly and Flat Farmland*

The key characteristics of Hilly and Flat Farmland landscape type as stated in the Guidelines and draft Guidelines are as follows:

- *"Intensively managed farmland, whether flat, undulating, or hilly;*
- *A patchwork of fields delineated by hedgerows varying in size;*
- *Farmsteads and houses are scattered throughout, as well as occasional villages and towns;*
- *Roads, and telegraph and power lines and poles are significant components; and*
- *A working and inhabited landscape type."*

The sitting and design guidance given for 'Hilly and Flat Farmland' landscape in the Guidelines and draft Guidelines is set out below:

Location

> *"Location on ridges and plateaux is preferred, not only to maximise exposure, but also to ensure a reasonable distance from dwellings. Sufficient distance should be maintained from farmsteads, houses, and centres of population in order to ensure that wind energy developments do not visually dominate them. Elevated locations are also more likely to achieve optimum aesthetic effect. Turbines perceived as being in close proximity to, or overlapping other landscape elements, such as buildings, roads and power or telegraph poles and lines may result in visual clutter and confusion. While in practice this can be tolerated, in highly sensitive landscapes every attempt should be made to avoid it."*

In terms of **location**, site selection was at the forefront of the Proposed Wind Farm design. At a project level, siting of proposed turbines at an area of low elevation within a surrounding area of elevated hills, reducing the geographical extent of visibility and visual exposure (and visual effects) from many visual receptors in the wider landscape. One rationale for the recommendation (cited above) to site turbines with an area or lower elevated topography within this landscape type, is to ensure a reasonable distance from dwellings and population centres, whilst avoiding visual dominance. In this regard, the proposed turbines are set back a reasonable distance from dwellings, adhering to the 4-x tip height set-back distance from third party dwellings as recommended in the draft Guidelines. Also, siting the proposed turbines on a plain of lower lying land relative to residential receptors in the surrounding landscape reduces the potential for dominant or overbearing effects – as is comprehensively discussed in Section 13.7.3.2.3 of this Chapter.

The Guidelines also recommend locational siting on ridgelines in order to reduce overlapping of proposed turbines with landscape elements which may cause visual confusion and clutter. The proposed turbines are located within a relatively lower area of elevation compared to the landform to the east, west and northeast. This increases the potential for visual screening effects to occur in this heavily vegetated landscape and reduces the visual prominence of the turbines from multiple orientations. Lastly, the Proposed Wind Farm site and immediate surrounds are not highly sensitive landscapes.

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Spatial Extent

> *"This can be expected to be quite limited in response to the scale of fields and such topographic features as hills and knolls. Sufficient distance from buildings, most likely to be critical at lower elevations, must be established in order to avoid dominance by the wind energy development."*

In terms of **spatial extent**, as noted above, the sufficient distance from buildings, critical at lower elevations is achieved through the spatial extent of the Proposed Project, with the proposed turbines adhering to the recommended 4 x tip height set-back distance from third party dwellings as recommended in the draft Guidelines. The scale of agricultural field system of the Proposed Wind Farm site lends itself to a turbine layout of this extent, with proposed turbines aligned in a large uninhabited area of agricultural land.

Spacing

> *"The optimum spacing pattern is likely to be regular, responding to the underlying pattern field pattern. The fields comprising the site might provide the structure for spacing of turbines. However, this may not always be the case and a balance will have to be struck between adequate spacing to achieve operability and a correspondence to field pattern."*

In terms of **spacing** the proposed turbines are sited at regular, evenly spaced locations, following the arrangement of the existing field patterns. When the proposed turbines are viewed from locations where the rest of the Proposed Wind Farm site cannot be seen, the layers of proposed turbines seen within views correspond well to the layers of fields typically seen throughout views within this landscape. It is considered that the spacing of the proposed turbines responds appropriately to the landcover of the Proposed Wind Farm site. This is evident in VP 9 of the Photomontage Booklet, where the proposed turbines are seen to align with the layers of the fields commonly seen in the landscape, creating visual continuity by following the layered arrangement of the fields.

Height

> *"Turbines should relate in terms of scale to landscape elements and will therefore tend not to be tall. However, an exception to this would be where they are on a high ridge or hilltop of relatively large scale. The more undulating the topography the greater the acceptability of an uneven profile, provided it does not result in significant visual confusion and conflict."*

In terms of **height,** turbines are tall features within the landscape. However, the proposed turbine array as a whole reflects the undulating nature of the surrounding landform; when viewing the proposed turbines, the nacelles are positioned at heights which relate to the landscape elements, such as the surrounding ridgelines, improving visual coherence when viewed from areas within the wider landscape area.

The topography surrounding the proposed turbines rises and encloses the Proposed Wind Farm site to a substantial degree. This enclosing landform provides a substantial degree of visual screening from views beyond 5km of the proposed turbines ensuring that this wind energy development does not dominate visually.

Cumulative Effect

> *"It is important that wind energy development is never perceived to visually dominate. However, given that these landscapes comprise hedgerows and often hills, and that views across the landscape will likely be intermittent and partially obscured, visibility of two or more wind energy developments is usually acceptable."*

In terms of **cumulative effect**, the Foyle Wind Farm is located to the west and within 5km of the Proposed Wind Farm site. As noted below in Section 13.7, there are instances where the proposed turbines will be

viewed in the landscape in combination and in succession with other wind energy developments. However, in general this will be limited by the topography within 5km of the proposed turbines which rises and substantially surrounds and encloses the proposed turbines. This surrounding landform ensures that the proposed turbines do not visually dominate the landscape, and are substantially screened beyond 5km. In this sense the Proposed Project is aligned with the guidance for this landscape character type, as wind energy development will not dominate in this landscape considering the level of existing and permitted wind energy development nearby and the intermittent views of turbines available.

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13.4.4 Landscape Character of the Wider Landscape Setting

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

The landscape surrounding the Proposed Wind Farm site is a rural agricultural landscape. It is a working, settled landscape with clusters of dwellings scattered throughout the surrounding agricultural field structure which dominates visually, providing a sense of order to the landscape. These agricultural fields are defined by field boundaries comprised of hedgerows and treelines, which generally restrict long range visibility.

Kilkenny City, the largest settlement in County Kilkenny, is located approximately 9km east of the proposed turbines. Kilmanagh, a rural node which is located approximately 1.2km south of the nearest proposed turbine, is the closest large cluster of dwellings. The settlements of Tullaroan to the north of the proposed turbines and Ballycallan to the southwest are the only other large settlement clusters within 5km of the proposed turbines. In general, in the wider landscape, linear settlement patterns are focused along regional and national roads. There is a similar pattern of linear settlement along local roads in the area but with a lower density of dwellings. To the north, west and southwest of the Proposed Wind Farm site, between 3km and 10km, the landscape is made up of hilly agricultural farmland in the form of the Slieveardagh Hills. To the east the Nore River valley passes through Kilkenny City. To the northeast of the Proposed Wind Farm site, the Castlecomer Plateau is characterised by upland agricultural farmlands with long ranging view available overlooking the Nore Valley towards the Proposed Wind Farm site, as seen in Plate 13-17 below. To the south and southeast, the landscape is characterised by a flat and low-lying agricultural landscape of the Kilkenny Basin, as seen in Plate 13-18 below.

Plate 13-17 View facing southwest from the Castlecomer Plateau in the northeast of the LVIA Study Area overlooking the Nore Valley landscape towards the Proposed Wind Farm

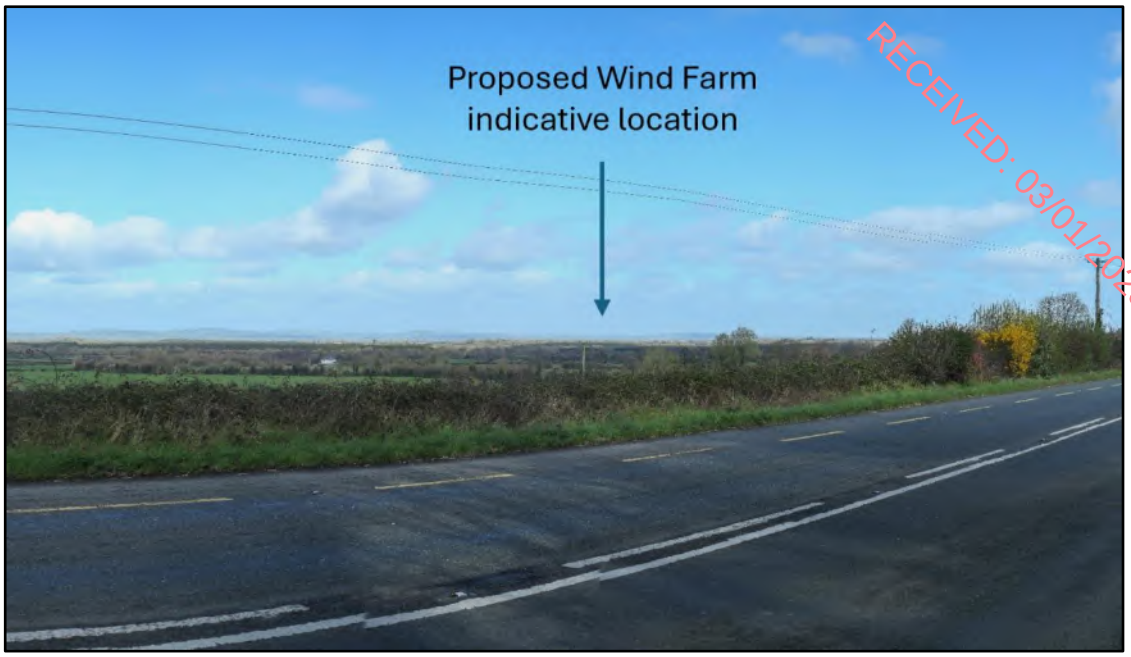

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Plate 13-18 View facing north from the south of the LVIA Study Area towards the Proposed Wind Farm site overlooking the low-lying agricultural landscape of the Kilkenny Basin

In terms of topography, the land is relatively flat to the south of the Proposed Wind Farm site, particularly in the Kilkenny Basin beyond the small Tullaroan river valley and the small settlement of Kilmanagh, as seen in the image above. To the north of the Proposed Wind Farm site the topography becomes hillier, and the undulations slightly increase, where they continue to form the Slieveardagh Hills which extends to the west. The topography also rises to the southeast of the Proposed Wind Farm site in the form of Ballykeeffe Hill and the hill at Ballycudihy. The most defining topographical features in close proximity to the Proposed Wind Farm site include the Slieveardagh Hills to the west, northwest and southwest, where the landform is characterised by undulating topography.

As discussed below in Section 13.6, wind energy development is a feature of the landscape and is concentrated around these undulating areas.

13.4.4.1 Historic Landscape Character

Section 9.3.1.1 of KCDP states the following in relation to archaeological landscapes:

> *'An archaeological landscape is a natural landscape that has been deliberately modified by a group (or groups) of people during a particular archaeological period (or periods). It provides context and meaning to individual archaeological sites and helps us to understand how our ancestors lived. Such landscapes have the potential to be of cultural, economic, social, and/or environmental value.'*

The KCDP notes that in 2019 the Council carried out a Preliminary Audit of Archaeological Landscapes in County Kilkenny which identified a number of potential archaeological landscape sites, including 3 sites which were selected as a priority for protection, as follows:

- Freestone Hill and environs
- The Lingaun River Valley - specifically the megalithic monuments within it and the relationships between them
- Tory Hill and environs

The KCDP also states the following:

> '*the Council will have regard to the archaeological landscapes associated with the areas listed above in the Plan and may, if considered necessary, require an impact assessment for proposed development which could have a significant impact on the identified landscape.*'

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Freestone Hill is located approximately 18.5km east from the nearest proposed turbine (T04) and is not located within the Proposed Wind Farm site itself and therefore, elements of the Proposed Project will not materially alter the physical fabric of the landscape of Freestone Hill. As noted in Section 14.4.4.6 of this EIAR (Cultural Heritage Chapter), the ZTV demonstrates full theoretical visibility from the western extent of the hill, however, in reality, given the distance of c.18km to the nearest proposed turbine and the vegetative screening present within the landscape, the potential visual effect is regarded as *"Not Significant"*, therefore, Freestone Hill is not included for further assessment within chapter.

According to Section 14.3 of this EIAR (Cultural Heritage Chapter), two recorded monuments are located within the Proposed Wind Farm site. This includes a moated site in the townland of Briskalagh and an enclosure in the townland of Banse Glebe. The moated site is located approximately 251m northwest of the nearest proposed turbine (T05) whilst the enclosure is located approximately 446m west of the nearest proposed turbine (T07). The monuments are not, however, located in proximity to the Proposed Wind Farm infrastructure footprint.

Two items of local cultural heritage merit comprising a stone outbuilding and a lime kiln were noted within the Proposed Wind Farm site but are not located within the footprint of any Proposed Wind Farm infrastructure.

13.4.4.2 Designated Landscape Character Areas (LCAs)

As noted in Section 13.2.1, the LCA Study Area for assessment of landscape character extends to 15km from the proposed turbines. In the previous section - Landscape Designations and Policy Context, 18 No. designated LCAs were identified within 15 km of the proposed turbines, in Counties Kilkenny, Tipperary, and Laois and were mapped previously in Figure 13-7.

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Map Legend

- Proposed Turbine Locations
- EIAR Study Boundary
- LCA Study Area
- County Borders

Tipperary Landscape Character Areas

- T-LCA 4 - River Suir Central Plain
- T-LCA 8 - Thurles Hinterland
- T-LCA 9 - Littleton Farmland & Marginal Peatland
- T-LCA 14 - Slieveardagh Hills Framland Mosaic

Kilkenny Landscape Character Areas

- KK-LCA A - Slieveardagh Hills (North)
- KK-LCA A - Slieveardagh Hills (South)
- KK LCA A1 - Slieveardagh Western Transition Zone
- KK-LCA A2 - Slieveardagh Central Transition Zone
- KK-LCA A3 - Slieveardagh Eastern Transition
- KK-LCA A4 - Slieveardagh Southern Transition Zone
- KK-LCA B - Castlecomer Plateaux
- KK-LCA B1 - Castlecomer Southern Transition Zone
- KK-LCA B2 - Castlecomer Western Transition
- KK-LCA C - South Western Hills
- KK-LCA C1 - South Western Hills Northern Transition
- KK-LCA F1 - Kilkenny Northern Basin
- KK-LCA F2 - Kilkenny Western Basin
- KK-LCA F3 - Kilkenny Eastern Basin
- KK-LCA H - Nore Valley (South)
- KK-LCA KC - Kilkenny City

Zone of Theoretical Visibility

- 1-2 Turbines Theoretically Visible
- 3-4 Turbines Theoretically Visible
- 5-6 Turbines Theoretically Visible
- 7 Turbines Theoretically Visible

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Drawing No.

Figure 13-15

Drawing Title

Landscape Character Areas & ZTV

Project Title

Briskalagh Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:115,000	230502	02/10/2024	AR	JW

5 km

10km

15 km

0 2 4 km

Tipperary

Kilkenny

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13.4.4.3 LCA Preliminary Analysis

A map showing all LCAs within 15km of the proposed turbines and the distribution of theoretical visibility of the proposed turbines occurring in each LCA is shown in Figure 13-15 above. Each LCA is listed below in Table 13-5, as well as a description of theoretical visibility within each LCA. Several LCAs identified in the LCA Study Area (15km for landscape character) have very small areas of theoretical visibility indicated by the LCA and ZTV map. The potential visibility of the proposed turbines was appraised during site surveys (multiple surveys conducted during 2023 and 2024) from all LCAs with very limited or partial theoretical visibility. The ZTV and on-site visibility appraisals determine which LCAs are scoped in for full assessment later in this chapter (See also Appendix 13-2), the scoping result is noted in Table 13-5.

**For purposes of clarity, continuity, and reference to mapping figures in this chapter; Landscape Character Areas are labelled 'LCA,' and each is prefixed by the first letter of the county in which it is located e.g., 'T" for Tipperary. The last number in each label corresponds to the label or number assigned to each LCA in the respective county development plans.*

Table 13-5 LCAs within 15km of the proposed turbines

Map Ref	LCA	Theoretical Visibility (TV) as indicated by ZTV	Actual Visibility	Scoped in for Assessment
Up to 5km				
KK – LCA A	Slieveardagh Hills (South)	Primarily full TV within 5km with patches of no and partial TV	Visibility will occur, however, there will be limited visibility beyond the 5km of the proposed turbines as a result of screening from vegetation in this undulating terrain	Yes
KK – LCA A4	Slieveardagh Southern Transition Zone	Primarily full TV within 5km with patches of no and partial TV	Visibility will occur in most parts of this LCA; however, visibility will be restricted by natural vegetation bordering fields and roads throughout this area.	Yes
T – LCA 14	Slieveardagh Hills Farmland Mosaic	Primarily no TV with small patches of full TV to the east of this LCA in closest proximity to the Proposed Wind Farm	Visibility will occur primarily to the east of this LCA, in areas closest to the Proposed Wind Farm, within the elevated peaks of this LCA.	Yes
KK – LCA F2	Kilkenny Western Basin	Primarily full TV with very small patches of no TV	Location in this undulating landscape located in this LCA may	Yes

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Map Ref	LCA	Theoretical Visibility (TV) as indicated by ZTV	Actual Visibility	Scoped in for Assessment
			have visibility of the proposed turbines.	
Up to 10km				
KK – LCA A2	Slieveardagh Central Transition Zone	Small patches of partial TV	Given the distance and vegetation within the landscape, there are likely to be no or very limited background views of the proposed turbines within this LCA.	No
KK – LCA F1	Kilkenny Northern Basin	Some patches of partial TV	Given the distance and vegetation bordering the agricultural fields, no visibility is likely to occur.	No
T – LCA 9	Littleton Farmland Mosaic and Marginal Peatland	No TV	No visibility will occur	No
KK – LCA H	Nore Valley (South)	Patches of partial TV	Actual visibility not likely to occur due distance and the low-lying nature of the river valley, along the densely vegetated riparian corridor.	No
KK – LCA A3	Slieveardagh Eastern Transition Zone	Some areas of partial TV	No actual visibility will occur due to visual screening from vegetation and the distance from the proposed turbines.	No
T – LCA 4	River Suir Central Plain	Primarily full TV	Yes	Yes
Up to 15km				
KK – LCA A	Slieveardagh Hills (North)	Primarily partial TV with a small patch of full TV	No visibility is likely to occur at this distance due visual screening from vegetation and the intervening elevations within the landform	No
KK – LCA A1	Slieveardagh Western	No TV	No visibility will occur	No

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Map Ref	LCA	Theoretical Visibility (TV) as indicated by ZTV	Actual Visibility	Scoped in for Assessment
	Transition Zone			
KK - LCA B2	Castlecomer Western Transition	Both partial and full TV in most parts of this LCA	Given the distance and vegetation within this flat landscape, there are likely to be no or very limited background views of the proposed turbines within this LCA	No
KK - LCA B	Castlecomer Plateaux	Large patches of full TV	Visibility is likely to occur within the elevated vantage points within this LCA, however, given the distance, the turbines will appear as small background features	Yes
KK – LCA B1	Castlecomer Southern Transition Zone	Primarily full TV	Given the flat landscape of this LCA, there is likely to be minimal to no visibility due to the screening provided by vegetation bordering the agricultural fields within this landscape.	No
KK – LCA F3	Kilkenny Eastern Basin	Primarily full TV	Given the distance from the nearest proposed turbine, and the screening from vegetation within this flat low-lying landscape, visibility is not likely to occur.	No
T – LCA 8	Littleton Raised Bog	No TV	No visibility will occur	No

LCAs in Table 13-6 below are scoped out from further assessment in this LVIA as the proposed turbines were either not visible, or had very limited visibility from most areas within the LCA. In some cases, the distance to the proposed turbines and the limited footprint of the LCA located within the LCA Study Area (15km for assessments of landscape character) precluded LCAs from being assessed further in this LVIA Chapter.

Table 13-6 LCAs Scoped Out from further assessment.

Map Ref.	LCA
KK – LCA A2	Slieveardagh Central Transition Zone

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KK – LCA A	Slieveardagh Hills (North)
KK – LCA KC	Kilkenny City
KK – LCA F1	Kilkenny Northern Basin
T – LCA 8	Littleton Raised Bog
T – LCA 9	Littleton Farmland Mosaic & Marginal Peatland
KK - LCA B2	Castlecomer Western Transition
KK – LCA B1	Castlecomer Southern Transition Zone
KK- LCA F1	Kilkenny Northern Basin
KK – LCA F3	Kilkenny Eastern Basin
KK – LCA A1	Slieveardagh Western Transition Zone
KK – LCA H	Nore Valley (South)

Following the pre-assessment exercise, the LCAs shown in Table 13-7 below have been selected for assessment. As some of the proposed turbines are likely to be visible from some areas within these LCAs, potential landscape effects may arise as a result of the Proposed Project.

Table 13-7 LCAs Scoped In for further assessment

Map Ref.	LCA
KK – LCA A1	Slieveardagh Hills (South)
KK – LCA A4	Slieveardagh Southern Transition Zone
KK – LCA F2	Kilkenny Western Basin
KK - LCA B	Castlecomer Plateaux
T – LCA 4	River Suir Central Plain
T – LCA 14	Slieveardagh Hills Farmland Mosaic

A detailed description of the LCAs scoped in for further assessment and the likely effects on landscape character as a result of the Proposed Project are presented in the Landscape Character Assessment Tables that form Appendix 13-2. A summary of landscape effects on these LCAs are reported in Section 13.7.3 of this chapter - Operational Phase Effects.

13.4.4.4 Other Landscape Receptors – Preliminary Analysis

Apart from the LCAs identified above, a number of other landscape receptors have been identified in the preceding sections. These are listed below in Table 13-8, as well as a description of theoretical visibility from each receptor, as indicated by the ZTV mapping. The potential visibility of the proposed turbines was appraised during site surveys (multiple surveys conducted during 2023 and 2024) from all receptors

with very limited or partial theoretical visibility. The ZTV and on-site visibility appraisals determine which landscape receptors are scoped in for full assessment later in this chapter.

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Table 13-8 Landscape Receptors within 20km of the LVIA Study Area

Name	Theoretical Visibility (TV) as indicated by the ZTV	Actual Visibility	Scoped in for Assessment?
County Tipperary Secondary Amenity Area – Slieveardagh Hills	The eastern section of this amenity area, within 10km of the proposed turbines, has patches of full theoretical visibility and patches of no theoretical visibility. Beyond 10km, there are some very small patches of full and partial theoretical visibility.	Yes, there will be visibility of the proposed turbines in some elevated areas in the eastern section of this amenity area	Yes
County Tipperary Secondary Amenity Area - Slievenamon	A very small part of this amenity area is located at the very south of the LVIA Study Area (approximately 19.9km from the nearest proposed turbines) which will have patches of both full and no theoretical visibility.	There may be some very limited views of the proposed turbines from this Secondary Amenity Area.	Yes
County Tipperary Primary Amenity Areas - Slievenamon	A very small part of this amenity area is located at the very south of the LVIA Study Area (approximately 19.6km from the nearest proposed turbines) which will have patches of both full and no theoretical visibility.	There is no actual visibility of the proposed turbines from this amenity area due to visual screening provided by the forested area of this amenity area within the LVIA Study Area.	No

Landscape receptors in Table 13-9 below are scoped out from further assessment in this LVIA as views towards the proposed turbines were either entirely screened or substantially screened. In some cases, distance to the proposed turbines and the limited footprint of the landscape receptor located within the LVIA Study Area excluded the receptor from being assessed further in this LVIA.

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Table 13-9 Landscape Receptors Scoped Out from further Assessment

County	Landscape Receptor
County Tipperary	Primary Amenity Area - Slievenamon

Following the pre-assessment exercise, the landscape receptors listed in Table 13-10 below have been scoped in for assessment. As some of the proposed turbines are likely to be visible from the receptors, potential landscape effects may arise as a result of the Proposed Project.

Table 13-10 Landscape Receptors Scoped In for Further Assessment

County	Landscape Receptor
County Tipperary	Secondary Amenity Area - Slieveardagh
County Tipperary	Secondary Amenity Area - Slievenamon

A detailed description of the landscape receptors scoped in for assessment and the likely landscape effects as a result of the Proposed Project are reported in Section 13.7.3 of this chapter – *Operational Phase Effects.*

13.5 Visual Baseline

13.5.1 Visual Receptors

The main purpose of establishing the visual baseline is to identify the key visual receptors that should be considered for viewpoint selection. Viewpoints are locations from which visual effects are assessed using photomontages (See Appendix 13-1 – LVIA Methodology). To this end, the following visual receptors have been identified within the LVIA Study Area and are listed below:

- Designated Scenic Routes and Views
- Viewing Areas (e.g., marked on OSI Maps)
- Settlements
- Recreational Routes (Waymarked Walking Routes; Cycle Routes; Scenic Drives; Tourist Routes)
- Recreational, Cultural Heritage and Tourist Destinations
- Transport Routes
- Residential Receptors

These visual receptors are identified in the visual baseline map (Figure 13-16 below) and are listed in tables in the following sections along with theoretical visibility at those locations indicated by the ZTV map in Figure 13-17, seen below. During site visits conducted in 2023 and 2024, the likely visibility of the proposed turbines was appraised from receptors where the ZTV has indicated theoretical visibility. Visual receptors are scoped out from further assessment when there is either no theoretical visibility of the proposed turbines or where on-site appraisal determined visibility of the proposed turbines to be very unlikely or very limited.

Map Legend

- Proposed Turbine Locations
- LVIA Study Area
- County Borders

Standardised Settlement Hierarchy

- City
- Town
- Village
- Rural Settlement Cluster

Designated Scenic Routes and Views

- County Kilkenny Protected Views (KCDP)
- County Laois Protected Views (LCDP)
- County Tipperary Scenic Views
- County Tipperary Scenic Routes (TCDP)
- OSi Viewing Points

Recreational

- Kilkenny Cycle Routes
- Walking Routes
- Recreational, Cultural Heritage and Tourist Destinations

Road Networks

- Regional roads
- National Roads
- Motorways

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Drawing No.

Figure 13-16

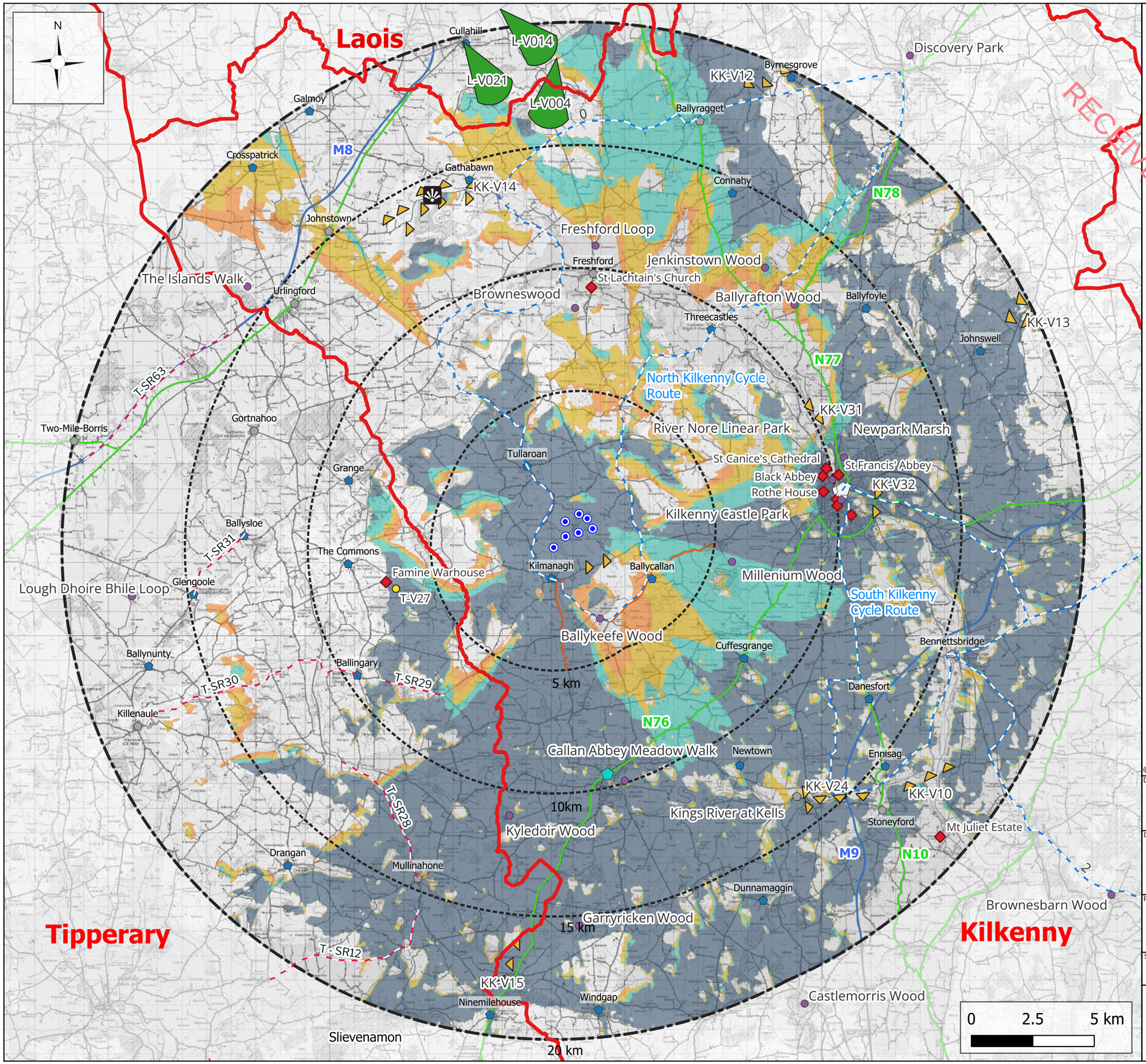
Drawing Title

Visual Receptors

Project Title

Briskalagh Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:150,000	230502	03/10/2024	AR	JW



Map Legend

- Proposed Turbine Locations
- LVIA Study Area
- County Borders

Standardised Settlement Hierarchy

- City
- Town
- Village
- Rural Settlement Cluster

Designated Scenic Routes and Views

- County Kilkenny Protected Views (KCDP)
- County Laois Protected Views (LCDP)
- County Tipperary Scenic Views
- County Tipperary Scenic Routes (TCDP)
- OSi Viewing Points

Recreational

- Kilkenny Cycle Routes
- Walking Routes
- Recreational, Cultural Heritage and Tourist Destinations

Road Networks

- Regional roads
- National Roads
- Motorways

Zone of Theoretical Visibility

- 1-2 Turbines Theoretically Visible
- 3-4 Turbines Theoretically Visible
- 5-6 Turbines Theoretically Visible
- 7 Turbines Theoretically Visible

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Drawing No.

Figure 13-17

Drawing Title

Visual Receptors & ZTV

Project Title

Briskalagh Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:150,000	230502	03/10/2024	AR	JW

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13.5.1.1 Designated Scenic Routes and Views

Table 13-11 (below) lists the views and prospects located in the LVIA Study Area as well as any descriptions relating to the direction or object of the view detailed in the relevant county development plan. If detailed in the development plan, the direction of the view and range (field of view) is reported in Table 13-11 and whether it is likely that the designated scenic amenity is directed towards the proposed turbines. Table 13-11 also notes the theoretical visibility of the proposed turbines from these designated locations is as indicated by the ZTV as seen in Figure 13-17.

Based upon these initial visibility assessments, scenic amenity designations are either scoped in or out for full assessment in this LVIA.

**For purposes of clarity, continuity, and reference to mapping figures in this chapter; designated scenic views are labelled 'V' and scenic routes 'SR,' each is prefixed by the first letter of the county in which it is located e.g., 'T' for Tipperary and 'KK' for Kilkenny. The last number in each label corresponds to the label or number assigned to each designation in the respective county development plans (e.g., T-V9 = Tipperary - Protected View No. 9).*

Table 13-11 Scenic Routes and Views within the LVIA Study Area

Map Ref.	Scenic Route/View Description	Direction of View	Directed to proposed turbines?	Theoretical Visibility	Scoped in for Assessment?
Up to 5km					
KK-V16	View East towards Kilkenny City on the Kilkenny/Kilmanagh Road No. LP 1011 between the junction with road nos. LT10111-4 and LT10112-10	East	No	Yes	Yes, scoped in as a precautionary measure given its close proximity to the Proposed Wind Farm
5 to 10km					
T-SR27	War House Hill, views east and west	East and West	Yes	Yes	Yes
T- T-SR29	Views to the south along road R691	South	No	Yes	No, views are directed away from the proposed turbines. Views in the direction towards the proposed turbines are screened by dense intervening vegetation.
10 to 15km					

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Map Ref.	Scenic Route/View Description	Direction of View	Directed to proposed turbines?	Theoretical Visibility	Scoped in for Assessment?
KK-V14	Views north and east on the Johnstown/Gattabaun Road No. LP1805 between junctions with Road nos. LT18054 and LT18056	South-East	No	Yes	No, as visibility is screened substantially by vegetation and the protected view is directed away from the proposed turbines
KK-V20	Views south over King's river valley on Road no. LS5067 between Kells and the R713 (Waterford Road)	South	No	No	No, as no visibility of proposed turbines.
KK-V24	Viewpoint on L1023, south-east of Kells. View of Kells Priory	East	No	Yes	No, as the protected views are not directed towards the turbines and this viewpoint is located a substantial distance from the nearest proposed turbine (14.2km)
KK-V31	Panoramic view of River Nore Valley from Bleach Road	South-East	Yes	No	No
KK-V32	Viewpoint located on E10 road route to the east of Kilkenny City	East	No	Yes	No, as view is not directed to proposed turbines. Views towards the proposed turbines screened by vegetation and the infrastructure of Kilkenny City.
T- SR28	Views south to Slievenamon along R690	South	No	Theoretical visibility along large sections of this route	No, as view is not in direction of the proposed turbines.

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Map Ref.	Scenic Route/View Description	Direction of View	Directed to proposed turbines?	Theoretical Visibility	Scoped in for Assessment?
T-SR30	Views to the west and south along road R691.	West and South	No	Very small sections of theoretical visibility	No, as the view is not directed toward proposed turbines. Views towards the proposed turbines are very limited along the stretch of the road due to roadside vegetation.
T-SR31	Views to the west between Glengoole and Ballysloe, along road R689.	West	No	No	No, as no theoretical visibility of proposed turbines
15 to 20km					
KK-V10	View northwest over the valleys and the confluence of the River Nore and King's River on the Stoneyford/Bennettsbridge Road (LP4202) between the junctions with road no's LT 42022-6 (Ballycoam) and LS8200.	Northwest	Yes	Intermittent patches of theoretical visibility and no theoretical visibility	No, as views towards the proposed turbines are screened by the intervening vegetation.
T-SR12	Views to Slievenamon along Cloneen - Mullinahone road (R692)	South	No	Theoretical visibility along large sections of this route	No, as view is not directed toward proposed turbines. Views towards the proposed turbines are heavily screened by dense vegetation
KK-V12	Located on the R694 between Ballyragget and Castlecomer. Views overlooking Castlecomer and	South-West	Yes	Yes	Yes

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Map Ref.	Scenic Route/View Description	Direction of View	Directed to proposed turbines?	Theoretical Visibility	Scoped in for Assessment?
	Ballyragget on the Castlecomer/Ballyragget Road (R694) between its junctions with road nos. LT5852 and LT5847.				
KK-V13	Views southwest over Kilkenny City and southeast over Carlow on Ballysallagh/Kanesbridge Road No. LP 1851 between the junctions with road nos. LT6654 and LS5886.	South-West	Yes	Yes	Yes
KK-V15	Located at the Killamery High Cross off the N76. Views west into Co. Tipperary from the Callan/Clonmel Road N.76	West	No	Yes	Yes
L-V004	Located on L5753, view towards Knockmannon Hill	South	Yes	Partial	Yes
L-V021	Located on L5757 from Cullohill. Views of Cullohill Castle and Knockmannon Hills	South-East	Yes	No	No, as no theoretical visibility of proposed turbines

13.5.1.2 OSI Viewing Areas

One viewing area was identified in an Ordnance Survey of Ireland (OSI) map of the LVIA Study Area. This viewpoint is described below in Table 13-12. Although there is full theoretical visibility indicated by the ZTV map, views from this location are not focused in the direction of the proposed turbines and on-site appraisal determined no visibility was likely to occur from this viewpoint, therefore, it was scoped out of further assessment.

Table 13-12 OSI Viewpoints within the LVIA Study Area

View Description	Direction and Range of View	Directed to proposed turbines?	Theoretical Visibility	Scoped in for Assessment?
OSI Viewpoint – Ballykieran	Viewpoint located on Foyle Road in Ballykieran townland, east of Gathabawn	No	No	No

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13.5.1.3 Settlements

In order to identify which settlements within the LVIA Study Area should be considered for viewpoint selection, the settlement strategies and hierarchy set out in the core strategy of the Development Plans of Counties Kilkenny, Tipperary and Laois were consulted. The settlement hierarchies of the three counties in the LVIA Study Area use differing classifications and naming conventions. MKO have created a standardised settlement hierarchy to enable cross-comparison of these population centres and clarity within the visual baseline mapping and throughout this assessment. Each settlement is given one of the following classifications in consideration of its size, population density and existing designation in the relevant county development plan.

- City
- Town
- Village
- Rural Settlement Clusters

Table 13-13 below lists the settlements identified from the respective county development plans 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 13-13 Settlements within the LVIA Study Area

Settlement	County Settlement Hierarchy	Standardised Settlement Hierarchy	Theoretical Visibility	Scoped In?
Up to 5km				
Kilmanagh	Rural Node	Rural Settlement Cluster	Full TV	Yes
Tullaroan	Rural Node	Rural Settlement Cluster	Full TV	Yes
Ballycallan	Rural Node	Rural Settlement Cluster	Partial TV	Yes
5 to 10km				

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Settlement	County Settlement Hierarchy	Standardised Settlement Hierarchy	Theoretical Visibility	Scoped In?
Callan	District Town	Town	Full TV and no TV	Yes
Cuffesgrange	Rural Node	Rural Settlement Cluster	Full TV	Yes
Ballingarry	Settlement Node	Rural Settlement Cluster	No TV	No
Kilkenny	Significant Key Town	City	Mostly full TV with small sections of partial and no TV	Yes
Threecastles	Rural node	Rural Settlement Cluster	No TV	No
Freshford	Small Town/ Village	Village	No TV	No
Grange	Settlement Node	Rural Settlement Cluster	No TV	No
The Commons	Local Service Centres	Rural Settlement Cluster	No TV	No
10 to 15km				
Mullinahone	Service Centre	Village	Full TV with small patches of no TV	No, as the intervening topography and vegetation screens views of the proposed turbines from around this village
Newtown	Rural Node	Rural Settlement Cluster	Full TV	No, as vegetation and the intervening landform screen views to the proposed turbines from this location

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Settlement	County Settlement Hierarchy	Standardised Settlement Hierarchy	Theoretical Visibility	Scoped In?
Kells	Small Town/ Village	Village	Full TV	Yes
Danesfort	Rural Node	Rural Settlement Cluster	Full TV	Yes
Ballyfoyle	Rural Node	Rural Settlement Cluster	Full TV	No, as views are screened due to vegetation and distance
Connahy	Rural Node	Rural Settlement Cluster	Full TV	No, given the vegetative screening within this flat landscape, views towards the proposed turbines are not likely to occur
Gathabawn	Rural Node	Rural Settlement Cluster	No TV	No
Urlingford	Small Town/ Village	Village	No TV	No
Gortnahoo	Service Centre	Village	No TV	No
Ballysloe	Settlement Node	Rural Settlement Cluster	No TV	No
Glengoole	Local Service Centres	Village	No TV	No
15 to 20km				
Ninemilehouse	Settlement Node	Rural Settlement Cluster	Full TV	No, given the distance from the proposed turbines and the dense vegetation in the surrounding landscape, no views towards the

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Settlement	County Settlement Hierarchy	Standardised Settlement Hierarchy	Theoretical Visibility	Scoped In?
				proposed turbines will occur.
Grangemockler	Local Service Centre	Rural Settlement Cluster	No TV	No, given the distance from the proposed turbines and vegetation existent within the surrounding landscape, views of the proposed turbines from this location will be extremely limited.
Windgap	Rural Node	Rural Settlement Cluster	Areas of Full TV and no TV	Yes.
Kilmoganny	Small Town/ Village	Village	Full TV	No, given the distance from the proposed turbines and vegetation existent within the surrounding landscape, views of the proposed turbines from this location will be extremely limited.
Dunnamaggin	Rural Node	Rural Settlement Cluster	Partial and full TV	No, visibility is not likely to occur due to distance and the vegetative screening within the flat intervening landscape
Stoneyford	Small Town/ Village	Village	Partial and no TV	No, as no theoretical visibility of the proposed turbines
Ennisag	Rural Node	Rural Settlement Cluster	Partial and full TV	No, as vegetation and the topography screens views towards the proposed turbines

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Settlement	County Settlement Hierarchy	Standardised Settlement Hierarchy	Theoretical Visibility	Scoped In?
Bennettsbridge	Small Town/ Village	Village	No TV	No, as no theoretical visibility of the proposed turbines
Johnswell	Rural Node	Rural Settlement Cluster	Full TV	No, as heavy vegetation surrounding this settlement provides heavy visual screening of the proposed turbines from around this area
Ballyragget	Small Town/ Village	Village	Partial TV	Yes
Byrnesgrove		Rural Settlement Cluster	Full TV	No, given the distance and vegetative visual screening within the landscape, visibility is not likely to occur.
Cullahill	Village (Less than 400 population)	Village	No TV	No
Galmoy	Settlement Node	Rural Settlement Cluster	No TV	No
Crosspatrick	Rural Node	Rural Settlement Cluster	Partial TV	No, given the distance and vegetative visual screening within the landscape, visibility is not likely to occur.
Johnstown	Small Town/ Village	Village	Partial TV	No, given the distance and screening from the built infrastructure and vegetation within the settlement, visibility

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Settlement	County Settlement Hierarchy	Standardised Settlement Hierarchy	Theoretical Visibility	Scoped In?
				is not likely to occur
Two-Mile-Borris	Service Centre	Village	No TV	No
Ballynunty	Local Service Centre	Village	No TV	No
Killenaule	Service Centre	Village	No TV	No
Drangan	Local Service Centre	Rural Settlement Cluster	No TV	No

13.5.1.4 Recreational Routes

Recreational routes are sensitive receptors as people are likely to be using them in a recreational capacity where value is likely to be placed upon views and the scenic amenities of the landscape. The term recreational routes encompass the following:

- Waymarked walking routes (Source – Sport Ireland Designated Trails)
- Cycle routes (Source – Sport Ireland Designated Cycle Routes)

Routes were identified and located within the LVIA Study Area by examination of OSI maps and online sources such as: Sportireland.ie/outdoors/Irelands-trails. Many routes exist of differing scale and prominence, only recreational routes of county or national importance were included in this LVIA. The routes are shown on Figure 13-16 and listed in Table 13-14 below along with theoretical visibility distributed upon each route by ZTV mapping as shown in Figure 13-17.

Table 13-14 Recreational Routes within the LVIA Study Area

Route Name	Description	Theoretical Visibility	Actual Visibility	Scoped In?
Up to 5km				
Ballykeeffe Wood	This is a 2.7km waymarked looped walking route entering the LVIA Study Area to the south of the Proposed Wind Farm site	A small portion of the northern section of this route has partial theoretical visibility of the proposed turbines	On-site appraisals determined that heavy vegetation within the landscape will provide vegetative screening and limit views of the proposed turbines	No

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Route Name	Description	Theoretical Visibility	Actual Visibility	Scoped In?
North Kilkenny Cycle Route	82km cycle route. Route passes through the EIAR Site Boundary	Mostly full theoretical visibility within 5km of proposed turbines, with sections of both partial and no theoretical visibility outside of 5km	Yes	Yes
5 to 10km				
Browneswood	This is a 6.3km waymarked looped walking route within the LVIA Study Area to the north of the proposed turbines near Freshford	No theoretical visibility	No	No
Grange Walking Loop	Broadleaf woodland walking route near Grange	Theoretical visibility along a small section of the walk	On-site appraisals determined that heavy vegetation within the landscape will provide vegetative screening and limit views of the proposed turbines	No
Callan Abbey Meadow Walk	Waymarked walking trail at the Callan Augustinian Friary in Callan town. Located within the LVIA Study Area to the south of the proposed turbines	Full Theoretical Visibility	No, on site appraisals determined that no visibility is likely to occur along this walk due to the dense screening from vegetation and infrastructure within the town	No
Freshford Loop	6km looped walk at Freshford town, located to the north of the proposed turbines	No theoretical visibility	No	No
Millenium Wood	This is a 4.3km looped walking trail located in the Millenium wood. It is situated within the LVIA Study Area to	There will be partial theoretical visibility along most of the walking route.	On-site appraisals determined that heavy vegetation within the landscape will provide vegetative	No

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Route Name	Description	Theoretical Visibility	Actual Visibility	Scoped In?
	the east of the proposed turbines		screening and limit views of the proposed turbines	
River Nore Linear Park	This is a 6km riverside walking route along the Nore River in Kilkenny City. It is located within the LVIA Study Area to the east of the proposed turbines	There is theoretical visibility from small sections of this route near Green's Bridge in Kilkenny City	On-site appraisals determined that heavy vegetation within the landscape will provide vegetative screening and limit views of the proposed turbines	No
10 to 15km				
Kilkenny Castle Park	Located in centre of Kilkenny City, containing walking trails through the park and gardens. It is located within the LVIA Study Area to the east of the proposed turbines	Both full and partial theoretical visibility in most areas of the park	On-site appraisals determined that given the distance, as well as the built development and vegetation within the landscape, visibility of the proposed turbines is not likely to occur	No
Newpark Marsh	This is a 970-metre walking route located in Newpark Marsh eco park, an award-winning game and bird sanctuary located in Kilkenny City. It is located within the LVIA Study Area to the east of the proposed turbines.	Both full and partial theoretical visibility in some parts (half) of the walking trail	On-site appraisals determined that heavy vegetation within the landscape will provide vegetative screening and limit views of the proposed turbines	No
Ballyrafton Wood	This is a 2.7km riverside walking trail. It is located within the LVIA Study Area to the northeast of the proposed turbines	There will be partial theoretical visibility along this trail	On-site appraisals determined that given the distance and density of heavy vegetation within the landscape, visibility is not likely to occur	No
Jenkinstown Wood	Looped walking trail	There will be partial theoretical	On-site appraisals determined that given the distance	No

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Route Name	Description	Theoretical Visibility	Actual Visibility	Scoped In?
		visibility in most parts of this trail	and density of heavy vegetation within the landscape, visibility is not likely to occur	
Garryricken Wood	Woodland walking trail	Full theoretical visibility	On-site appraisals determined that given the distance and density of heavy vegetation within the landscape, visibility is not likely to occur	No
Kyledoir Wood	Woodland walking trail	Full theoretical visibility	On-site appraisals determined that given the distance and density of heavy vegetation within the landscape, visibility is not likely to occur	No
Kings River Walk Kells	Walking trail at Kells priory	Partial theoretical visibility	On-site appraisals determined that given the distance and density of heavy vegetation within the landscape, visibility is not likely to occur	No
South Kilkenny Cycle Route	41km Cycle loop south of Kilkenny City	Full theoretical visibility for large sections of this trail	Yes	Yes
Gathabawn Loop	11.5km looped walking trail between Freshford and Johnstown	Partial theoretical visibility along this trail	On-site appraisals determined that given the distance and density of heavy vegetation within the landscape, visibility is not likely to occur	No

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Route Name	Description	Theoretical Visibility	Actual Visibility	Scoped In?
Nore Valley Walking Trail	11km walking trail from Kilkenny City to Bennettsbridge	No theoretical visibility along most sections of this route with small sections of partial visibility	On-site appraisals determined that given the distance and density of heavy vegetation within the landscape, visibility is not likely to occur	No
15-20km				
Windgap Loop	9.5km walking loop between Windgap and Ninemilehouse	Large sections of full theoretical visibility with some sections of no visibility	No as vegetation screens views of the proposed turbines where theoretical visibility occurs	No
Lough Dhoire Bhile Loop	2km looped walking trail to the west of Glencole	No	No	No
Cullahill – Binnianea Loop	10km looped walking trail originating in Cullahill	Partial theoretical visibility for some sections of the loop	No as given the distance involved, and the partial screening provided by topography, views of the proposed turbines will be extremely limited	No
Dunmore Woods Loop	10km looped walk	No	No	No
East Kilkenny Loop	64km looped cycle route through east Kilkenny	Full theoretical visibility for large sections of the route	There will be intermittent views of turbines in the distance along this route	No, considering the distance involved, and the level of screening present in the flat landscape that the route passes through, there will be very limited views of the proposed turbines.

Route Name	Description	Theoretical Visibility	Actual Visibility	Scoped In?
The Islands Walk	Walking trail west of Urlingford	No	No	No

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13.5.1.5 Recreational, Cultural Heritage and Tourist Destinations

Popular recreational, cultural heritage and tourist destinations were identified in the LVIA Study Area through a desktop exploration of localised tourism plans as well as considering the most popular tourism destinations in County Kilkenny, Tipperary and Laois listed on Tripadvisor.ie. Prominent outdoor tourism and recreational destinations identified in the area are listed below in Table 13-15.

Table 13-15 Recreational, Cultural Heritage and Tourist Destinations within the LVIA Study Area

Tourist Destination	Description	Theoretical Visibility	Actual Visibility	Scoped In?
5 to 10km				
Rothe House and Gardens	Rothe House is a late 16th-century merchant's townhouse complex located in the Gardens, Kilkenny, Ireland.	Full TV	No	No, as visibility not likely to occur due to screening from built environment
Famine Warhouse	Famine Warhouse 1848 is an Irish farmhouse famous as the site of a skirmish in the Young Irelander Rebellion of 1848, at which the Irish tricolour was flown for the first time, located in Ballingarry, Co. Tipperary	Full TV	Yes	Yes
St Canice's Cathedral	St Canice's Cathedral, also known as Kilkenny Cathedral, is a cathedral of the Church of Ireland, located in the Gardens, Kilkenny	Full and partial theoretical visibility	No	No, as there is no actual visibility from the cathedral grounds.
St Mary's Church	Church at the heart of the city for over	Full TV	No	No, visibility is not likely to occur due to visual

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Tourist Destination	Description	Theoretical Visibility	Actual Visibility	Scoped In?
and Graveyard	800 years, located in the Gardens, Kilkenny			screening from built environment
St Lachtain's Church	St. Lachtain's Church was built in 1731 in the village of Freshford, County Kilkenny, Ireland. The church is named after St. Lachtain who died in Donoughmore, County Cork, in 622	Partial TV	No	No, as visibility not likely to occur due to screening from built environment
St Francis' Abbey	St. Francis Abbey, also called Kilkenny Grey Friary, is a medieval Franciscan abbey and National Monument, located in the Gardens, Kilkenny	No	No	No
Black Abbey	A Catholic priory of the Dominican Order, dedicated to the Holy and Undivided Trinity. Black Abbey was established in 1225, located in the Gardens, Kilkenny	Full TV	No	No, visibility not likely to occur due to screening from built environment
10 to 15 km				
Kilkenny City Walls	Kilkenny's city walls were built by the Anglo Normans in the 13th century.	Patches of Full TV and no TV	No	No, visibility not likely to occur due to distance as well as the visual screening occurring from vegetation and the built environment
Kilkenny Castle	A castle built in 1260 to control a fording-point of the River Nore and the junction of several routeways.	Full TV	No	No, visibility not likely to occur due to distance as well as the visual screening occurring from vegetation and the built environment
15 to 20 km				

Tourist Destination	Description	Theoretical Visibility	Actual Visibility	Scoped In?
Mount Juliet Estate	A luxury 5-star hotel set in 500 acres of countryside in Kilkenny, Ireland.	No	No	No

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13.5.1.6 Transport Routes

Motorways, national primary and national secondary roads were identified within the LVIA Study Area. The visual baseline exercise determined that most visibility of the proposed turbines will occur within 5km of the proposed turbines. Therefore, regional roads within 5km were included in the visual baseline exercise. Regional roads and local road transport routes within 3-5km (3km in the case of local roads and 5km in the case of regional roads) of the proposed turbines were also assessed as part of the route screening analysis included in Section 13.3.3.

Table 13-16 (below) lists the transport routes and the geographical extent of theoretical visibility upon each section of the identified transport routes as illustrated in the Visual Baseline and ZTV Map – Figure 13-17. On site appraisals determined that in most instances there will be limited visibility from large portions of these routes where the ZTV has indicated full theoretical visibility due to local topography and roadside screening. Viewpoint selection locations were identified where most open visibility is likely to occur on these transport routes.

Table 13-16 Transport Routes within the LVIA Study Area

Transport Route	Theoretical Visibility	Scoped In?
Up to 5km		
R695	Both partial and full theoretical visibility within 5 km of the proposed turbines and large stretches of theoretical visibility outside of 5km.	Yes
10 to 15km		
N76	Stretches of full and partial theoretical visibility between 5km and 10km with full theoretical visibility beyond 10km until 20km.	Yes
N77	Large sections of both partial and no theoretical visibility with a small section of full theoretical visibility near Kilkenny City.	No, given the distance and visual screening occurring from roadside vegetation and the built environment from Kilkenny City, visibility is not likely to occur.
N78	Large sections of partial and no theoretical visibility within 15km of the nearest proposed turbine, with patches of full theoretical visibility beyond 15km.	No, given the distance and the dense roadside vegetation beyond 15km of the Proposed Wind Farm site, visibility is not likely to occur.

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Transport Route	Theoretical Visibility	Scoped In?
M9	Mostly full theoretical visibility with sections of no theoretical visibility	Yes
15 to 20km		
N10	Mostly full theoretical visibility with sections of no theoretical visibility beyond of 15km from the proposed turbines.	Yes
M8	Primarily no theoretical visibility with small stretches of partial theoretical.	No, as no actual visibility is likely to occur as road is enclosed on both sides by elevated banks, which provide visual screening towards the Proposed Wind Farm site.

13.5.2 Visual Receptor Preliminary Analysis

After identifying the visual receptors in the LVIA Study Area based on designated scenic routes, settlements, recreational and tourist destinations, recreational routes, OSI viewing areas and transport routes, a preliminary analysis was carried out to scope out visual receptors that are likely to have very little or no visibility of the Proposed Wind Farm.

Zone of Theoretical Visibility mapping and visibility appraisals conducted on site during surveys undertaken in the years 2023 and 2024 were used to scope out visual receptors from further assessment. In the case of the visual receptors shown in Table 13-17 below, views towards the proposed turbines were either entirely screened or substantially screened from view. In some cases, the factor of distance to the proposed turbines as well as the directional focus of views was included in the scoping analysis and was a contributing factor in excluding these locations from being selected as viewpoints.

Table 13-17 Visual Receptors Scoped Out from further assessment

Visual Receptor Category	Visual Receptor
Designated Scenic Routes and Views	TV-29 KK-V14 KK-V20 KK-V24 KK-V31 KK-V32 T-V28 T-V30 T-V31 KK-V10 T-V12 L-V021
OSI Viewpoints	Ballykieran Viewing Point

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Settlements	Byrnesgrove Ballingarry Threecastles Freshford Grange The Commons Mullinahone Newtown Ballyfoyle Connahy Gathabawn Johnswell Urlingford Gortnahoo Ballysloe Glengoole Ninemilehouse Grangemockler Kilmogammy Dunnamaggin Stoneyford Ennisag Bennettsbridge Bullinonty Two-Mile-Borris Johnstown Crosspatrick Galmoy Cullahill Killenaule Drangan
Recreational Routes / Cultural Heritage / Tourist Destinations	Ballykeeffe Wood Browneswood Grange Walking Loop Callan Abbey Meadow Walk Freshford Loop Millenium Wood River Nore Linear Park Kilkenny Castle Park Newpark Marsh Ballyrafton Wood Jenkinstown Wood Garryricken Wood Kyledoir Wood Kings River Walk South Kilkenny Cycle Loop Gathabawn Loop Nore Valley Walking Trail Windgap Loop Lough Dhoire Bhile Loop Cullahill-Binnianea Loop Dunmore Woods Loop East Kilkenny Cycle Loop The Island Walk

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	Rothe House & Gardens St. Canice's Cathedral St. Mary's Church and Graveyard St. Lachtain's Church St. Francis' Abbey Black Abbey Kilkenny City Walls Kilkenny Castle Mount Juliet Estate
Transport Routes	N77 N78 M8

Following the pre-assessment exercise, the visual receptors shown in Table 13-18 below have been selected for assessment due to their significance within the LVIA Study Area and the potential visual effects they may experience due to the Proposed Project.

Table 13-18 Visual Receptors Scoped In for Further Assessment

Visual Receptor Category	Visual Receptor	Relevant Viewpoints (VP)
Designated Scenic Routes and Views	KK V-16	VP9, PWE
	T-SR27	PWK
	KK-V12	VP7, PWI
	KK-V13	PWN
	KK-V15	VP16
	L-V004	VP5,
OSi Viewing Points	N/A	N/A
Settlements	Kilmanagh	VP11, VP12, VP13, PWF, PWS, PWT
	Tullaroan	VP1, PWB
	Ballycallan	VP9, PWE
	Callan	VP15, PWP
	Cuffesgrange	PWI
	Kilkenny City	VP10
	Kells	VP14, PWO
	Ballyragget	PWM
	Danesfort	VP10
	Windgap	VP16

Recreational Routes and Tourist Destinations	North Kilkenny Cycle Route	VP6, VP8, VP11, VP13, PWD, PWF, PWM, PWG
	South Kilkenny Cycle Route	VP10
	Famine Warhouse	PWK
Transport Routes	R695	VP11, VP12, PWR
	N76	VP15, VP15, PWH, PWP
	M9	VP10
	N10	VP10

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13.5.3 Visual Amenity from Residential Receptors

The likely visibility of the Proposed Project was appraised during multiple surveys conducted during the years 2023 and 2024, which determined that most visibility would occur within 5km of the proposed turbines. The area is an undulating agricultural modified working landscape; however, it is a settled landscape and residential housing is organised along the local road network as well as small settlement clusters around local crossroads and junctions. Residential receptors located in close proximity to the proposed turbines will likely have views of the proposed turbines and are likely to have the greatest visual effects arising as a result of the Proposed Project. Several viewpoint (VP) locations representing residential properties located in close proximity to the Proposed Wind Farm were assessed, which resulted in 9 no. VP's being selected for inclusion in the photomontage booklet (Volume 2 of this EIAR) and the remaining VPs are presented in the Photowire Booklet (Appendix 13-5 of this EIAR). The photomontages are assessed in Appendix 13-3 and discussed later in this chapter. The following representative viewpoints are located in proximity to residential receptors and settlement centres within 5 km from the proposed turbines.

- VP1 (Tullaroan)
- VP2 (Oldtown)
- VP4 (Oldownhill)
- VP6 (Oldtown)
- VP8 (Corstown)
- VP9 (Knockeenglass)
- VP 11 (Knockeenbaun)
- VP12 (Kilmanagh)
- VP13 (Kilmanagh)
- PWA (Tullaroan)
- PWB (Tullaroan)
- PWC (Riesk)
- PWD (Corstown)
- PWE (Knockeenglass)
- PWF (Kilmanagh)
- PWQ (Riesk)
- PWR (Graigue (Hartford))
- PWS (Brittasdryland)
- PWT (Pottlerath)
- PWU (Ballyucuddihy)

The impact of the proposed turbines on residential visual amenity is discussed in detail in Section 13.7.3.2.4.

13.6 Cumulative Context

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In terms of cumulative landscape and visual effects, other wind energy projects are of primary focus, as only these would be described as very tall vertical elements in the landscape and have greatest potential to give rise to significant cumulative effects. A long list of all applications considered by each of the different disciplines in their cumulative impact assessment are included in Appendix 2-. There is no potential for significant cumulative impacts from a landscape and visual perspective in relation to the non-wind energy applications listed in Appendix 2-3. The purpose of this section is to identify all wind farm developments in the LVIA Study Area which potentially contribute to assessment of cumulative and in combination landscape and visual effects. This chapter assesses the likely landscape and visual impacts of the Proposed Project, both independently, as well as in combination with all other existing and operational wind farm development in the LVIA Study Area. This chapter also assess the Proposed Project in combination with the *'likely future receiving environments'* (EPA, 2022) which includes all proposed and permitted wind farm development in the LVIA Study Area.

The effects reported both in this chapter and within the assessment appendices (Appendix 13-2 – LCA Assessment Tables; Appendix 13-3 Photomontage Assessment Tables) uses appropriate and logical narrative to discuss cumulative interactions between the Proposed Project and all other wind energy developments.

Other wind energy developments within 20km of the proposed turbines were identified by a search of relevant online Planning Registers, reviews of relevant EIAR (or historical EIS) documents, planning application details and planning drawings, and served to identify past and future projects, their activities, and their environmental impacts. 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 have been constructed. The list of operational, permitted, and proposed wind turbines present within the LVIA Study Area are listed in Table 13-19 below:

Table 13-19 Other Windfarms Located within the LVIA Study Area

Other Wind Farms	Status	No of Turbines within the LVIA Study Area	Distance from the nearest turbine
5km			
Foyle Wind Farm	Existing	4	2.5km
	Permitted	1	2.5km
Kyleballyoughter Wind Farm	Permitted	2	3.3km
5 to 10 km			
Ballybay Wind Farm	Existing	6	5.8km
	Permitted	1	5.4km
Farranrory Wind Farm	Permitted	9	6.3km
An Cnoc Wind Farm	Existing	5	7.5km
10 to 15 km			

Other Wind Farms	Status	No of Turbines within the LVIA Study Area	Distance from the nearest turbine
Gurteen Lower Wind Turbine	Existing	1	11.7km
Ballincurry 2 Wind Turbine	Existing	1	14.1km
Ballincurry 1 Wind Turbine	Existing	1	14.1km
15 to 20 km			
Littleton Wind Farm	Proposed (Pre-App SID)	14	15.1km
Lisdowney Wind Farm	Existing	4	15.5km
Knockroe Wind Farm	Permitted	7	17.4km
Freeneystown Wind Farm	Proposed (Pre-App SID)	8	18km
Lisheen Wind Farm II	Existing	6	19.1km

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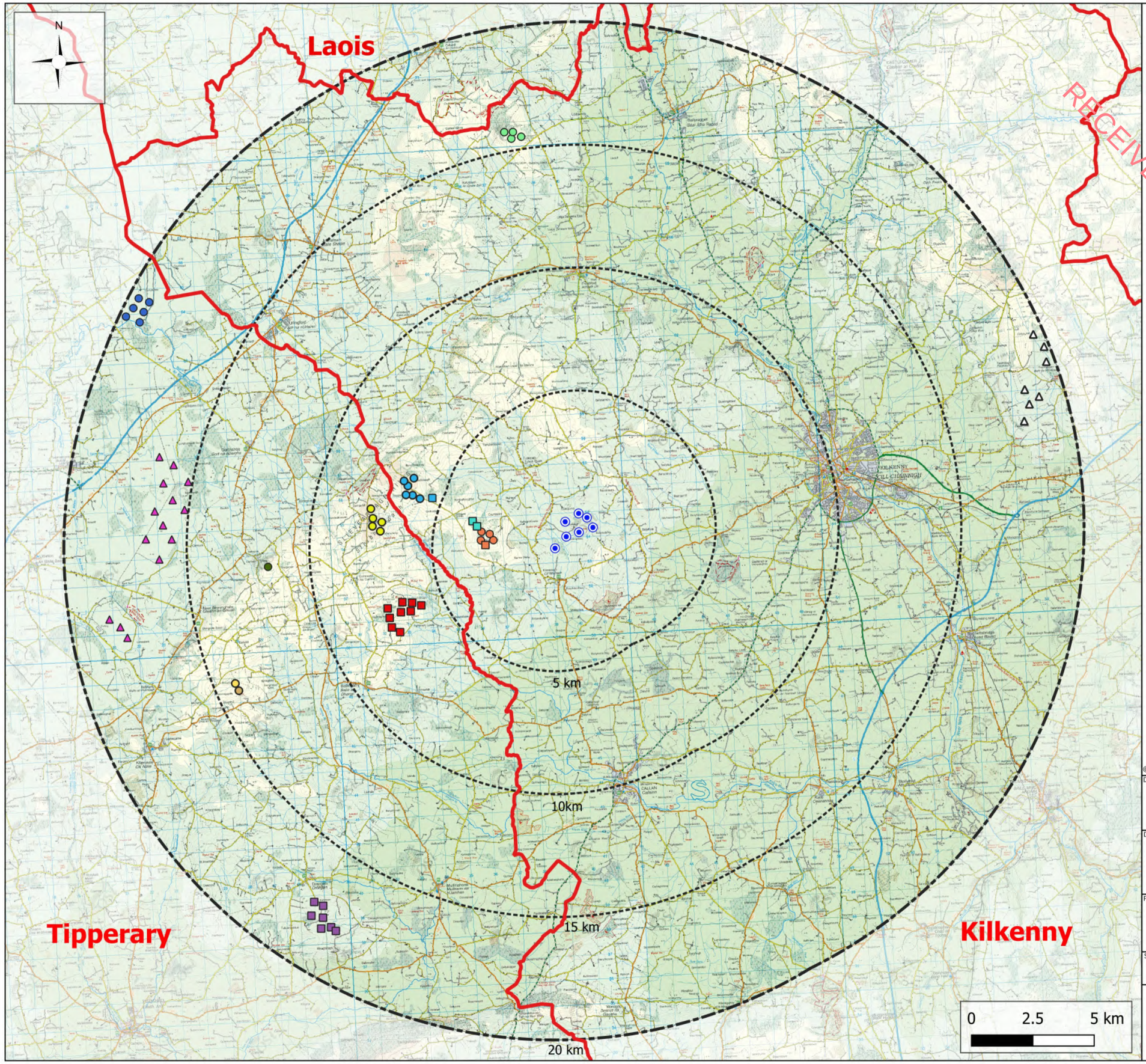
There are 15 No. existing, permitted, and proposed wind farms (including singular wind turbines) within the 20 km LVIA Study Area. The locations of the existing, permitted, and proposed turbines can be identified on the Cumulative Context map, Figure 13-18, shown below. If the turbines are theoretically visible, all turbines are included within the proposed photomontage imagery in the Photomontage Booklet. An assessment of cumulative landscape and visual effects are included in the assessment of effects detailed in *Section 13.7 – Likely Significant Landscape and Visual Effects.*



Map Legend

- Proposed Turbine Locations
- LVIA Study Area
- County Borders

Cumulative Wind Farms within the LVIA Study Area

- An Cnoc Wind Farm - Existing
- Ballincurry 1 Wind Turbine - Existing
- Ballincurry 2 Wind Turbine - Existing
- Ballybay Wind Farm - Existing
- Permitted Turbine of Ballybay Wind Farm
- Foyle Wind Farm - Existing
- Permitted Turbine of Foyle Wind Farm
- Gurteen Lower Wind Turbine - Existing
- Lisdowney Wind Farm - Existing
- Lisheen Wind Farm II - Existing
- Farranrory Wind Farm - Permitted
- Knockroe Wind Farm - Permitted
- Kyleballoughter Wind Farm - Permitted
- Littleton Wind Farm (Pre-App SID)
- Freneystown Wind Farm (Pre-App SID)

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Drawing No.

Figure 13-18

Drawing Title

Cumulative Context

Project Title

Briskalagh Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:150,000	230502	02/10/2024	AR	JW

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13.6.1 Assessment of Cumulative Effects: ZTVs & Photomontages

Figure 13-22 compares the cumulative theoretical visibility of all existing, permitted, and proposed wind farms with an additional visibility of the proposed turbines of the Proposed Project. The Cumulative Comparative ZTV map (Figure 13-22) is presented in Section 13.7.3.10 of this chapter to support the discussion of cumulative visual effects. The legend on Figure 13-22 shows the theoretical visibility of the proposed turbines and cumulative turbines for each corresponding colour, which are as follows:

- Teal: only turbines of the Proposed Project are theoretically visible;
- Orange: only other existing, permitted and proposed cumulative turbines are theoretically visible, not including the turbines of the Proposed Project;
- Navy: theoretical visibility of the turbines of the Proposed Project along with all other existing, permitted and proposed cumulative turbines

The Cumulative Comparative ZTV shows that the majority of areas within the LVIA Study Area, to the north, south and east, will have theoretical visibility of both the proposed turbines along with existing, permitted and proposed cumulative turbines. To the west, beyond 5km, there is primarily only theoretical visibility of existing, permitted or proposed cumulative turbines. To the north, beyond 5km, there are also large areas where only the existing, permitted or proposed cumulative turbines are theoretically visible. Compared to the proposed turbines, the existing turbines within the LVIA Study Area are smaller, therefore, there is less potential of visibility of these turbines within the LVIA Study Area due to topographical features and vegetation.

Although the cumulative ZTV shows large areas of theoretical visibility of the proposed turbines and other wind farm developments throughout the LVIA Study Area, due to the intervening vegetation in the landscape actual visibility will be substantially less.

Photomontage Visualisations for Assessment of Cumulative Effects

As noted previously, the ZTV does not account for localised undulations in topography and other visual screening factors, and actual visibility in this vegetated landscape is likely to be far less than is indicated by the ZTV. Whilst the cumulative ZTV is a useful tool to aid assessment of cumulative effects and scope out areas where certain cumulative impacts will not occur. In this landscape type, photomontages are a more informative tool for assessing potential cumulative landscape and visual impacts. Visibility appraisals and photomontage visuals show that there is in fact a very limited cumulative impact with other wind farm developments in a vast proportion of the LVIA Study Area. Most cumulative effects will be perceived from elevated vantage points in the LVIA Study Area where long ranging views are permitted across the lowland landscape.

As detailed in Appendix 13-1 – *LVIA Methodology*, all other existing, permitted, and proposed wind farms are included in the visualisations in the Volume 2: Photomontage Booklet, as follows:

- **Existing View and, Existing Wireline View** – Turbines of existing wind energy developments currently operational in the baseline landscape at the time of conducting this LVIA;
- **Proposed with Cumulative View and, Proposed with Cumulative Wireline View** – As well as the proposed turbines, turbines of all other existing, permitted and under construction are presented in the photomontages and wireline views. Also, well-developed wind farm proposals with project details in the public domain are also included in this photomontage and wireline view.

An assessment of cumulative landscape and visual effects are included in the assessment of effects detailed Section 13.7.3. Likely cumulative landscape effects are assessed in the landscape character assessment

tables in Appendix 13-2, and likely cumulative visual effects are assessed in the photomontage assessment tables in Appendix 13-3.

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Cumulative landscape and visual effects reported both in this chapter and within the assessment appendices (Appendix 13-2 - LCA Assessment Tables; Appendix 13-3 - Photomontage Assessment Tables) uses appropriate and logical narrative to discuss cumulative interactions between the proposed turbines and all other wind energy developments irrespective of whether they are categorised as existing, permitted, or proposed. There is a level of uncertainty relating to the likelihood of permitted and proposed turbines being constructed and visible within the landscape when compared with existing turbines. The likelihood of cumulative landscape and visual effects arising between the Proposed Project and with other proposed turbines is an inherently uncertain scenario, reliant on the outcome of the planning and consenting system (amongst other factors). There is also a greater degree of uncertainty for projects not yet in the planning system, for example the proposed Freneystown Wind Farm and the proposed Littleton Wind Farm. Whilst the categories of status of other wind energy developments (e.g. existing, permitted and proposed) provide clarity in presentation of visuals, the discussion of cumulative interactions on specific landscape and visual receptors is relative to the effects on that receptor and proportionate to the likelihood of significant landscape and visual effects occurring.

The assessment of cumulative landscape and visual effects must be proportional, meaning that the focus of the assessment is on the extent to which the Proposed Wind Farm contributes toward cumulative effects on the particular receptors under assessment; these contributions are clearly explained in the narrative on cumulative impact assessment included in this Chapter as well as in the impact assessment Appendices (Appendix 13-2 and Appendix 13-3).

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13.7 Likely Significant Landscape and Visual Effects

All elements of the Proposed Project are assessed in this chapter, however, as detailed in Section 13.1.2.1, the focus of the assessment throughout the chapter is upon the proposed turbines as they are deemed to be the essential aspect of the proposal under assessment from a landscape and visual perspective.

13.7.1 Do-Nothing Effect

If the Proposed Project were not to proceed, no changes would be made to the current land-use practice of low intensity agriculture and small-scale forestry. Should this occur, the landscape and visual impact would be neutral in the context of this EIAR.

If the Proposed Project were not to proceed, the opportunity to capture part of Kilkenny's valuable 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.

If the Proposed Project were not to proceed, the opportunity to replant sections of the banks of the Tullaroan River by establishing a natural wooded riparian buffer would be lost. The riparian planting would contribute to the landscape value by enhancing the aesthetically pleasing, natural green landscape. Please see Appendix 6-4 Biodiversity Management and Enhancement Plan for details.

13.7.2 Construction Phase Effects

It is estimated that the construction phase of the Proposed Project will last between 12-18 months. The construction will involve the erection of 7 turbines with a maximum blade tip height of 185m, a 38kV onsite substation and underground cabling to the existing Ballyragget 110kV substation, and all associated works. Construction phase effects also include the associated effects resulting from the movement of construction and turbine transport vehicles into and out of the Site to allow the construction of the Proposed Project elements.

13.7.2.1 Landscape Effects of the Proposed Turbines (Construction Phase)

The earthworks such as cut and fill required to facilitate the construction of the Proposed Project will have a direct effect on the landscape and have the greatest potential for landscape effects. Where excavation is required, existing landcover, vegetation and spoil will be removed during the construction phase. In most instances, groundworks and excavation trenches will be re-instated with granular fill and/or previously excavated material upon the completion of construction. Excavation will be visually contained by the surrounding landform and will not be visible from the wider LVIA Study Area. The construction activities may potentially cause temporary impacts on the landscape such as the creation of temporary structures. In general, it is considered that the construction phase will have a Short-Term, Moderate, Negative effect in terms of direct landscape effects.

The construction works will be short-term in nature and completed as soon as practically possible. All construction activities will follow best practice methods to reduce impacts upon the environment and landscape of the Site. Further details are contained in the Construction and Environmental Management Plan (CEMP) contained in Appendix 4-3 of this EIAR.

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13.7.2.2 Visual Effects of the Proposed Turbines (Construction Phase)

The most substantial visual effects will arise from requisite construction activities such as building tower sections and erection of the proposed turbines using cranes. These will be temporary scenarios during the construction phase where the proposed turbines will be partially constructed and may be seen as either standalone tower sections, or incomplete turbines where only one or two blades are visible. The equipment and vehicles required to transport and erect the Proposed Wind Farm components include large cranes and large haulage vehicles. These construction activities will cause 'Slight,' Short-Term 'Negative' Visual Effects.

General housekeeping measures, necessary for Health and Safety requirements, will ensure that the active construction areas will be kept tidy, mitigating localised visual impacts during the construction phase. A detailed description of the Proposed Project is included in Chapter 4 of this EIAR. The following sections assess the visual effects associated with the construction phase of the other (non-turbine) components of the Proposed Project.

13.7.2.3 Ancillary Proposed Project Elements (Construction Phase)

13.7.2.3.1 *Site Access Roads and Hardstand Areas*

The proposed access roads and hardstand areas are flat features and will be most visible within their immediate surroundings, within the Site, hence no 'Significant' impacts will arise within the landscape. Every use will be made of the existing farm and access tracks on the Site where suitable. Some tracks will be upgraded appropriately whilst several stretches of new internal roads will need to be constructed. The landscape and visual impact of the construction of these flat and hard surfaces will be very localised. The visual effects arising from the access roads and hardstand areas are considered to be highly localised, 'Short-Term,' and 'Slight.'

13.7.2.4 Borrow Pit and Spoil Management Areas

It is proposed to construct a temporary borrow pit in the townland of Oldtownhill, located approx. 260 metres north of T01. The extraction of material from the borrow pit is a construction phase activity only, done through means of rock breaking and blasting (as appropriate). The direct effects of the borrow pit on the physical fabric of the landscape itself will be highly localised within the agricultural field.

The borrow pit will be visible from elevated vantage points within the wider landscape enclosing the Proposed Wind Farm and will therefore have an effect on landscape character in combination with the proposed turbines and other infrastructure. The proposed borrow pit is located within a field comprising agricultural grassland and is deemed to be of low sensitivity. The magnitude of change is deemed to be 'Slight' and therefore, a Short-term 'Negative' landscape effect will occur.

Several rehabilitation measures will be implemented post-construction phase. For example, the borrow pit will be backfilled with spoil and then reseeded or left to vegetate naturally. Following rehabilitation, the landscape and visual effects will be 'Not Significant' during the operational phase.

To manage any excess overburden generated through construction activities, spoil management areas have been selected within the Site. The effects of spoil management areas will be very localised within the Proposed Wind Farm therefore, the creation of spoil management areas will have a Temporary 'Slight' and localised effect on the landscape during the construction phase. Following regrading and re-establishment of vegetation of these areas following completion of the construction phase, effects will be 'Not- Significant' during the operational phase.

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13.7.2.4.1 *Meteorological (Met) Mast*

One meteorological (met) mast is proposed as part of the Proposed Wind Farm. The met mast will be equipped with wind monitoring equipment at various heights. The proposed met mast will be located at E 640347, N 654213 (ITM) as shown on the Proposed Wind Farm site layout drawing in Figure 4-2 of Chapter 4. The met mast will be a free-standing slender lattice structure 30 metres in height. It will be constructed on a hard-standing area sufficiently large to accommodate the equipment that will be used to erect the mast. A standard detail of a meteorological mast is shown in Figure 4-10 of Chapter 4. Within the Proposed Wind Farm site and its immediate landscape setting, the landscape and visual effects arising from the construction of the met mast is considered to be of highly localised 'Negative,' Short-Term 'Slight' effects.

13.7.2.5 Temporary Construction Compound

Two temporary construction compounds will be located in the northern and southern section of the Proposed Wind Farm site, along the proposed road adjacent to the proposed borrow pit, and to the south of T07. The locations of the proposed construction compounds are shown on the Proposed Wind Farm site layout drawing in Figure 4-2 of Chapter 4. A detailed description of the construction compounds are shown on Section 4.3.1.5 of Chapter 4.

The landscape and visual effects of the construction compounds will be highly localised, considering that construction activities related to them will be most visible within their immediate surroundings. Within the Site and its immediate landscape setting, the landscape and visual effects arising from the construction compounds are considered to be of highly localised 'Negative,' Short-Term 'Slight' effects.

13.7.2.6 Proposed Grid Connection

13.7.2.6.1 *Underground Cabling connection to Ballyragget Substation – Construction Phase Effects*

The underground cabling works will consist of the installation of ducts in an excavated trench to accommodate electrical and fibre communications cables to facilitate a connection between the proposed 38kV on-site substation and the existing 110kV Ballyragget Substation. The underground cabling route will be located underground, therefore the greatest effects attributed to this element of the Proposed Project will occur during the construction phase. The underground cabling will be laid predominantly beneath the surface of the existing farm access road to be upgraded and the public roads, with a short section across agricultural land adjacent to the Ballyragget Substation.

The construction phase of the underground cabling will be short-term, localised, and transient in nature, as the works move along the cabling route. The works will include roadside vegetation removal, soil/road surface stripping, excavation, and other associated construction activities. In all circumstances, excavation depths and volumes will be minimised, and excavated material will be re-used where possible. Should any medium planting be removed, it will be replaced with the same or similar species whenever it is not possible to salvage and reinstate. Any areas of bare soil remaining after the landscaping phase will be seeded as soon as possible with a grass seed mix. Regarding the underground cabling, changes will be localised to the immediate environment surrounding the cabling route and will not permanently affect the character of the landscape setting or visual amenity of the wider area.

The Proposed Grid Connection underground cabling works are likely to cause 'Slight' Temporary, 'Negative' landscape and visual effects. The Proposed Grid Connection will only cause perceptible effects on the landscape and visual amenity during the construction phase. No landscape and visual effects will occur during the operational phase.

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13.7.2.6.2 *Proposed 38kV Substation*

Visual effects will occur as the proposed substation is built due to the earthworks and requisite construction activities; these will cause a localised change to views in the immediate area. As established in the baseline investigations, the proposed substation is located within an agricultural field with a substantial set back distance from the nearest sensitive receptor, located approx. 250m west of the proposed substation). Visibility of the proposed substation will be limited from this sensitive receptor due to the visual screening effect from the vegetation in the intervening landscape.

In general, visibility of the proposed substation will be highly localised. The local road to the west, the L5023, and the residential receptors located along it, are surrounded by treelines and hedgerows, multiple layers of which will visually screen the proposed substation from view.

A temporary construction compound will also be located at the proposed 38kV substation. As discussed above, the layout of this construction compound is shown on Figure 4-2 of Chapter 4, along with a detailed description in Section 4.3.1.5 in Chapter 4. The landscape and visual effects of the construction compound will be highly localised, considering that construction activities related to this will be most visible within its immediate surroundings. The landscape and visual effects arising from the construction of the Proposed 38kV Substation and associated temporary construction compound are considered to localised, 'Negative', Short-Term 'Slight' effects.

13.7.3 Operational Phase Effects

13.7.3.1 Landscape Effects (Operation Phase)

13.7.3.1.1 *Landscape of the Proposed Wind Farm site*

The landscape character of the Proposed Wind Farm site will undergo major changes in the landscape by the introduction of vertical man-made structures, ancillary infrastructure and hardstanding areas. There will be a substantial magnitude of change to the landscape in the localised areas within the Proposed Wind Farm site where the landscape is materially altered (infrastructure footprint).

In a local context, the Proposed Wind Farm site is located in a modified, remote, agricultural working landscape of local value. Agricultural grassland and commercial forestry are the dominant landcover of the relatively flat landscape within the Proposed Wind Farm itself. As outlined in Section 13.4.2 above, the landscape value and sensitivity of the Proposed Wind Farm site is deemed to be 'Low.' Low sensitivity balanced with a substantial magnitude of change amounts to long-term landscape effects of Moderate significance upon the physical fabric of the landscape of the Proposed Wind Farm site (See LVIA Methodology, Appendix 13-1). These direct landscape effects will be highly localised to the footprint of the Proposed Project. Effects on the perceptual and aesthetic character of the Proposed Wind Farm site are also deemed to be of Moderate significance.

Mitigation of Landscape Effects within the Landscape of the Proposed Wind Farm site

The following measures have been included in the Proposed Project design in order to avoid or reduce direct effects on landscape receptors (individual landscape features and the landscape character of the Site as a whole) on the Proposed Wind Farm site:

- The internal site road layout makes use of the existing roads wherever possible, to minimise the requirement for new tracks within the Proposed Wind Farm site.
- To minimise cut and fill activities required to construct the Proposed Project, the proposed access roads, and other infrastructure such as hardstands have been designed to align with the existing terrain within the landscape of the Proposed Wind Farm site.

- In all circumstances, excavation depths and volumes will be minimised, and excavated material will be re-used where possible.
- During initial vegetation stripping, all topsoil material will be temporarily stored on the Proposed Wind Farm site and used for 'landscaping' the edges of the development infrastructure during reinstatement/regrading, including that of the spoil management areas and borrow pit. This will be particularly important in areas of cut and fill. The stripped topsoil will contain a natural seed source of local provenance and result in the re-establishment of baseline vegetation.
- The layout and design of the Proposed Project has been designed to ensure minimal loss of valuable landscape receptors and biodiversity corridors such as woodland and hedgerows along field boundaries.

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Residual Landscape Effects

Once the Proposed Project is operational and the construction is complete, the landscape will naturally re-vegetate around the Proposed Project footprint with the aid of mitigation measures (e.g., retention of natural seedbank during soil stripping). Considering the mitigation measures above, residual effects upon the landscape of the Proposed Wind Farm site will be Slight.

13.7.3.1.2 *Effects on Landscape Receptors of High Sensitivity*

County Kilkenny

Section 13.4.1.1.3, above, discusses County Kilkenny's Sensitive Landscape Features. As stated previously, there are no sensitive landscape features located within the Proposed Wind Farm site itself. The sensitive features in close proximity to the Proposed Wind Farm site and the likely landscape effects are discussed below. The Proposed Project will not directly alter the physical fabric of these landscape receptors; therefore, any landscape effects that are due to occur are only likely to impact their character or setting. In all instances, there will be no Significant impact on the sensitivities of these sensitive landscape features due to the setback distances and limited visibility of the Proposed Project from them.

County Kilkenny 'Sensitive Landscape Features'

As noted in Section 13.4.1.1.3, the Proposed Wind Farm site is situated near contours, ridgelines, and gently steep landscape areas which in County Kilkenny are considered 'sensitive landscape features.' This can be seen in Plate 13-19 below, which shows the surrounding ridgelines and elevated areas surrounding the Proposed Wind Farm. It is clear from this image below that the Proposed Wind Farm is not located upon the ridgelines or steep contours. Rather, the proposed turbines are sited at a low elevation with the

topography of the landscape rising around them. As a result, the Proposed Wind Farm does not directly affect the physical landscape of these features.

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Plate 13-19 Drone image illustrating the landscape surrounding the Proposed Wind Farm to the west, as viewed from a location to the east of the Proposed Wind Farm site (Same image as Plate 13-4 shown previously in Section 1.4.3)

The sensitivity of these receptors are considered 'High' on account of their designation in the KCDP; however, it is noted that steep elevations and ridgelines are not unique landscape features in a regional or national context. From an LVIA perspective, the elevated landforms and ridgelines enclosing the Proposed Wind Farm site are ultimately advantageous for reducing the visual exposure of the Proposed Wind Farm from a large proportion of the wider landscape setting in the LVIA Study Area. No elevated ridgelines are present within the Proposed Wind Farm site itself and the proposed turbines do not physically alter these designated landscape receptors. The proposed turbines are sited at low elevation relative to the ridgelines and therefore do not impact upon the key sensitivities of these sensitive features which are in essence their height (ridgelines and elevations in excess of 200m AOD). Photowire E was captured to show views from slopes over 200m AOD and is reproduced in Plate 13-20 below. Although the proposed turbines will be partially visible from the peaks of these ridgelines and altitudes, they will be seen within a working agricultural landscape of low sensitivity. Furthermore, where the turbines may appear taller than some ridgelines from certain vantage points, their positioning within the landscape ensures that their presence does not dominate or significantly detract from the natural ridgeline profiles. This effect is mitigated by the natural topography, which allows the turbines to integrate into the broader landscape. The Magnitude of change is deemed to be 'Slight.'

Therefore, while the proposed turbines are located in close proximity to these designated landscape features and there will be an effect on the setting and character of this landscape receptor, this effect is mitigated by the separation from the proposed turbines and the landscape features. Overall, a 'Slight'

residual landscape effect is deemed to arise concerning the impact of the Proposed Wind Farm on these sensitive designated landscape features.

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Plate 13-20 Photowire E - Views north towards the proposed turbines from an elevated ridge

County Tipperary

Section 13.4.3.3 above scoped in two designated landscape receptors for assessment from the surrounding counties. These landscape receptors were identified within the landscape baseline on the basis of theoretical and actual visibility as determined during site visits conducted in 2023 and 2024. The likely landscape effects on these receptors are discussed below. The Proposed Project will not directly alter the physical fabric of these landscape receptors and therefore any landscape effects that are due to occur are only likely to impact their character or setting. In all instances, there will be no 'Significant' impact on the sensitivities of this receptors due to the setback distances and limited visibility of the Proposed Project from them.

Tipperary Secondary Amenity Area – Slieveardagh Hills

The Slieveardagh Hills located to the west of the Proposed Wind Farm site, is a designated Secondary Amenity Area in County Tipperary. At its closest point, the Secondary Amenity Area is located approximately 4km west from the nearest proposed turbine, (T7) and extends in a south-west direction beyond 20km from the proposed turbines. As noted previously, the TCDP states the following in relation to Secondary Amenity Areas:

> *"These areas are particularly notable by virtue of their scenic and visual quality and offer significant opportunities for tourism development and rural recreational activities. The Council will seek to ensure that a balance is achieved between the protection of sensitive landscapes and the appropriate socio-economic development of these areas. In this respect,* ***development proposals will be required to demonstrate that they integrate and respect the visual quality of the amenity area."***

There are large parts of this Secondary Amenity Area where there is no theoretical visibility indicated (as seen in Figure 13-6 Landscape Policy Context & ZTV Map above). As a result of topographical screening provided by the Slieveardagh Hills, the vast majority of area to the west of this Amenity Area has no theoretical visibility of the proposed turbines. However, patches of both full and partial theoretical visibility occur to the east of this Amenity Area, from the elevated topographical features of the Slieveardagh Hills. PW L shows a view from the Famine Warhouse in the Slieveardagh Hills Secondary Amenity Area towards the Proposed Wind Farm site. Most visibility will occur from elevated vantage points facing the proposed turbines within 10km. Screening elements from the topography frequently obstruct views of the proposed turbines from lower areas within this landscape. This is evidenced in PW

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L, where visibility of the lower parts of the proposed turbines are screened by the intervening landform. There are also two cumulative wind farms (the existing An Cnoc and permitted Farranrory) located within this Secondary Amenity Area).

This is considered a High sensitivity landscape receptor. Considering that the proposed turbines will be seen approximately 4km away at their closest point from this summit viewpoint and will be seen within an expansive, working, agricultural landscape of Low sensitivity to wind energy development (see Section 13.4.1.1 above), a Slight magnitude of change is deemed to arise. The proposed turbines are not located within this Secondary Amenity Area, they are seen from parts of this area, within an adjacent landscape area. Therefore, while there will be an effect on the setting and character of this landscape receptor, this effect is mitigated by separation from the proposed turbines themselves. Overall, a 'Slight' residual landscape effect is deemed to arise in relation the visual quality of the Secondary Amenity Area.

Plate 13-21 Photowire Viewpoint K, a view towards the Proposed Wind Farm site from the Famine Warhouse in the Slieveardagh Secondary Amenity Area in County Tipperary

Tipperary Secondary Amenity Area – Slievenamon

Slievenamon is a designated Secondary Amenity Area within County Tipperary, located approximately 18.5km south of the nearest proposed turbine. There are small patches of full theoretical visibility located in the northern section of this Secondary Amenity Area, with the majority of it located outside the LVIA Study Area. This is considered a High sensitivity landscape receptor. VP16 is located in the same geographic orientation as Slievenamon Secondary Amenity Area, and shows that at this distance, the proposed turbines will be viewed as small elements in the background of the view. A 'Slight' magnitude of change is deemed to arise. While there will be some effect on the setting and character of this landscape receptor, the limited theoretical visibility within this secondary amenity area (as demonstrated by the ZTV) indicates that the proposed turbines will not be seen from the majority of this area. Where visible, the impact is mitigated by the distance from the proposed turbines. Overall, a 'Slight' residual landscape effect is deemed to arise in relation the visual quality of the Secondary Amenity Area.

13.7.3.2 Landscape Character Areas – Landscape Effects

An assessment of the effects on landscape character was undertaken for the LCAs within the LCA Study Area for Landscape Character (within 15km from the proposed turbines) that were identified as having

potential for visibility of the proposed turbines in the Landscape Receptor Preliminary Assessment previously in Section 13.4.4.2. The individual assessments for each LCA are summarised in Table 13-20 below and are included in detail in Appendix 13-2 in this EIAR. The assessment criteria and grading scales which aided the assessment of landscape effects are detailed in Section 1.4.2 of the methodology appendix – Appendix 13-1.

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Table 13-20 Landscape Character Area Assessment Table

Landscape Character Area	LCA Sensitivity to Wind Farm Development	Magnitude of Change	Residual Effect – Significance of Effect on Landscape (EPA, 2022)
KK-LCA A1 – Slieveardagh Hills (South)	Low	Moderate	Slight
KK-LCA A4 – Slieveardagh Southern Transition Zone	Low	Slight	Not Significant
KK-LCA F2 – Kilkenny Western Basin	Low	Slight	Not Significant
KK-LCA B – Castlecomer Plateaux	Low	Slight	Not Significant
T-LCA 4 – River Suir Central Plain	Low	Slight	Not Significant
T-LCA 14 – Slieveardagh Hills Farmland Mosaic	Medium	Slight	Not Significant

The Proposed Project is located in Kilkenny LCA A1 – Slieveardagh Hills (South). Kilkenny LCA A1 has a 'Slight' residual landscape character effect as a result of the Proposed Project. No Significant landscape effects are likely to occur on any LCAs within the LCA Study Area. All other LCAs within the LCA Study Area have a residual landscape effect classified as 'Not Significant.'

Discussion of Landscape Effects on LCAs

The largest magnitude of change (Moderate) will occur within Kilkenny LCA A1 – Slieveardagh Hills (South) as the proposed turbines will materially alter the landscape of this LCA. The proposed turbines are likely to be most visible within 5km of the Proposed Wind Farm site and from elevated vantage points within this LCA. As shown by the ZTV, the majority of theoretical visibility is evident in areas within 5km of the nearest proposed turbine. Beyond 5km, there are patches of full theoretical visibility of the proposed turbines in the northwest of this LCA with some large patches of partial and no theoretical visibility in the northeast of the LCA due to visual screening provided by the topography. However, on-site appraisals determined that there would be more limited visibility of the proposed turbines in parts of this LCA beyond 5km from the proposed turbines due to the visual screening from intervening vegetation in the landscape which limits views of the proposed turbines.

Review of the landscape policy reported above (Section 13.4.1.1.3 and Section 13.4.1.1.4) concludes that the Proposed Project is sited in an LCA of relatively low sensitivity, particularly when compared to other LCAs in County Kilkenny. It is noted in the LACK that this LCA is given a sensitivity rating of *"Class 3*

– *Normal"* sensitivity rating in the Kilkenny Landscape Character Assessment. Areas classified under this sensitivity rating are described as being *"a common character type with a potential to absorb a wide range of new developments."* This area is described as having *"no significant landscape value."*

The proposed turbines will not materially alter any of the other LCA's in the LCA Study Area and the Proposed Wind Farm is deemed to give rise to a 'Not Significant' residual landscape effect.

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13.7.3.3 Discussion of Cumulative Landscape Effects

Cumulative impacts on the character of the wider landscape are most likely to occur as a result of the proposed turbines, where they are visible in combination with other wind farm developments. A description of the cumulative visual interactions between the proposed turbines and other cumulative projects in the LVIA Study Area is included in the photomontage assessment tables contained in Appendix 13-3. A comprehensive assessment of likely visual effects arising from the intervisibility of the Proposed Project and other wind farms is included in *Section 13.7.3.4 – Discussion of Cumulative Visual Effects*. Cumulative effects on landscape character are included in the impact assessment outlined in Appendix 13-2. No Significant cumulative landscape effects were deemed to arise.

In a cumulative context, the proposed turbines are located within the northeastern part of an undulating agricultural landscape (Slieveardagh Hills), with a history of wind energy development in the higher elevated parts of the hills. As a result of the undulating landscape, topographical screening of the existing and permitted cumulative wind turbines varies throughout the Slieveardagh Hills, and in the adjacent lower lying areas. It can be seen from the photomontage viewpoints and photowires presented that this visual screening also occurs in the case of the proposed turbines, which as can be seen from Figure 13-18, forms part of the cluster of cumulative turbines within the Slieveardagh Hills (comprising Foyle, Ballybay, An Cnoc, and Farranrory wind farms). As a result of their locational siting on the higher elevated parts of the Slieveardagh Hills, these cumulative turbines are generally more visible in the wider area than the proposed turbines, which benefit from increased topographical screening as a result of their siting at a lower elevation, surrounded by higher hills.

There are a number of factors related to cumulative landscape effects in this regard, which are discussed further in relation to specific landscape character areas in Appendix 13-2. The proposed turbines do add to the cumulative number of turbines within this cluster of wind energy developments in the northern part of the Slieveardagh Hills, extending the overall area of wind energy development area further east. However, it should be noted that this does not extend the cluster of cumulative turbines beyond the boundaries of the Slieveardagh Hills landscape. The varying undulating landscape surrounding the Proposed Wind Farm site, and the wider extent of the Slieveardagh Hills is a large-scale and expansive landscape, with capacity to absorb a wind energy development of the scale of the Proposed Project. In this regard, although the introduction of the proposed turbines adds to the presence of wind energy infrastructure in the area, it does not give rise to Significant detrimental effects on the character of the landscape, given the pattern of existing and permitted wind energy development, the improved topographical screening for the proposed turbines compared to the cumulative turbines, and the nature and scale of the Slieveardagh Hills landscape.

There will be additional areas and locations where turbines will now be visible as a result of the Proposed Project, although again views will be intermittent as a result of the elevated topography which encloses the proposed turbines. To the east and south of the proposed turbines, the landscape is comprised of flat expansive agricultural land which provides very limited views of the proposed turbines in conjunction with cumulative turbines. The highest cumulative landscape effects will occur on elevated vantage points from sensitive receptors where a wide horizontal extent of the view allows for the proposed turbines to be viewed in combination with other cumulative windfarms, although beyond 1-2km from the proposed turbines, this primarily occurs from locations where the proposed turbines are viewed at a substantial distance (15-20km) and where they consequently appear small in scale.

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The highest cumulative effects on landscape character were deemed to arise in relation to the KK-LCA A1 – Slieveardagh Hills (South) where, as detailed in full in Appendix 13-2, a Slight residual effect was deemed to arise, incorporating cumulative landscape effects.

13.7.3.4 Visual Effects (Operational Phase)

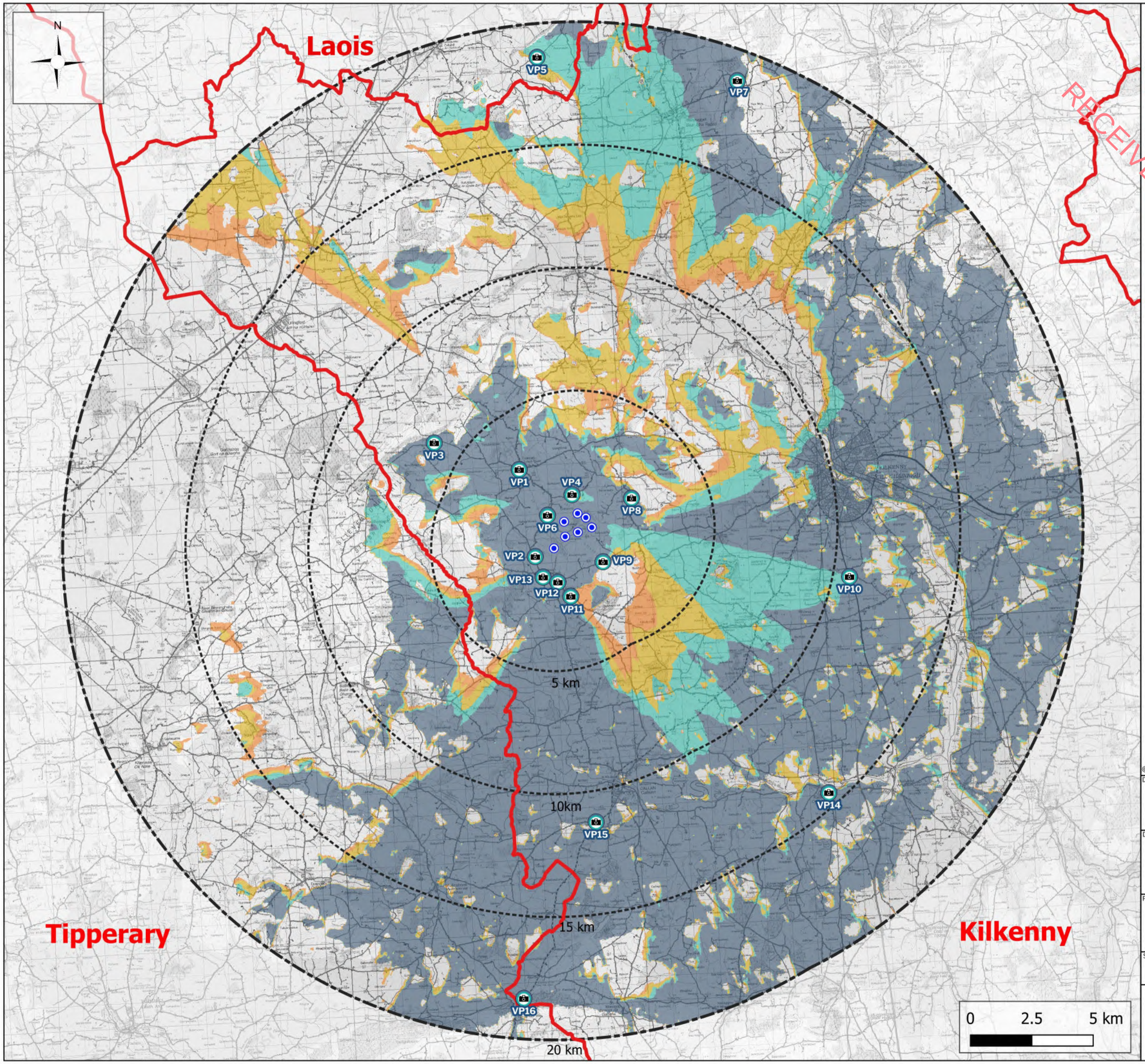
13.7.3.5 Selection of Photomontage Viewpoints

Photomontages were used to assess the visual effects arising as a result of the Proposed Project from 16 no. viewpoint locations, which are presented in EIAR Volume 2: Photomontage Booklet. These 16 no. viewpoint locations are on the A0 Map – Appendix 13-4 LVIA Baseline Map and on Figure 13-19 below. 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 proposed turbines, had complete intervening visual 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 turbines.

Multiple on-site surveys and visibility appraisals conducted throughout the years 2023 and 2024 determined that visibility of the Proposed Project is greatest from the locations in close proximity to the Proposed Wind Farm due to the characteristics of the surrounding landscape. Due to this, viewpoint selection was particularly focused on locations proximate to the proposed turbines. In this regard, it is important to note that the visual impact of the proposed turbines shown in the photomontages selected for the EIAR Volume 2: Photomontage Booklet is not entirely representative of visual effects in the wider landscape of the 20km LVIA Study Area, where in reality very little visibility occurs.

Alternative Photomontage Viewpoints - Photowires

Photomontage imagery was captured from many locations in the LVIA Study Area other than the 16 no. Photomontage viewpoints that were selected for the EIAR Volume 2: Photomontage Booklet. Photowires are early-stage photomontage visualisations comprising panoramic photos with overlaid wirelines (Classified as Type 3 Visualisations in the Landscape Institute Technical Guidance Note, 2019). Photowires were produced from 21 other viewpoint locations in the LVIA Study Area. These viewpoints were not selected for inclusion in the EIAR Volume 2: Photomontage Booklet due to limited visibility of the proposed turbines or a more appropriate nearby location being included in Volume 2 instead. These Photowires do not form part of the assessment of visual effects included in Appendix 13-3. However, 21 no. Photowires are presented within Appendix 13-5, and they are discussed later in this section of the Chapter to illustrate certain points. The location of Photowire viewpoints in Appendix 13-5 are marked as orange icons in Figure 13-20, and are discussed throughout the chapter as Photowire Viewpoint Locations (referred to as PWs (e.g., PWA, etc.)).



Map Legend

- Proposed Turbine Locations
- LVIA Study Area
- County Boundaries
- Photomontage Viewpoint Locations

Zone of Theoretical Visibility

- 1-2 Turbines Theoretically Visible
- 3-4 Turbines Theoretically Visible
- 5-6 Turbines Theoretically Visible
- 7 Turbines Theoretically Visible

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Drawing No.

Figure 13-19

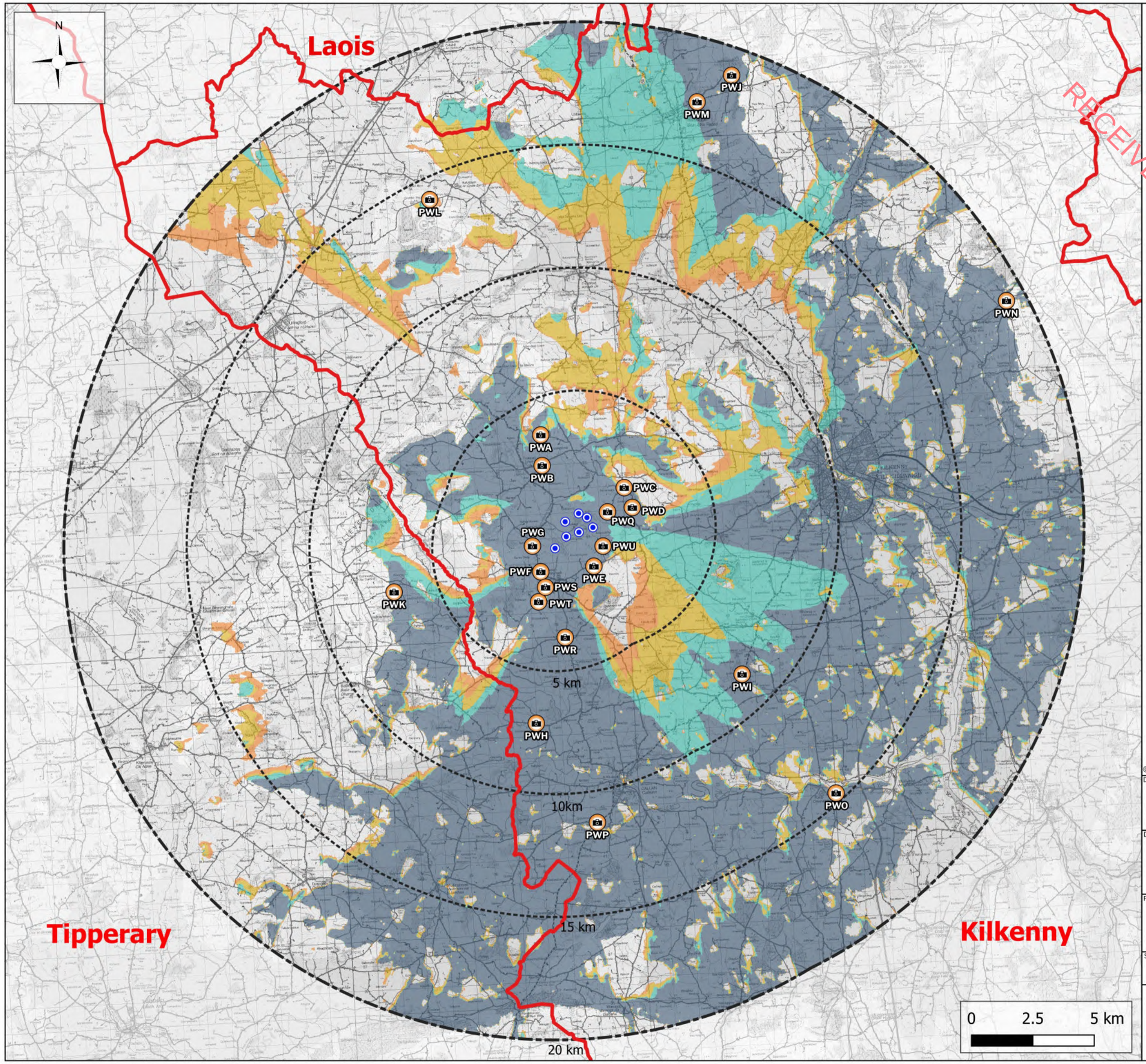
Drawing Title

Photomontage Viewpoint Locations & ZTV

Project Title

Briskalagh Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:150,000	230502	02/10/2024	AR	JW



Map Legend

- Proposed Turbine Locations
- LVIA Study Area
- County Boundaries
- Photowire Viewpoint Locations

Zone of Theoretical Visibility

- 1-2 Turbines Theoretically Visible
- 3-4 Turbines Theoretically Visible
- 5-6 Turbines Theoretically Visible
- 7 Turbines Theoretically Visible

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Drawing No.

Figure 13-20

Drawing Title

Photowire Viewpoint Locations & ZTV

Project Title

Briskalagh Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:150,000	230502	02/10/2024	AR	JW

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13.7.3.6 Summary of Photomontage Assessment – Appendix 13-2

Visual Effects were assessed using the assessment methodology described in Appendix 13-1. Each Viewpoint location is shown in Figure 13-19 above. The individual, comprehensive and detailed assessment from the 16 no. viewpoints are presented in Appendix 13-3 of this EIAR – *Photomontage Assessment Tables* and summarised in Table 13-21 below. Appendix 13-3 and Table 13-21 should be read in conjunction with the photomontage booklet forming Volume 2 of the EIAR.

The visual effect of the Proposed Project was assessed from each viewpoint in terms of the sensitivity of the visual receptors, along with the magnitude of change, as recommended in GLVIA3. This, in conjunction with a detailed review of the photomontages themselves as well as the likely visibility of the Proposed Wind Farm within the LVIA Study Area informed the assessment of visual effects.

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 Project, however, 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.

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Table 13-21 Photomontage Assessment Table

VP No.	Description	Grid Ref.	Approx distance & direction to the nearest turbine	Visual Sensitivity of Receptors(s) (at viewpoint)	Magnitude of Change	Residual Significance of Visual Effect
1	View from a local road in the townland of Tullaroan, located approximately 2.8km north of the nearest proposed turbine (T3).	E: 637,813 N: 656,911	2.8km N	Medium	Slight	Slight
2	View from a local road in the townland of Banse Glebe, located approximately 820m southwest of the nearest proposed turbine (T7).	E: 638,320 Y: 653,274	820m SW	High	Moderate	Moderate
3	View from a local road in the townland of Ballybeagh, located approximately 6.1km northwest of the nearest proposed turbine (T3).	E: 634,414 N: 658,178	6.1km NW	Low	Slight	Not Significant
4	View from a local road in the townland of Oldtownhill, located approximately 750 metres north of the nearest proposed turbine (T2).	E: 639,907 N: 655,790	750m N	High	Moderate	Moderate
5	View from a local road in the townland of Aharney, County Laois, located approximately 18.5km north of the nearest proposed turbine (T1).	E: 639,415 N: 673,622	18.5km N	High	Negligible	Not Significant
6	View from a local road in the townland of Oldtown, located approximately 870m west of the nearest proposed turbine (T3).	E: 638,658 N: 654,649	870m W	High	Substantial	Moderate

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VP No.	Description	Grid Ref.	Approx distance & direction to the nearest turbine	Visual Sensitivity of Receptors(s) (at viewpoint)	Magnitude of Change	Residual Significance of Visual Effect
7	View from a local road in the townland of Finnan. Located approximately 18.7km northeast of the nearest proposed turbine (T1).	E: 647,333 N: 672,398	18.7km NE	High	Negligible	Not Significant
8	View from a local road in the townland of Corstown, located approximately 1.8km east of the nearest proposed turbine (T4).	E: 642,269 N: 655,367	1.8km E	High	Moderate	Moderate
9	View from a local road in the townland of Knockeenglass, located approximately 1.6km southeast of the nearest proposed turbine (T7).	E: 640,494 N: 652,837	1.6km SE	High	Moderate	Moderate
10	View from the N10 National Road outside Kilkenny City in the townland of Outrath, located approximately 10.6km east of the nearest proposed turbine (T4)	E: 651,014 N: 651,859	10.6km E	Medium	Negligible	Not Significant
11	View from a local road in the townland of Knockeenbaun, on the outskirts of Kilmanagh, located approximately 1.5km south of the nearest proposed turbine (T7).	E: 639,340 N: 652,015	1.5km S	High	Moderate	Moderate
12	View from outside St. Aidan's National School on the R695 regional road in the townland of Kilmanagh, located approximately 1.4km south of the nearest proposed turbine (T7).	E: 639,151 N: 652,269	1.4km S	High	Slight	Slight

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VP No.	Description	Grid Ref.	Approx distance & direction to the nearest turbine	Visual Sensitivity of Receptors(s) (at viewpoint)	Magnitude of Change	Residual Significance of Visual Effect
13	View from local road in the townland of Kilmanagh, located approximately 1.3km south from nearest proposed turbine (T7).	E: 639,050 N: 652,333	1.3km S	High	Slight	Slight
14	View from Kells Priory in the townland of Glebe, located approximately 14.8 km southeast of the nearest proposed turbine (T7).	E: 649,714 N: 643,108	14.5km SE	High	Negligible	Not Significant
15	View from the N76 national road in the townland of Riversfield, in close proximity to Callan, located approximately 11.2km south of the nearest proposed turbine (T7).	E: 640,190 N: 642,433	11.2km S	Medium	Negligible	Not Significant
16	View from the N76 national road in the townland of Killamery, located approximately 18.3km south of the nearest proposed turbine (T7).	E: 636,875 N: 635,417	18.3km S	High	Negligible	Slight

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The assessment of visual effects determined the residual significance of the visual effects to range from 'Moderate' to 'Not Significant', with the number of findings at each level of significance listed in Table 13-22.

Table 13-22 Summary of Viewpoint Impact Assessment Results

Significance of Residual Visual Effect	Description	No. of Viewpoints
Profound	An effect which obliterates sensitive characteristics	0
Very Significant	An effect, which by its character magnitude, duration, or intensity 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	6
Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities	4
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences	6
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 16 viewpoint locations. The residual effects were found to be Moderate (6), Slight (4) and Not Significant (6).

The viewpoint assessment results (see Appendix 13-3) will be summarised and discussed in more detail in the following sections.

13.7.3.7 Discussion of Visibility and Visual Effects on Specific Receptors in the LVIA Study Area

The assessment of visual effects uses photomontages shown in the Volume 2 Photomontage Booklet, and discussion of these effects is aided by the photowires presented in Appendix 13-5. ZTV mapping is also a useful tool for scoping receptors in and out (based purely on topography) and selection of photomontage viewpoints. The ZTV indicates vast areas of the LVIA Study Area where the Proposed Project will not be visible, as comprehensively discussed in Section 13.3. The following section discusses the visual effects arising at key sensitive visual receptors within the zone of theoretical visibility and scoped in for assessment previously in *Section 13.5 – Visual Baseline.*

Designated Scenic Routes and Views

12 no. designated scenic routes and views were scoped out for further assessment in Section 13.5 above as the ZTV indicated that there is no visibility and visibility during the site visit was difficult to establish due to screening by topography and vegetation. The remaining 6 no. scenic routes and views were brought forward for viewpoint assessment. No OSI Viewing Points were scoped in for further assessment.

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Kilkenny Protected View 16 (Map. Ref KK-V16)

This protected view as described as '*view East towards Kilkenny City on the Kilkenny/Kilmanagh Road No. LP 1011 between the junction with road nos. LT10111-4 and LT10112-10.* This is the closest protected view to the Proposed Project, located approximately 1.6km southeast of the nearest proposed turbine. This protected view is located in an area with full theoretical visibility of the proposed turbines. The focus of the scenic view is described in the KCDP as follows *"view east towards Kilkenny City,"* indicating that the focus of the scenic route is not in the direction of the Proposed Project, which is located to the northwest of this view. Views from this scenic route directed northwest (as represented by VP9) are not of a particular high scenic quality, and are typical of many other views of the agricultural valley within the surrounding area. VP9 has been assigned a 'High' sensitivity and a 'Moderate' magnitude of change is deemed to arise. Overall, as detailed in Appendix 13-3, a 'Moderate' residual visual effect is deemed to arise. PWE is also located at this protected view, which can be seen in Appendix 13-5. This Photowire was capture further along the road route to the east, in the direction of the protected view, and shows that the level of visibility of the proposed turbines seen in VP9 varies substantially along the road depending on positioning of the viewer, where the vegetation in the landscape provides a greater level of visual screening. The proposed turbines will be screened form view from the majority of the stretch of road described above as part of the protected view, in particular form location further east along the stretch of road, where the longest ranging views to the east occur (away from the proposed turbines).

Tipperary Protected View 27 (Map Ref. T-SR27)

This protected view is described as *'views east and west from War House Hill,'* and is located approximately 6.6km west of the nearest proposed turbine. PWK was captured from this protected view. It is noted however, that the permitted Farranrory turbines are located adjacent to this protected view and these permitted turbines will potentially introduce a high level of wind energy development into this protected view in a future receiving environment.

This viewpoint was deemed to have 'High' sensitivity as it is a protected view in the TCDP. This protected view is located in an area with full theoretical visibility of the proposed turbines, and as seen from PWK, the proposed turbines are visible within the view along with other existing turbines. The proposed turbines are viewed beyond an intervening rise in topography which screens the base off all turbines, meaning only the turbine hubs and blades are visible. This, along with the intervening distance, makes the proposed turbines appear set-back from this viewpoint. For this reason, the magnitude of change is deemed to be 'Slight.' The residual effects are deemed to be 'Slight.'

Kilkenny Protected View 12 (Map Ref. KK-V12)

This protected view is located approximately 18.7km to the northeast of the proposed turbines and has full theoretical visibility of the proposed turbines. The designated protected view, as outlined in the KCDP, is directed southwest, which is in in the direction of the proposed turbines. VP7 and PWI are representative of this protected view and show that there is visibility of the proposed turbines within the view along with other existing and permitted turbines. However, from this distance the proposed turbines are viewed as very small elements in the background of the view. The landscape is relatively undulating and expansive and the proposed turbines occupy a limited extent of the view. This viewpoint is deemed to be a 'High' sensitivity viewpoint on account of the designated protected view in the KCDP, and the expansive, long-ranging nature of the view itself. A 'Negligible' magnitude of change was deemed to arise. Overall, as detailed in full in Appendix 13-3, the residual visual effect is deemed to be 'Not Significant'.

Kilkenny Protected View 13 (Map Ref KK-V13)

This protected view is located approximately 19.3km to the northeast of the proposed turbines in an area of full theoretical visibility. The direction of this viewpoint is west, directed towards the proposed turbines. This protected view is represented by PWN. From this distance (approx. 18.7km), the proposed turbines

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are viewed as small elements in the background of the view. The view itself is open and expansive and the limited horizontal extent of the proposed turbines is effectively absorbed within the scale of the landscape in view. This viewpoint is deemed to be a 'High' sensitivity viewpoint on account of the designated protected view in the KCDP, and the expansive, long-ranging nature of the view itself. A 'Negligible' magnitude of change wis deemed to arise, as the proposed turbines are seen as very small elements in the distant background of the view, within a limited horizontal extent. Overall, the residual visual effect is deemed to be 'Not Significant.'

Kilkenny Protected View 15 (Map Ref. KK-V15)

This protected view is located approximately 19.3km to the south of the proposed turbines in an area of full theoretical visibility. The direction of this viewpoint is west, away from the proposed turbines. However, this view extends over an expansive landscape with the proposed turbines visible in the northern section of this view. This protected view is represented by VP16. From this distance, the proposed turbines appear as small features in the background of the view. The proposed turbines are seen as very small features in the view. On account of this, the magnitude of change was deemed to be 'Negligible.' In addition, this protected view is located along the N76 which is a highly trafficked road and views towards the proposed turbines often be directed towards the general direction of travel. This viewpoint is deemed to be a 'High' sensitivity viewpoint on account of the designated protected view in the KCDP, and the expansive, long-ranging nature of the view itself. A 'Slight' residual effect was deemed to arise.

Laois Protected View 4 (Map Ref. L-V004)

This protected view is located approximately 18.5km to the north of the proposed turbines in an area of full theoretical visibility. This protected view is represented by VP5. The protected view is described as *'views towards Knockmannon Hill,'* which is located between the protected view and the proposed turbines. For this reason, the proposed turbines will not interfere with views towards Knockmannon Hill themselves. The proposed turbines are partially visible from this view with only the hubs and blades of six of the seven proposed turbines visible, with the visible parts seen as very small in scale. This viewpoint was assigned a 'High' sensitivity on account of the designated protected view in the LCDP. The Magnitude of change was deemed to be 'Negligible.' The residual visual effect was deemed to be Not Significant.

Other Visual Receptors - Settlements

Of the 41 settlements identified in the LVIA Study Area, 33 were scoped out in the 'Visual Receptor Preliminary Assessment', as the ZTV indicated that there was no theoretical visibility and/or no visibility of the Proposed Project could be established on site, or the settlements were located at such a substantial distance from the Proposed Project that Significant visual effects were deemed not likely to arise. Hence, viewpoints (VPs) were selected for the remaining 8 no. settlements.

Kilmanagh

Kilmanagh is the closest settlement to the Proposed Wind Farm site (approximately 1.2km to the nearest proposed turbine) and has primarily full theoretical visibility of the proposed turbines. VP11, VP12 and VP13 were captured to represent various views from the settlement of Kilmanagh.

The centre of the settlement is represented by VP12, which is located outside of St. Aidan's National School. This VP was captured in the centre of Kilmanagh and is representative of residential receptors within this settlement. As shown in VP12, most of the proposed turbines, excepting blade tips are entirely screened from view by the built environment and streetscape of Kilmanagh.

On site visibility appraisals (and as demonstrated by VP12) determined that there will be very limited visibility of the proposed turbines from street level within the settlement due to the screening of the built environment and mature vegetation along the northern perimeter of the settlement. However, it is

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acknowledged that there will likely be visibility of the proposed turbines from upper storey windows of residential properties aligned along the northern perimeter of the town and a visual impact will occur. However, it should be noted that a tall hedgerow exists (not visible in VP12) between the proposed turbines and these residential buildings along the northern extent of the Kilmanagh (seen in the centre of VP12) which will limit this visibility (to a greater degree in summer months) and mitigate potential for Significant visual effects on these receptors.

There will be a 'Negligible' magnitude of change on the streetscape and street level receptors within the centre area of Kilmanagh. The visual effects of the proposed turbines on receptors at street level within the central areas of Kilmanagh is 'Not Significant.' However, there will likely be greater visibility of the proposed turbines and a 'Slight' magnitude of change from other receptors in Kilmanagh, for example, from upper storey windows of the residential building lining the northern extent of Kilmanagh. Therefore, the residual visual effect arising from VP12 was deemed to be 'Slight'.

The western extent of the settlement is represented by VP13 which is captured from the L1009 local road, located approximately 1.3km south from the nearest proposed turbine, T7. This VP represents one of the most open views from along this road towards the proposed turbines through a gap in buildings and roadside vegetation. The nearest turbine, T7, is seen as moderately scaled turbine within the view given the setback distance. The other turbines are substantially screened by the built environment.

VP13 were assigned a High sensitivity on account of the settlement of Kilmanagh and nearby sensitive receptors, and a 'Slight' magnitude of change was deemed to arise from this location, given the level of visual screening that occurs from the buildings and hedgerows/treelines, as well as intervening topography within and surrounding the settlement. The residual visual effect for this viewpoint was deemed to be 'Slight' (as detailed and set out in the viewpoint assessment tables in Appendix 13-3).

VP11 is located within the townland of Knockeenbaun, approximately 1.5km south from the nearest proposed turbine and shows a more expansive view towards the settlement of Kilmanagh from the R695 Regional Road. The buildings of Kilmanagh and the local GAA pitch are visible to the left of this image. There is partial screening as a result of the intervening vegetation and the built environment, and as a result the proposed turbines are viewed over a medium horizontal extent within the view. A 'High' sensitivity was assigned to this VP on account of the settlement of Kilmanagh and nearby sensitive receptors, and a 'Moderate' magnitude of change was deemed to arise. The residual visual effect was deemed to be 'Moderate.'

Additionally, as demonstrated by Figure 13-4 Route Screening Analysis, the dense mature roadside vegetation within the settlement of Kilmanagh will provide substantial screening of views towards the proposed turbines. As referenced in Section 13.1.4, this vegetation becomes more impactful in terms of visual screening when the proposed turbines are viewed from locations in greater distance from the proposed turbines.

Overall, a 'High' sensitivity was assigned to the settlement of Kilmanagh and nearby sensitive receptors, and a 'Moderate' magnitude of change was deemed to arise. The residual visual effect was deemed to be 'Moderate.'

Tullaroan

The settlement of Tullaroan is located approximately 2.5km northwest of the proposed turbines and has full theoretical visibility. VP1 was captured to represent open views to the southeast from this settlement towards the proposed turbines. At this distance, the proposed turbines are partially screened by existing vegetation across the intervening landscape. This type of visual screening is much more prominent throughout the settlement and surroundings, and elsewhere in the settlement the proposed turbines appear more substantially screened than the view shown in VP1. The proposed turbines will generally be viewed at a lower elevation than Tullaroan, which is positioned slightly further uphill than the general elevation of the Proposed Wind Farm site. This settlement was assigned a 'Medium' sensitivity, and a

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'Slight' magnitude of change was deemed to arise. Overall, as detailed in full in Appendix 13-3, a 'Slight' residual visual effect is deemed to arise.

Ballycallan

Ballycallan is located 3km to the southeast of the proposed turbines. The village has partial theoretical visibility of the proposed turbines due to visual screening provided by the intervening topography of the hill in Ballycuddihy. On-site appraisals demonstrated that there would be partial visibility of the proposed turbines due to the intervening landform and visual screening provided by vegetation around the village. Proposed turbines of the northeastern part of the Proposed Wind Farm will be intermittently visible from Ballycallan at a distance of 3-5km away and will not give rise to significant effects. VP8 and VP09 are both located at a similar geographic orientation as Ballycallan, and are located closer to the proposed turbines. A residual visual effect of 'Moderate' was deemed to arise at both of these viewpoints. Visibility of the proposed turbines from Ballycallan will be much reduced in comparison to these viewpoints.

Callan

Callan is the closest town (population greater than 1,500) to the proposed turbines, located approximately 10.1km south of the nearest proposed turbines. There are patches of both partial, full and no theoretical visibility within the town. Visual screening provided by buildings and dense vegetation present along the roads outside the town means that there will be no views of the proposed turbines from within the town itself. VP15 and PWP were captured on the N76 to represent views in close proximity to the town, as seen in below. As seen from VP15, at this distance the proposed turbines are visible as small features in the background of the view. This viewpoint was assigned a Medium sensitivity on account of Callan town and a 'Slight' magnitude of change was deemed to arise. Overall, as detailed in full in Appendix 13-3, a Slight residual visual effect is deemed to arise.

Cuffesgrange

The settlement of Cuffesgrange is located approximately 8.8km southeast of the nearest proposed turbine and has full theoretical visibility. PWH was captured to represent open views from this settlement towards the proposed turbines. However, at this distance the proposed turbines are partially screened by the intervening topography which rises to form Ballycuddihy Hill and Ballykeeffe Hill. In this image three of the proposed turbines hubs are visible whilst only the blade tips of the other five turbines are visible above the intervening landform. The proposed turbines appear set-back from this viewpoint as they are sited beyond a rise in topography at a substantial distance. This settlement was assigned a Medium sensitivity, and a 'Slight' magnitude of change was deemed to arise. Overall, a 'Not Significant' residual visual effect is deemed to arise.

Kilkenny City

Kilkenny City is the largest settlement within the LVIA Study Area and is located approximately 9km east of the nearest proposed turbine. The city has primarily full theoretical visibility with patches of partial visibility and a stretch of no theoretical visibility along the River Nore. On site appraisals determined that there would be no or very limited locations within the city where actual visibility of the proposed turbines would occur. VP10 was captured along the N10 outside Kilkenny City and represents the most open view towards the proposed turbines from the area around the outskirts of Kilkenny City. The proposed turbines appear as small elements in the background of the view behind the treeline, with a very small horizontal extent. Four of the proposed turbines are sited beyond a rise in the topography (in the form of Ballycuddihy Hill) with only the blade tips and turbine hubs visible from this viewpoint. This settlement was assigned a 'Medium' sensitivity and a 'Negligible' magnitude of change was deemed to arise. Overall, as detailed in full in Appendix 13-3, a 'Slight' residual visual effect is deemed to arise.

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Kells

Kells is located approximately 14km southeast from the nearest proposed turbine and has primarily full theoretical visibility of the proposed turbines. Actual visibility of the proposed turbines is unlikely to occur within this settlement due to visual screening from buildings and vegetation. VP14 and PWO were captured from locations near Kells Priory which represent very open views in close proximity to the settlement. At this distance, the proposed turbines are visible as small features in the background of the view and will not affect the setting of the Kells Priory as a cultural heritage site. Visual screening provided by the vegetation within the landscape partially screens the proposed turbines with visibility limited to the blade tips of five of the proposed turbines and the hubs of the other two proposed turbines with the lower components of the proposed turbines screened by vegetation across the landscape. This settlement was assigned a 'High' sensitivity, and a 'Negligible' magnitude of change was deemed to arise. Overall, as detailed in full in Appendix 13-3, the residual visual effect deemed to arise is 'Not Significant'.

Ballyragget

Ballyragget is located approximately 16.5km northeast of the nearest proposed turbine. This settlement has partial theoretical visibility of the proposed turbines. Actual visibility of the proposed turbines is unlikely to occur within this settlement due to visual screening from buildings and vegetation. PWM was captured from an elevated location outside the settlement. At this distance, the proposed turbines are visible as small features in the background of the view, with the lower sections of the proposed turbines screened by the intervening landform which surrounds the Proposed Project. This settlement was assigned a 'Low' sensitivity, and a 'Negligible' magnitude of change was deemed to arise. Overall, an 'Imperceptible' residual visual effect is deemed to arise. The Proposed Grid Connection underground cable route passes through this settlement, although as noted previously, during the operational phase there will be no visual effects.

Danesfort

Danesfort is located approximately 13.2km southeast of the nearest proposed turbine (T4). This settlement has areas of full and no theoretical visibility. VP10 captured, 4.4km north of Danesport, on the outskirts of the settlement represents the residential receptors of this settlement. It must be noted, however, that the proposed turbines seen in VP10 appear larger than they will from Danesfort since VP10 is located in closer proximity to the Proposed Wind Farm. The built environment of the settlement itself and the vegetation within the landscape at this distance will screen views towards the proposed turbines. This settlement was assigned a 'Low' sensitivity, and a 'Negligible' magnitude of change was deemed to arise. Overall, an 'Imperceptible' residual visual effect is deemed to arise.

Windgap

Windgap is located approximated 18.9km south of the proposed turbines. It has primarily full theoretical visibility with smaller patches of no theoretical visibility. there may be some limited locations where potential views of the turbines occur from elevated vantage points within this settlement, however, views are generally likely to be either entirely screened or substantially screened by built infrastructure. VP16 was captured approximately 4km to the outskirts of this settlement and is representative of views towards the proposed turbines from this settlement. As seen in VP16, the proposed turbines appear as small and distant features in the background of the view. This viewpoint settlement was assigned a 'Low' sensitivity, and a 'Negligible' magnitude of change was deemed to arise. Overall, a 'Not Significant' residual visual effect is deemed to arise.

Other Visual Receptors, Recreational Routes and Destinations, Cultural Heritage, and Tourist Destinations

Of the 34 recreational routes, cultural heritage and tourist destinations identified within the LVIA Study Area, 31 were scoped out in the 'Visual Receptor Preliminary Assessment', as the ZTV indicated that there was no theoretical visibility and/or no visibility of the Proposed Project could be established on site.

Hence, viewpoints were selected for the remaining 3 recreational routes and destinations, cultural heritage, and tourist destinations.

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North Kilkenny Cycle Route

The North Kilkenny Cycle Route is the closest recreational route to the Proposed Project, passing just 765m from the nearest proposed turbine at its closest point (T03). The route enters the LVIA Study Area to the northeast and travels towards the proposed turbines before travelling within 5km of the proposed turbines, the route then travels around the Proposed Wind Farm site along local roads. Beyond 5km within the LVIA Study Area the route passes through patches of partial and no theoretical visibility, as well as a small patch of full theoretical visibility beyond 16km of the proposed turbines. However, visibility of the proposed turbines along this route beyond 5km will be very limited due to visual screening provided by vegetation along this route and the distance from the proposed turbines. Within 5km of the proposed turbines, there is primarily full theoretical visibility of the proposed turbines along this route. There are patches of partial and no theoretical visibility to the northwest and southwest due to visual screening provided by the intervening landform. In reality, there will be a mixture of visual screening provided by roadside vegetation along this route within 5km of the proposed turbines. VP2, VP6, VP8, VP11, VP12, VP13 as well as PWF, PWJ, PWG and PWM were all captured along the North Kilkenny Cycle Route and are representative of the most open views of the proposed turbines within the LVIA Study area. PWM was captured outside the 5km buffer (located approximately 17.5km north of the nearest proposed turbines). In this image the proposed turbines appear as small distant features in the background of the view and are partially screened by intervening vegetation. The other images were all captured within 5km of the proposed turbines and show the proposed turbines from various orientations around the Proposed Wind Farm. These images represent the most open views along the route and the proposed turbines appear as moderately scaled elements within the landscape, occupying a moderate horizontal extent in most of the images. This recreational route was assigned a 'Medium' sensitivity on account of cyclists using the route for recreational purposes. The magnitude of change was deemed to be 'Moderate.' Overall, a 'Slight' residual visual effect is deemed to arise.

South Kilkenny Cycle Route

The South Kilkenny Cycle Route is located to the east and southeast of the Proposed Project, approximately 9.9km from the nearest proposed turbine at its closest point. This route originates in Kilkenny City and travels in a southerly direction towards Stoneyford before returning north through Bennettsbridge and terminating in Kilkenny City. This route primarily travels through areas of full theoretically visibility but also traverses through some smaller patches of no theoretical visibility. VP10 was captured along this recreational route along the N10 to the south of Kilkenny City, at the closest point of this route to the proposed turbines. In this image, the turbines appear as small features in the background of the image. This open view shows an expansive agricultural landscape beyond which is seen a series of hills capable of visually absorbing the proposed turbines. The proposed turbines occupy a very small horizontal extent within this image. It is also important to note that the proposed turbines are not located within the direction of travel at this location along the South Kilkenny Cycle Route and hence are not in the immediate field of view. This recreational route was assigned a 'Medium' sensitivity and a 'Negligible' magnitude of change is deemed to arise. Overall, the residual visual affect is deemed to be 'Not Significant.'

Famine Warhouse

The Famine Warhouse is located approximately 6.8km west of the Proposed Project and is located within an area of full theoretical visibility. PWK represents views towards the proposed turbines from this location (located in front of the gate entrance to the Famine Warhouse site). In this image, the proposed turbines are partially screened by the topography of the landscape, with only the turbine hubs and blades visible above the intervening landform. Due to the distance and the siting of the proposed turbines beyond the intervening topography, the proposed turbines appear well set-back from this viewpoint location, and are seen at a lower elevation, reducing their prominence in the view. In addition, views

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from the Famine Warhouse itself are primarily screened by mature trees which surround the site of the building. Overall, a 'Not Significant' residual visual effect is deemed to arise.

Other Visual Receptors – Major Transport Routes

Of the 7 major transport routes identified within the LVIA Study Area, three routes were scoped out in the 'Visual Receptor Preliminary Assessment'. Viewpoints were selected for the four routes identified within the Visual Receptor Preliminary Assessment. All the viewpoints below are discussed in greater detail in the photomontage assessment tables contained in Appendix 13-3. The Route Screening Analysis undertaken above in Section 13.3.4 details the likely visibility of the roads surrounding the Proposed Wind Farm site, including smaller local roads, there are no Significant effects deemed likely to arise in relation to these transport routes.

R695 Regional Road

The R695 regional road is the closest regional road to the proposed turbines and connects Kilmanagh with Kilkenny City and Callan. At its closest point, the R695 is located approximately 1.3km from the nearest proposed turbine. The R695 regional road has full theoretical visibility along its eastern extent closer to Kilkenny which turns to partial and no theoretical visibility near Ballycallan due to visual screening provided by the topography in the form of Ballykeeffe Hill and the hill at Ballycuddihy. This route has full theoretical visibility in Kilmanagh and as it travels south until Callan. VP11 and VP12 as well as PWR were captured along the R695 regional road. In VP11 and VP12, the proposed turbines appear as moderately scaled vertical features located beyond residential buildings and the intervening vegetation. Both viewpoints were deemed to be 'High' sensitivity and a 'Slight' magnitude of change was deemed to arise. A residual visual effect of 'Moderate' was deemed to arise at VP11 and a residual visual effect of 'Slight' was deemed to arise at VP12, although the effects primarily relate to the relatively higher sensitivity of the residential receptors in close proximity to the proposed turbines, represented by these viewpoints. The regional road is a lower sensitivity receptor than these residential receptors.

As set out in Section 13.3.3 above, the R695 is classified as having a mix of roadside screening with primarily large stretches of 'Little/No Screening' and 'Partial/Intermittent Screening' within 5km of the nearest proposed turbine. Around the town of Kilmanagh there will be intermittent patches of 'Little/No Screening' and 'Full Screening.'

PWR was captured along the R695 in Graigue Hartford, approximately 3.2km from the nearest proposed turbine. This section of the route has full theoretical visibility however, visual screening from vegetation along the route limits visibility of the proposed turbines. In PWR, the proposed turbines are partially visible beyond the intervening vegetation in the form of a treeline. PWR also demonstrates that visibility will substantially decrease along the road with greater distance from the proposed turbines. A 'Low' sensitivity was assigned to this viewpoint and a 'Slight' magnitude of change was deemed to arise. Overall, the residual visual effect was deemed to be 'Not Significant.'

N76 National Road

The N76 national road connects Kilkenny City to the village of Ninemilehouse before exiting the LVIA Study Area in the south. The N76 has full theoretical visibility of the proposed turbines along the entirety of the route excepting some very small patches of partial theoretical visibility between 5km and 10km of the proposed turbines. VP15 and VP16 as well as PWH and PWQ were captured at different locations along the route. PWH was captured as it represents the views along the N76 that are closest in proximity to the proposed turbines. The proposed turbines appear as small features set-back beyond a low-lying rise in topography (Ballykeeffe Hill) and are partially screened by the vegetation in the intervening landscape. Furthermore, the proposed turbines are not located in the direction of travel along this road. 'Not Significant' residual visual effect is deemed to arise at this viewpoint. VP15 is an example of an open view of the proposed turbines from along this route. It is assigned a Medium sensitivity on account of the residents in close proximity to Callan. A 'Negligible' magnitude of change was deemed to arise and no Significant effects were recorded. VP16 represents longer distance views along this route towards the

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Proposed Wind Farm, located approximately 18km from the nearest proposed turbine. From this view the proposed turbines are seen as small distant elements within the landscape and show that distance greatly mitigates visibility along this route. This route was assigned a 'High' sensitivity on account of the protected view in the KCDP and a 'Negligible' magnitude of change was deemed to arise. Overall, a 'Slight' residual visual effect was deemed to arise.

N10 National Road

The N10 national road extends south from Kilkenny City and joins the M9 motorway near Danesfort. It primarily has full theoretical visibility with some very small patches of no theoretical visibility. VP10 was captured along the N10 as it represents the most open views from this route and is the closest section of the route in proximity to the proposed turbines. The proposed turbines are seen as small features in the background of the image with two of the proposed turbines almost full screened by the intervening landform (Ballycuddihy Hill). The proposed turbines are not in the direction of travel along this route and hence, will not be in the general field of view. This route was assigned a 'Medium' sensitivity and a 'Negligible' magnitude of change. Overall, a 'Not Significant' residual effect was deemed to arise at this viewpoint.

M9 Motorway

The M9 motorway enters the LVIA Study Area in the east and travels south of Kilkenny City towards Kells and Stoneyford before exiting the LVIA Study Area in the southeast. The M9 primarily has full theoretical visibility of the proposed turbines with small patches of no theoretical visibility. The motorway has dense hedgerows on either side of the road and is generally bordered by large embankments on either side along most stretches of the route. This screens visibility of the proposed turbines along the motorway. Therefore, no Significant effects are deemed to arise. VP10 is located at a similar geographic orientation and a closer proximity to the proposed turbines than the M9. A 'Not Significant' residual effect was deemed to arise at that viewpoint.

13.7.3.8 Residential Visual Amenity

During the site selection process, early stage LVIA appraisals identified local residential receptors as the most sensitive receptors with the greatest potential to be adversely impacted by the proposed turbines with regard to visual impacts. Consequently, residential visual amenity was of key consideration during site selection and throughout the iterative design process for the Proposed Project. This section of the LVIA firstly states how design measures have been used to mitigate the potential for significant visual effects on some areas of residential amenity, then gives an overview of the residential context in terms of population density in the surrounding area and the geographic arrangement of residential receptors (hereafter referred to as sensitive receptors) in close proximity to the Proposed Wind Farm. Finally, a visual impact assessment of each cluster of residences is reported, these assessments use analysis of aerial maps, photomontages and photowire visualisations with the intention of identifying the worst-case scenario for potential visual effects on sensitive receptors.

The Proposed Project design process has been informed by set-back distances, with regard to the siting of the proposed turbines in proximity to sensitive receptors, the Proposed Project adheres to the recommended 500m set back distance in the Guidelines and also the 4 times tip height set-back distance (from third party sensitive receptors) set out for residential visual amenity in the draft Guidelines.

Residential Context – Population Density and Arrangement of Dwellings

As reported in the landscape baseline (see Section 13.4.3 Landscape Character of the Site), the Proposed Wind Farm site is a large uninhabited area characterised primarily of agricultural fields. Figure 13-21 below illustrates how the proposed turbines are set back from residential receptors in the surrounding landscape and that the distances are compliant with the guidance in the Guidelines and the draft Guidelines.

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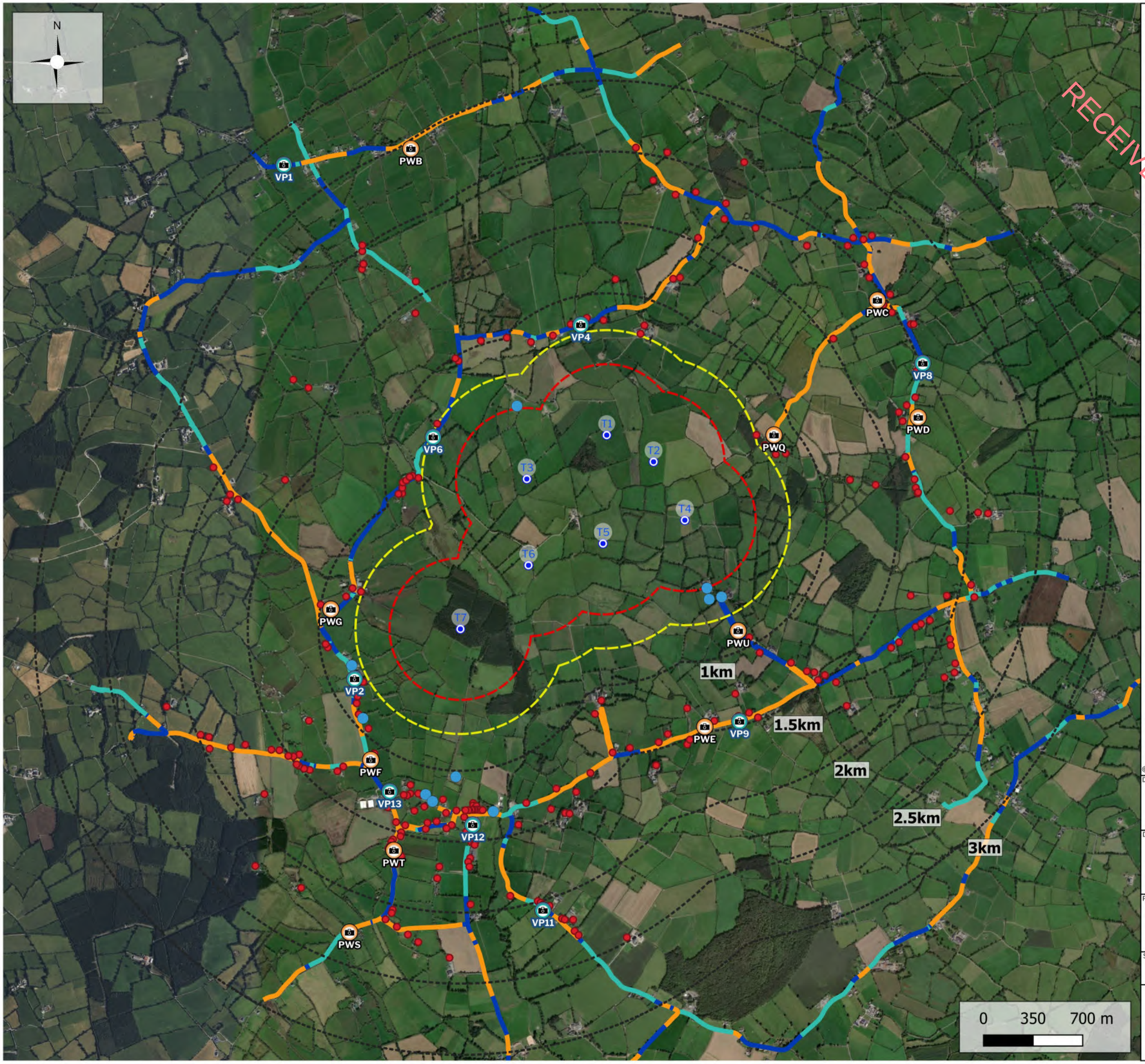
The Proposed Wind Farm site lies within three No. Electoral Divisions (EDs). The population of the three No. EDs within and surrounding the Proposed Wind Farm site is detailed in Chapter 5 – Population and Human Health. As shown in Table 5-2 in Chapter 5 – Population and Human Health of this EIAR, the population density of EDs, recorded during the 2022 Census is 22.49 persons per km^2. This figure is significantly lower than the national population density of 71.47 persons per km^2 and the Kilkenny County population density of 50.25 persons per km^2. These findings indicate that the landscape surrounding the Proposed Windfarm site has a relatively low population density.

There are 82 sensitive receptors located within 1 km of the proposed turbine locations. The closest involved sensitive receptor, belonging to the landowners who form part of the Proposed Wind Farm, is located greater than 500m from the nearest proposed turbine (T4) i.e. over the minimum recommended setback for properties involved in the project (500m). The closest non-involved sensitive receptors are located approximately greater than 750m from the nearest proposed turbine i.e., over 4x tip height set back (740m). As shown by the map below (Figure 13-21), the closest cluster of residential receptors to the proposed turbines are located in Kilmanagh to the south of the Proposed Wind Farm site. Figure 13-21 illustrates locations where photomontage and photowire imagery was captured to inform the impact assessment of the various groups of sensitive receptors surrounding the Proposed Wind Farm site.

Assessment of Residential Amenity – Photomontages

A large number of viewpoints (10 of the 16) were taken within 3km of the proposed turbines, along with 5 no. photowire viewpoints not ultimately brought forward as photomontages (these can be seen in Appendix 13-5).

Photomontages are just one of the tools employed during the LVIA that was conducted in order to inform the assessment of landscape and visual effects. It would be a disproportionate measure to include an individual photomontage from every sensitive receptor and this is not required to conduct a thorough and robust assessment of landscape and visual effects. In line with the guidance laid out in GLVIA3, the viewpoints selected for the LVIA conducted were informed by a range of factors including the *"ZTV analysis, by fieldwork, and by desk research"* (para 6.18, GLVIA 3). Furthermore, GLVIA3 states that representative viewpoints are *"selected to represent the experience of different types of visual receptor, where larger numbers of viewpoints cannot all be included individually and where the significant effects are unlikely to differ"* (para 6.19 GLVIA 3). The large number of viewpoints used in the conduct of the LVIA particularly in very close proximity to the proposed turbines are sufficient to represent the residential receptors within the LVIA Study Area, including the *"distribution of population"* (para 6.18, GLVIA 3).



Map Legend

- Proposed Turbine Locations
- Photomontage Viewpoint Locations
- Photowire Viewpoint Locations
- Sensitive Receptors within 2.5km (Residential Receptors)
- Landowner Properties
- Set-back Distance Compliance - 500m (Guidelines)
- Set-back Distance Compliance - 740m (draft Guidelines)

Route Screening Analysis

- Class 1 - Little/No Visual Screening
- Class 2 - Intermittent/Partial Visual Screening
- Class 3 - Full Visual Screening

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Drawing No.

Figure 13-21

Drawing Title

Residential Visual Amenity

Project Title

Briskalagh Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
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Sensitive Receptors within 1.5km of the proposed turbines

VP4 is located approximately 810m northwest of the nearest proposed turbine and is representative of the sensitive receptors located along the L5204 local road situated to the north of the proposed turbines. In relation to these receptors, the Proposed Wind Farm adheres to the recommended 500m set-back distance in the Guidelines and also the 4 times tip height set-back distance (for third party sensitive receptors) set out for residential visual amenity in the draft Guidelines. The sensitivity of this viewpoint was deemed to be High on account of the sensitive receptors in close proximity to the proposed turbines, and the magnitude of change was deemed to be Moderate. A residual visual effect of 'Moderate' was deemed to arise in relation to the receptors located adjacent to the viewpoint, which comprise a limited number of sensitive receptors. It is also noted that whilst the proposed turbines do constitute a 'Moderate' change in one area of residential visual amenity, they do not comprise a large horizontal extent of views (<50º of 360º, equating to 14% of the horizontal field of view in most instances). The baseline views are generally unremarkable and are typical of many other views of agricultural fields and forestry within the surrounding area.

Two additional photowires (PWC and PWQ were captured to the east of VP4, representing a cluster of residences located between 800-1000m from the nearest proposed turbines. PWC demonstrates firstly that there are substantial visual screening elements located along this road that generally serve to restrict views of the proposed turbines. There are locations however, where views of the proposed turbines will occur, as shown in PWR. At this location, the roadside hedgerows fall away facilitating views in the direction of the proposed turbines. There are several screening elements also seen in PWR however that will restrict actual views of the proposed turbines from these sensitive receptors. Again, from this location, while the proposed turbines do constitute a 'Moderate' change in one area of residential visual amenity, they do not comprise a large horizontal extent of views (<50º of 360º, equating to 14% of the horizontal field of view in most instances). The baseline views are, again, generally unremarkable and are typical of many other views of agricultural fields and forestry within the surrounding area.

VP9 (1.4km from T5) is representative of the sensitive receptors located to the southeast of the proposed turbines, along a stretch of the road with Full Screening and Intermittent/Partial Screening, which can be seen in PWE. In relation to these receptors, it is emphasised again that the Proposed Project adheres to the recommended 500m set back distance in the Guidelines and also the 4 times tip height set-back distance (for non-involved sensitive receptors) set out for visual amenity purposes in the draft Guidelines. The sensitivity of this viewpoint is deemed to be 'High' on account of the sensitive receptors in close proximity to the proposed turbines, and the magnitude of change is deemed to be 'Moderate.' A residual visual effect of 'Moderate' is deemed to arise in relation to these receptors considering that the proposed turbines in view are seen as moderately scaled vertical features over a relatively small horizontal extent, and the field structure, vegetation, and other landscape elements seen throughout the view provide a sense of scale in relation to the setback distance of the proposed turbines, with proposed turbines viewed as sited beyond multiple fields or behind a treeline. From this location to the southeast, the sensitive receptors represented will generally have views in a horizontal extent of <70º of 360º, equating to 20% of the horizontal field of view in most instances.

To the west of the Proposed Wind Farm site, along the local road network, a number of sensitive receptors are positioned within 1.5km of the proposed turbines. VP2 and VP6 both show views from this area from within 900m of the proposed turbines. In both instances the viewpoints were classified as 'High' sensitivity viewpoints on account of the nearby residential receptors. VP2 is captured from a stretch of elevated local road, positioned above the Proposed Wind Farm site, with views looking down over the proposed turbines. A 'Moderate' magnitude of change was deemed to arise at this location, which offers one of the most open views available from along this road down into the Proposed Wind Farm site (see PWG as an example of a more substantially screened view from along the road). A residual visual effect of 'Moderate' was deemed to arise. From this location the proposed turbines are viewed within a small horizontal extent (<25º of 360º, equating to 7% of the horizontal field of view) despite their proximity, they are also viewed at a lower elevation than the viewing location, reducing their visual prominence within view.

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VP6 is located at a lower elevation than VP2, similar to the base elevation of the proposed turbines. VP6 is located at a cluster of sensitive receptors located between 800-1000m of the nearest proposed turbines. The proposed turbines in VP6 will result in large-scale change in the view, as they are visible over a wide horizontal extent at close proximity to the viewpoint. A 'Substantial' magnitude of change was deemed to arise. However, the location of VP6 provides one of the most open views towards the proposed turbines from along this local road, with buildings and high levels of vegetation providing substantial screening in the direction of the proposed turbines from other locations, including nearby sensitive receptors, where views are substantially more screened than the view shown here. Overall, a 'Moderate' residual visual effect was deemed to arise.

The settlement of Kilmanagh is partially located within 1.5km of the proposed turbines, with the closest sensitive receptors located approximately 1.2km from the nearest proposed turbines. The VPs used to assess receptors in Kilmanagh have been discussed in detail above in Section 13.7.7.3.7., including discussion related to a turbine located closer to the settlement which was ultimately dropped from the final layout to reduce visual effects on sensitive receptors in this location. In addition to the viewpoints discussed previously, PWJ is also located within the settlement, on the western edge, at the top of the hill leading from the lower elevated centre of the settlement to the local road discussed previously in relation to VP2. That photowire shows a substantial level of screening provided by the trees located in the intervening space from this orientation within the settlement. Further south, away from the proposed turbines, there may be intermittent views of the proposed turbines from within the settlement, however, the proposed turbines will appear as smaller features than as seen in VP12 and VP13, which are located closer to the proposed turbines. The Route Screening Analysis presented in Section 13.3.3 above recorded that views from within Kilmanagh were primarily a mixture of Full Screening and Intermittent/Partial Screening.

It is also noted, in relation to Kilmanagh, that the proposed turbines are sited in such a way as to result in a narrow horizontal extent of views of the proposed turbines from locations within the settlement, with the proposed turbines viewed in <40° of 360°, equating to 11% of the horizontal field of view in most instances. There is substantial levels of screening present in Kilmanagh and surrounding the sensitive receptors (as shown in the route screening analysis and three photomontages shown from the settlement), the proposed turbines are viewed in a narrow horizontal extent of the view, and the proposed turbines have been designed to ensure that a substantial setback distance is in place between the proposed turbines and the closest sensitive receptors (the draft Guidelines set out a setback distance of 4 x tip height (740m in the case of the Proposed Project)) and in this case the proposed turbines are set back at a minimum of 1.2km from the settlement. There will be no Significant residual visual effects that arise on sensitive receptors located within Kilmanagh.

Sensitive Receptors beyond 1.5km of the proposed turbines

As can be seen in Figure 13-21 above, between 1.5km and 3km from the nearest proposed turbine, the local roads to the north, east and west have primarily mixed classes of 'Partial/Intermittent Screening' and 'Dense/Full Screening' with some larger stretches of 'Little/No Screening', however, views of proposed turbines from these roads and sensitive receptors located on these roads will, in general, be intermittent. To the southeast, the local road networks have less screening with large stretches of 'Little/No Screening' apparent, however, visibility is still limited due to the topography of the area (as seen in the ZTV map) noting the lack of theoretical visibility along these roads.

VP1 is located approximately 2.8km to the north of the nearest proposed turbine (T3). It was given a Medium sensitivity on account of the residential receptors which are located in Tullaroan with views towards the proposed turbines in medium proximity. All of the proposed turbines are visible from this viewpoint although the scale of the closest proposed turbines are much reduced compared to the views within 1km of the proposed turbines. The magnitude of change was deemed to be 'Slight.' As seen in the image, there are open views towards the proposed turbines however, views from within the settlement will have limited visibility due to visual screening provided by other buildings. The proposed turbines

are likely to be partially obscured from other sensitive receptors and views in the area. At VP1, a 'Slight' residual visual effect was deemed to arise.

A linear pattern of residential dwellings are located to the east of Tullaroan. PWB was captured to represent this cluster of residential receptors. As seen in PWB, a view facing south towards the proposed turbines from the east of Tullaroan, the proposed turbines are partially screened by vegetation and appear set-back beyond an intervening rise in the topography. This photowire viewpoint represents one of the most open views towards the proposed turbines from this area. As seen in the route screening analysis in Section 13.4.3, other sections along this road have either Full Screening or Intermittent/Partial and therefore, the proposed turbines are likely to be partially obscured from other residential receptors located to the east of Tullaroan.

VP8 is located along a local road to the northeast of the proposed turbines, along a stretch of road primarily classed as Little/No Screening in the Route Screening Analysis. This viewpoint is located 1.8km from the nearest proposed turbines, and demonstrates that for sensitive receptors located beyond 1.5km of the nearest proposed turbine, the effect on residential visual amenity is dramatically reduced in comparison to the closer receptors identified above in Figure 13-21, with the scale of the proposed turbines seen as substantially reduced in comparison to closer viewpoints (e.g. VP4, VP6). This viewpoint was assigned a 'High' sensitivity on account of nearby sensitive receptors, and a 'Moderate' magnitude of change was deemed to arise. A 'Moderate' residual visual effect was deemed to arise.

In summary, the highest effects on residential visual amenity will occur for receptors located within 1.5km of the proposed turbines, with the scale of turbines in view reducing quickly from locations further from the proposed turbines (see VP13 for example). Beyond 1.5km from the Proposed Wind Farm (see VPs 1, 8 and 11) the scale of the turbines reduces substantially. It is relevant then, that the population density, recorded during the 2022 Census as 22.49 persons per km^2, is lower than the national population density and the Kilkenny County population density. As the Proposed Wind Farm site and surrounding area has a low population density, site selection and the iterative design process which included the removal of turbines in close proximity to sensitive receptors, has resulted in reduced effects on residential visual amenity. Overall, it is evident that an appropriate balance has been achieved with a well-designed wind farm that respects the visual amenity of nearby sensitive receptors.

13.7.3.9 Visual Effects Relating to the Proposed Grid Connection

The Proposed Grid Connection underground cabling route will be located underground and there will be no visible elements during the Operational Phase. Therefore, no visual effects will arise in relation to the underground cabling route.

Proposed 38kV Substation

The proposed 38kV onsite substation is partially screened by existing hedgerow vegetation surrounding the proposed substation location and in the intervening fields between it and the nearest sensitive receptors. As established in the baseline investigations, the proposed substation is located within an agricultural field with a substantial set back distance from the nearest sensitive receptor, located approx. 240m west of the proposed substation. Visibility of the substation will not occur from this sensitive receptor nor others nearby, due to the screening effect from the vegetation enclosing the boundary of the properties and in the intervening space.

In general, visibility of the proposed substation will be highly localised. The local road (L5023) located in relatively close proximity to the proposed substation (248m west at the closest point) may have intermittent visibility, however, the sensitive receptors located along the road will benefit from substantial levels of vegetative screening in the landscape, predominantly in the form of tall hedgerows and treelines bordering their properties and intervening fields. The only visual receptors likely to have potential intermittent visibility of the proposed substation during the operational phase are users of L5023 local road located to the west of the proposed substation, primarily through gaps within the roadside vegetation.

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These receptors are deemed to be of 'Low' sensitivity. Therefore, visual effects are likely to be highly localised, 'Negative,' and will be 'Not Significant.'

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13.7.3.10 Discussion of Cumulative Visual Effects

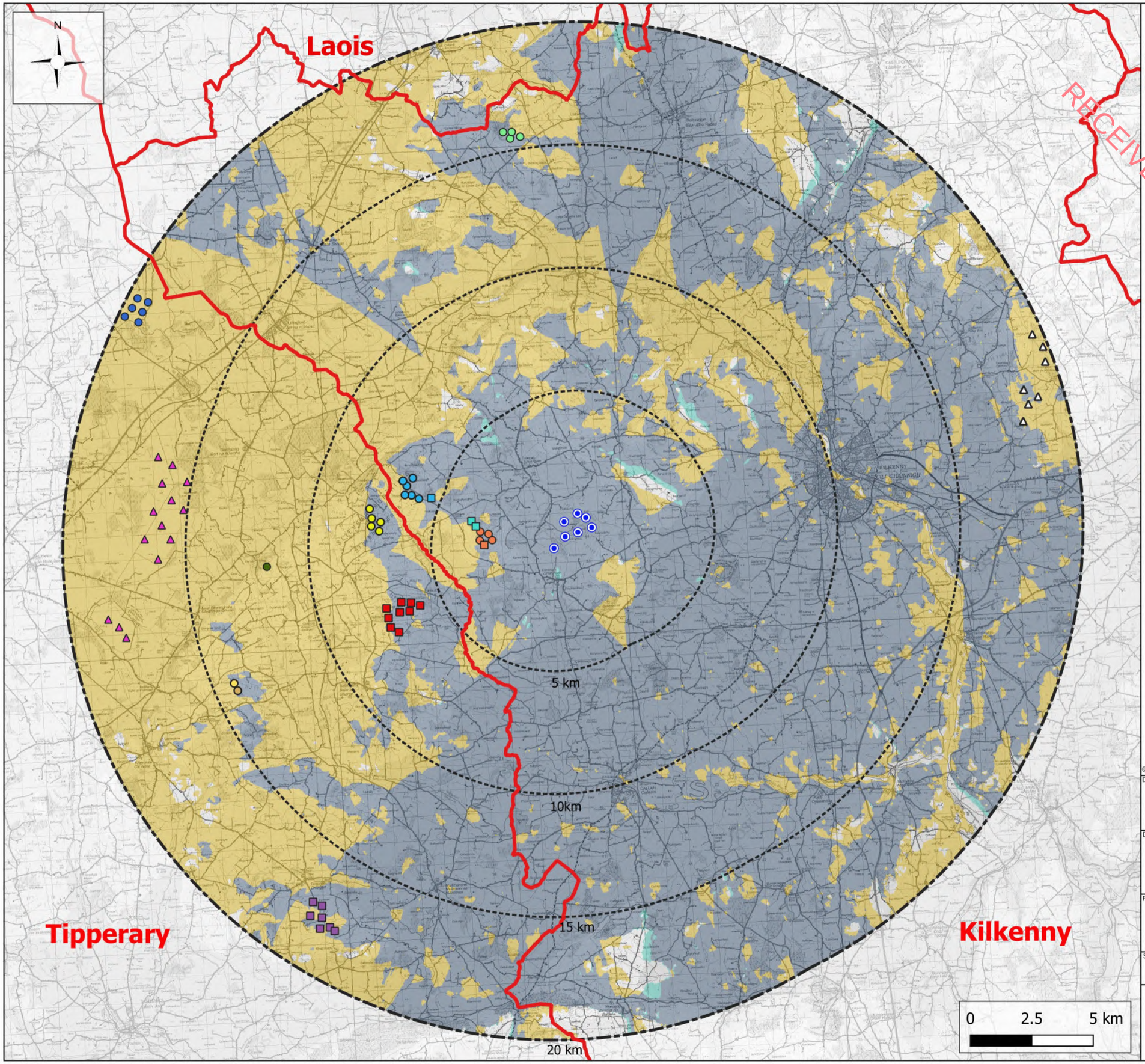
Guidance for assessment of cumulative effects of onshore wind farms (SNH, 2012) & (NatureScot, 2021) clearly states the following:

> *"At every stage in the process the focus should be on the key cumulative effects which are likely to influence decision making, rather than an assessment of every potential cumulative effect."*
>
> *"The level of information generated can distract attention from the most significant cumulative effects which are likely to influence the consenting decision. Assessments should therefore focus on the most significant cumulative effects and conclude with a clear assessment of those which are likely to influence decision making."*

Following this guidance, a primary focus is given to the cumulative effects likely to occur as a result of other wind turbines identified in the LVIA Study Area. Cumulative visual effects were assessed as part of the Photomontage Assessment Tables found in Appendix 13-3. 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.

There are 15 other existing, permitted, and proposed wind farms within 20km of the proposed turbines. These wind farms are located in separate clusters to the north (Lisdowney), northwest (Lisheen II), west (Ballybay, Foyle, Kyleballyoughter, An Cnoc, Gurteen, Littleton, Ballincurry) and east (Freneystown) of the Proposed Wind Farm. The cumulative comparative ZTV of all cumulative turbines with the proposed turbines is seen below in Figure 13-22. The proposed turbines only give rise to a few very small areas (shown in light blue), where the proposed turbines alone may now be theoretically visible as a result of the Proposed Wind Farm. These small areas are primarily situated to the north-east of the proposed turbines and within 7km and include elevated vantage points within the foothills of the Slieveardagh Hills which are not representative of any visual receptors of high sensitivity. Across the entire LVIA study area, the majority of the theoretical visibility consists of either cumulative turbine theoretical visibility or cumulative theoretical visibility, with very limited instances of visibility where only the proposed turbines have theoretical visibility.

It is worth noting in general, that in the flat landscape that makes up much of the east and south of the LVIA Study Area, there is reduced visibility of both cumulative turbines and the proposed turbines from locations beyond 5km from the proposed turbines, as seen in Figure 13-22. In addition, visual screening provided by the Slieveardagh Hills obscures visibility of the proposed turbines for much of the western parts of the LVIA Study Area meaning there are only views of cumulative turbines in this area.



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Map Legend

- Proposed Turbine Locations
- LVIA Study Area
- County Borders

Cumulative Wind Farms within the LVIA Study Area

- An Cnoc Wind Farm - Existing
- Ballincurry 1 Wind Turbine - Existing
- Ballincurry 2 Wind Turbine - Existing
- Ballybay Wind Farm - Existing
- Permitted Turbine of Ballybay Wind Farm
- Foyle Wind Farm - Existing
- Permitted Turbine of Foyle Wind Farm
- Gurteen Lower Wind Turbine - Existing
- Lisdowney Wind Farm - Existing
- Lisheen Wind Farm II - Existing
- Farranrory Wind Farm - Permitted
- Knockroe Wind Farm - Permitted
- Kyleballoughter Wind Farm - Permitted
- Littleton Wind Farm (Pre-App SID)
- Freneystown Wind Farm (Pre-App SID)

Cumulative Comparative ZTV

- Proposed Turbines Theoretically Visible Only
- Cumulative Turbines Theoretically Visible Only
- All Turbines Theoretically Visible

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Drawing No.

Figure 13-22

Drawing Title

Cumulative Comparative ZTV

Project Title

Briskalagh Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:150,000	230502	02/10/2024	AR	JW

MKO

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Windfarms to the West

Several existing wind farms (and single turbines) are located to the west of the Proposed Wind Farm including the existing Ballybay, Foyle, Kyleballyoughter, An Cnoc, Farranrory windfarms as well as the Gurteen, Ballincurry 2 and Ballinacurry 1 wind turbines. The proposed Littleton Wind Farm (Pre-Planning SID stage) is located to the far west of the LVIA Study Area at the western foothills of the Slieveardagh Hills, approximately 15km east of the nearest proposed turbine. The permitted Knockroe turbines are located to the south-west of the proposed turbines.

It can be seen from the photomontage viewpoints and photowires presented that visual screening occurs in the case of the proposed turbines, which as can be seen from Figure 13-22, forms part of the cluster of cumulative turbines within the Slieveardagh Hills (comprising Foyle, Ballybay, An Cnoc, and Farranrory, Littleton). As a result of their locational siting on the higher elevated parts of the Slieveardagh Hills, these cumulative turbines are generally more visible in the wider area than the proposed turbines, which benefit from increased topographical screening as a result of their siting in a depression of elevation, surrounded by hills. The most notable views where the proposed turbines are viewed in combination with the cumulative turbines occurs primarily in close proximity the proposed turbines (i.e. within 5km). Combined views generally occur between the Foyle and Kyleballyoughter wind farms and the proposed turbines, given their proximity (2.5-3.3km). The Foyle and Kyleballyoughter turbines are viewed within a peak in elevation, whereas the proposed turbines are viewed within a depression, surrounded by adjacent hills. As noted previously, this serves to increase the amount of visual screening of the proposed turbines that occurs, as compared to the Foyle and Kyleballyoughter turbines, and generally the cluster of cumulative turbines to the west.

In relation to the Knockroe turbines located 17.1km southwest of the nearest proposed turbine, some of the cumulative turbines are indicated to have theoretical visibility in combination with the proposed turbines as seen in Figure 13-22. However, due to the considerable separation distance between the cumulative and proposed turbines, visibility of both turbine clusters will be limited. This is evident in VP8 of the *Volume 2: Photomontage Booklet*, where, the permitted Knockroe turbines are theoretically visible, but in reality, are screened by intervening vegetation. Therefore, no Significant visual cumulative effects are likely to occur.

In views from within close proximity to the proposed turbines such as VP8 and VP9, the proposed turbines are seen to add to the cumulative number of turbines within this cluster of wind energy developments in the northern part of the Slieveardagh Hills (in this with the Foyle turbines), However, it should be noted that this does not extend the cluster of cumulative turbines beyond the boundaries of the Slieveardagh Hills landscape, and from locations such as VP3, the proposed turbines are still viewed within the same landscape area as these cumulative turbines.

In general, views of the existing, permitted and proposed cumulative turbines in this area are intermittent throughout the landscape and this will similarly be the case for the proposed turbines. Cumulative visual effects have been incorporated into the visual impact assessments outlined in Appendix 13-3 and cumulative visual effects from specific viewpoints are discussed in some detail there. There were no Significant cumulative visual effects determined to arise as a result of the addition of the proposed turbines in those viewpoints and overall, the addition of the Proposed Project will not give rise to Significant cumulative visual effects.

Windfarms to the Northwest

Lisheen II is located 19.2km to the northwest of the nearest proposed turbine. Due to the distance between the proposed turbines and these cumulative turbines, these cumulative turbines appear separated from the proposed turbines in views. Given the separation distances involved the addition of the Proposed Project will not give rise to Significant cumulative visual effects.

Windfarms to the North

The Lisdowney Windfarm is located 15.4km to the north of the nearest proposed turbine. These turbines have tip height of 99.5m and considering their distance from the proposed turbine, there will be limited locations where the proposed turbines will be seen in combination with the existing Lisdowney turbines. These proposed turbines and the Lisdowney windfarm will be viewed in succession in VP5 and VP7. Due to the large separation distance between the proposed and cumulative turbines in views from this area of the LVIA Study Area, no Significant cumulative visual effects are deemed to arise.

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Windfarms to the East

Only he proposed Freneystown Wind Farm (Pre-planning SID stage) is located to the far east of the LVIA Study Area at the south-western extent of the Castlecomer Plateau, approximately 18km east of the nearest proposed turbine. The greatest potential for cumulative visual effects with the Proposed Project will occur from receptors in and around Kilkenny City. There will potentially be occasional scenarios within Kilkenny City where in combination in succession visual effects will occur in a future receiving environment. These scenarios are only likely to occur from the most elevated vantage points where there is potential for both long-ranging views to the west of the proposed turbines with the other cumulative wind energy developments of the Slieveardagh Hills, and then also long ranging views to the east in the other direction, towards the proposed Freneystown turbines. These potential cumulative effects are only likely to occur from a small number of receptors in a relatively uncertain future receiving environment. The large separation distances between the Proposed Wind Farm and the proposed Freneystown Wind Farm and receptors (including Kilkenny City) will result in no significant cumulative visual effects to arise.

13.7.4 Decommissioning Phase Effects

The landscape and visual effects during decommissioning are anticipated to be of a similar nature as those occurring during the construction phase.

The important element of decommissioning from a landscape and visual impacts perspective is the dismantling and removal of the proposed turbines. This will occur for a limited period of time and will predominately involve cranes adjacent to the proposed turbines during the dismantling process. Upon decommissioning of the Proposed Wind Farm, the proposed turbines will be disassembled in reverse order to how they were erected. The proposed turbines will be disassembled with a similar model of crane that was used for their erection and will likely be removed from the Proposed Wind Farm site using the same transport methodology adopted for delivery to the Proposed Wind Farm site initially.

Proposed turbine foundations would remain in place underground and would be covered with earth and reseeded as appropriate. This naturalisation process would revert the landscape of the Proposed Wind Farm site to a condition similar to the current landscape baseline. Albeit that certain elements of the Proposed Project infrastructure will remain in place.

Removal of the proposed turbines and ancillary infrastructure from the Proposed Project site will result in a Short-term, 'Slight,' 'Negative' visual effect. A Decommissioning Plan has been prepared (Appendix 4-8) the detail of which will be agreed with the local authority prior to any decommissioning. The Decommissioning Plan will be updated prior to the end of the operational period in line with decommissioning methodologies that may exist at the time and will be agreed with the competent authority at that time.

13.8 Conclusion

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This chapter reports the Landscape and Visual Impact Assessment (LVIA) of the Proposed Project, focusing on the likely significant effects on landscape and visual amenity within a 20km study area. The assessments were informed by site visits, verified photomontages, ZTV mapping, a Route Screening Analysis, and an impact assessment methodology which follows best practice guidance for LVIA. The final layout of the Proposed Wind Farm resulted from an iterative design process aimed at eliminating potential for significant landscape and visual effects. The proposed turbines were strategically sited within a modified working landscape of relatively low sensitivity, with characteristics limiting visibility from landscape and visual receptors of high sensitivity. The layout and design follows the siting and design guidance for Hilly and Flat Farmland Landscape Types whilst adhering to the minimum set back distance requirements, including 500 meters from residential dwellings and four times the turbine tip height from third-party properties.

ZTV mapping indicates full theoretical visibility within 5km of the turbines, decreasing beyond this range due to the enclosure provided by local landform surrounding the Proposed Wind Farm site. Photomontage visualisations and site visits determined that the proposed turbines are most visible within the small river valley where they are located, but mature boundary vegetation in the densely vegetated agricultural landscape generally limits visibility and the magnitude of visual effects from many receptors in this area, such as roads, properties, and small settlement clusters. Visibility of the proposed turbines only occurs occasionally within longer ranging views from elevated vantage points elsewhere in the wider LVIA Study Area.

The assessments determined that the Proposed Wind Farm site is an appropriate landscape capable of accommodating the infrastructure of the Proposed Project. Long-term residual landscape effects of 'Moderate' significance were deemed to occur upon the physical fabric of the landscape of the Proposed Wind Farm site itself, as well as effects on its perceptual and aesthetic character and qualities. Site visits, ZTV mapping and photomontage visualisations were used to support the assessment of effects on designated landscape receptors as well as designated Landscape Character Areas (LCAs). The turbines are situated within County Kilkenny's Slieveardagh Hills (South), an LCA considered to be of 'Low' sensitivity which is capable of effectively accommodating multiple wind energy developments. The LVIA determined a 'Slight' residual effect on this LCA's landscape character. No significant landscape effects are deemed to occur in other designated LCAs assessed in this LVIA. In line with local planning policy and designations, no significant effects were deemed to arise on the special characteristics or qualities of any high sensitivity landscape receptors. There are 13 existing, permitted, and proposed wind farms within 20km of the site, with the greatest cumulative landscape effects occurring in the Slieveardagh Hills.

The assessment of visual effects was primarily informed by photomontage visualisations a Route Screening Analysis and observations recorded during site visits. Imagery was captured from 37 viewpoints within the LVIA Study Area. Out of these, 16 viewpoints were included in the EIAR Volume 2: Photomontage Booklet (including cumulative wind farms), while the remaining 21 viewpoints (PW-A to PW-U) were used as photowires included in Appendix 13-5 (draft visualisations) to support discussion of visual effects in relation to specific receptors. The assessments determined that no significant visual effects were deemed to arise from any protected scenic amenity designations or high sensitivity recreational amenities. The greatest visual effects will occur from local residential receptors in close proximity to the proposed turbines in the townlands of Banse Glebe, Oldtownhill, Corstown, Knockeenglass and receptors at the periphery of the Kilmanagh settlement, where residual visual effects were deemed to be 'Moderate.' Cumulative visual effects have greatest potential to arise with other existing, permitted, and proposed developments in the Slieveardagh Hills when viewed from receptors immediately east of the Proposed Wind Farm, as well as from longer ranging views of the upland area from elevated vantage points throughout the wider landscape. No significant cumulative visual effects are deemed to arise.

In conclusion, the LVIA in this chapter determined that no Significant landscape and visual effects were identified. Overall, the Proposed Project is effectively accommodated within the landscape without any Significant effects on the key scenic or landscape sensitivities of receptors identified in the 20km LVIA Study Area. The assessments have determined that the landscape of the Proposed Wind Farm site is a highly suitable environment capable of effectively accommodating the Proposed Project. The Proposed Project is appropriately designed and suitably scaled, and it has been demonstrated that no significant landscape and visual effects are likely to arise.

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