

12. LANDSCAPE AND VISUAL

12.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) addresses the potential significant direct and indirect landscape and visual effects of the proposed Seven Hills Wind Farm. The emphasis in this chapter is on the likely significant direct and indirect effects of the Proposed Development. It covers the assessment methodology, a description of the Proposed Development and the existing landscape based on relevant guidance. It includes a description of the landscape policy of County Roscommon as set out in the Roscommon County Development Plan with specific reference to wind energy and the study area in which the Proposed Development site is located, as well as landscape and wind energy policy from the respective County Development Plans of County Galway, County Westmeath, County Longford and County Offaly where some visibility of the Proposed Development may occur.

The landscape of the area is described in terms of its existing character, which includes a description of landscape values and the landscape's sensitivity to change. The landscape and visual impact assessment of the Proposed Development uses visibility mapping, representative viewpoints and photomontages. The potential impacts in both landscape and visual terms are then assessed, including cumulative impacts.

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

12.1.1 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 large scale wind energy developments.

This chapter was written by Jack Workman. Jack is a Landscape and Visual Impact Assessment Specialist and the Landscape Team manager at MKO. Since joining MKO, Jack has conducted and project managed all aspects of LVIA for a broad range of commercial infrastructure developments including wind and solar energy projects, grid infrastructure, extraction industry and Strategic Housing Developments. He holds a BSc. in Psychology, and an MSc. in Coastal and Marine Environments (Physical Processes, Policy & Practice). Jack is an Affiliate member with the British Landscape Institute and is currently completing their pilot chartership program for the new Landscape Technician Membership grade. Jack holds a membership with the Chartered Institute of Water and Environmental Management and is also a member of the Landscape Research Group.

This chapter was reviewed by Michael Watson. Michael is Project Director and head of the Environmental Team at MKO, an Irish planning and environmental consultancy with wind energy a company specialism. Michael has extensive expertise conducting LVIA's for wind farm developments and 20 years' professional consultancy experience as a project director, project manager and lead coordinator of environmental impact assessments for wind energy and other large-scale infrastructure projects.

12.1.2 'Do Nothing' Scenario

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

Proposed Development Description

A detailed description of the Proposed Development can be found in Chapter 1, Section 1.5 of this EIAR. Section 1.5 describes the development and its component parts (the 'Proposed Development') including the works subject of a proposed application for planning permission to Roscommon County Council. The Proposed Development comprises construction of the following elements:

- i. 20 no. wind turbines with an overall ground to blade tip height of 180 metres, a rotor diameter of 162m and a hub height of 99m, associated foundations, hard-standing areas*
- ii. 15 no. spoil storage areas at hardstands of turbines no. 1, 2, 3, 4, 5, 6 and 7 (in the townlands of Turrock, Gortaphuill, Cronin, and Tullyneeny) and turbines no. 8, 10, 11, 13, 14, 17, 19 and 20 (in the townlands of Milltown, Cuilleenoolagh, Cloonacaltry, Feacle and Tawnagh)*
- iii. Provision of 1 no. permanent meteorological mast with a maximum height of 100 metres for a period of 30 years from the date of commissioning of the entire wind farm*
- iv. Provision of 1 no. 110kV onsite substation in the townland of Cam, along with associated control buildings, MV switchgear building, associated electrical plant, associated security fencing, and equipment and wastewater holding tank*
- v. All underground electrical and communication cabling connecting the proposed wind turbines to the proposed onsite substation and associated control buildings and plant*
- vi. All works associated with the connection of the proposed wind farm to the national electricity grid via underground 110kV cabling from the site to the existing Athlone 110kV substation located in the townland of Monksland. Cabling will be placed within the public road corridor of the R362, R363 and L2047, or on private land*
- vii. Upgrade works to the existing 110kV Athlone substation consisting of the construction of an additional dedicated bay to facilitate connection of the cable*
- viii. Provision of 2 no. new site accesses north and south from the R363 and upgrade of 1 no. junction south of the R363*
- ix. Provision of new access tracks/roads and upgrade of existing access tracks/roads*
- x. 7 no. overburden storage areas*
- xi. 2 no. temporary construction compounds*
- xii. Site drainage works*
- xiii. Operational stage site signage*
- xiv. All associated site development works, apparatus and signage*

Essential Aspects of the Proposed Development from an LVIA Perspective

Guidance for LVIA (GLVIA3, 2013) states that *"it is important to make sure that the project description provides all the information needed to identify its effects 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"*. The tall, vertical nature of the proposed turbines make them the most prominent elements of the Proposed Development 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 Development which will give rise to effects on the landscape and visual amenity and are therefore a primary focus of the LVIA conducted in this chapter.

The proposed meteorological mast is also a tall vertical structure, it is therefore included in the photomontage booklet and is given due consideration throughout this chapter. However, it will be significantly less visible than any turbine given its shorter and slender lattice form and will fade from view at a distance of anything more than a few kilometres. As detailed in Section 4.3.9 of Chapter 4, the proposed met mast will replace the existing met mast located at the south of the site, as well as any temporary met masts that may potentially be installed ahead of construction of the Proposed Development.

Other components of the Proposed Development (items iii – xi above) 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. Although not the primary focus of the LVIA, these elements are given due consideration throughout this chapter and are assessed in detail in Section 12.7.3.5 – *Ancillary Project Elements*.

In- Text Reference to the Proposed Development

With respect to references throughout this chapter, where:

- The 'proposed turbines' are referred to, this relates to the turbine components of the Proposed Development.
- 'the Proposed Development' is referred to, this relates to all the project components described in detail in Chapter 4 of this EIAR.
- The 'Northern Cluster' is referred to, this relates to the 7 No. proposed turbines - T1 to T7 sited at the northern extent of the Proposed Development.
- The 'Southern Cluster' is referred to, this relates to the 13 No. proposed turbines – T8 to T20 sited at the southern extent of the proposed Development.

12.1.4

Mitigation as part of the Iterative Design Process

Siting of the Proposed Development at the subject site was plan lead, guided by the policy and designations in the previous Roscommon Renewable Energy Strategy 2014-2020, which was in force during the circa two year rigorous iterative design process required to effectively bring a viable, appropriate and suitable wind farm design to the planning stage. Throughout this time and process it was always the intention to site all of the proposed infrastructure within lands zoned as 'Most Favoured' for wind energy development, which had been the case up until very recently. The current Renewable Energy Strategy (RES) for County Roscommon is a stand-alone document forming part of the Roscommon County Development Plan 2022-2028 (RCDP) which was recently adopted in April 2022. The majority of the Proposed Development is sited within an area designated as 'Most Favoured' within the newly adopted RES, and a very small portion of the site is located in an area designated as 'Not Favoured'. It is noted that before April 2022 when the current RCDP came into force, the entirety of the Proposed Development was sited in a landscape designated as 'Most Favoured' for the development of wind energy.

Proposed Turbines: The final proposed turbine layout that is the primary focus of this LVIA, already incorporates the following landscape and visual design considerations for good wind farm design:

- The Proposed Development is sited in a Landscape Character Area (LCA) designated as 'Moderate' Value which is the lowest LCA value rating in County Roscommon, as stated in the current Roscommon County Development Plan 2022-2028.
- The siting and design of the proposed Wind Farm adheres to the guidance for the siting of wind farms in Hilly and Flat Farmland Landscape Types in terms of location, spatial extent, spacing and layout, as set out in The Wind Energy Development Guidelines for Planning Authorities (DoEHLG, 2006), & (DoPHLG, 2019).
- Siting of proposed turbines adheres to the minimum 500 metre set back distance in the current Wind Energy Development Guidelines (2006, DoEHLG) and also the 4 times tip height set-back distance explicitly set out for residential visual amenity prescribed by the Draft Revised Wind Energy Development Guidelines (2019, DoHPLG).
- Strategic spatial configuration of turbines to ensure a visually coherent array of turbines within the landscape, aiming to avoid visual confusion and clutter from prominent visual receptors.
- Siting of the proposed turbines where there is limited visibility (or large setback distances >15km) from large population centres and designated landscape and visual receptors of high sensitivity.

Ancillary Infrastructure - Proposed Substation, Met Mast, Grid Connection and Access Roads

- The internal site road layout makes use of the existing tracks wherever possible, to minimise the requirement for new tracks within the site.
- The proposed substation is sited in a location enclosed by localised topography, reducing visibility from receptors in the surrounding landscape.
- The proposed Grid Connection infrastructure will be installed underground alongside the existing road network, mitigating the potential for adverse landscape and visual effects.

12.1.5

Assessments of Other Alternative Turbine Layouts

The landscape and visual impacts were considered as part of the early-stage planning process. Alternative turbine layouts were generated for a series of preliminary Zone of Theoretical Visibility (ZTV) maps and photomontages in order to assess the extent to which alternative turbine configurations may give rise to visual effects. These early-stage assessments enabled the choice of suitably sited turbines for the Proposed Development with regard to mitigating any potential adverse landscape and visual effects. For more information on alternative designs, please see Chapter 3 of this EIAR - *Site Selection and Reasonable Alternatives*.

Numerous turbine layouts have been considered throughout the differing design phases of the Proposed Development. The current proposed turbine layout utilises fewer turbines than was previously proposed in earlier design iterations. Most notably, a much lower density of turbines that was proposed in a previous planning application for a wind farm at this site (Pl.Ref: Pl.20.244346 and Pl.20.244347). Turbines of a larger tip height are currently proposed than those in the previous planning application, this enables the siting of a lesser number of turbines in the landscape, whilst enabling maximum use of this site as a source of renewable energy production.

12.1.6

Scoping Replies /Pre-Planning Meeting

A pre-application consultation was held with Roscommon County Council on 21st July 2020 and 20th November 2020 and An Bord Pleanála on the 11th June 2020 and the 16th November 2020 via Microsoft Teams. The meetings were attended by representatives of the planning authority, Energia Renewables ROI Ltd. And MKO. MKO provided an overview of the LVIA conducted to assess the landscape and visual effects occurring as a result of the Proposed Development.

12.1.7

LVIA – Community Consultation

A member of the MKO Landscape team and a Galetch representative conducted community consultation to address the visual impact of the proposed turbines from private residences at a multitude of locations in close proximity to the Proposed Development. These consultation exercises took place on the 26th and 31st of August 2020, and the 31 August 2021. See specific locations, times and residents in Appendix 2-2 - *Community Consultation Report*.

The community consultation included the use of a 'Trueview Visuals®' Augmented Reality (AR) tool. This Trueview AR tool projects a scaled representation of the proposed turbines (similar to a photomontage) within a real-time camera view on a tablet device. During the community consultation exercise, the Trueview AR tool enabled residents to visualise the Proposed Development from any requested view or location within their property or domestic curtilage. Imagery was also captured from private residential properties and verified photomontages were produced and given to residents during the initial community consultation exercise in August 2020. These photomontages were produced from an earlier iteration of the proposed turbine layout and are therefore not included in this planning application.

12.2

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 Development; a more detailed description of the methodology is outlined in Appendix 12-1 – *LVIA Methodology*. There are five main sections to this assessment:

- Visibility of the Proposed Development – ZTV Mapping
- Landscape Baseline
- Visual Baseline
- Cumulative Baseline
- Likely and Significant Effects – outlining the assessment of landscape, visual and cumulative effects

12.2.1

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

For the purposes of this chapter, where the ‘Proposed Development site’ or ‘the site’ is referred to, this relates to the immediate environment in which the Proposed Development is located, as shown delineated in green on the A0 LVIA Baseline map (Appendix 12-4) (Maps in Section 12.4 – Landscape Baseline) as the ‘EIAR Site Boundary’. The Proposed Development site is discussed in some detail in terms of its landscape character Section 12.4 of this chapter – *Landscape Baseline*.

The landscape baseline mapping, visual receptor mapping and viewpoint selection are based on wider study areas. The geographical parameters for this LVIA was determined by desktop study, survey work undertaken, the professional judgement of the assessment team, experience from other relevant projects and policy guidance or standards (Appendix 3, *DoEHLG Wind Energy Development Guidelines* 2006 and GLVIA 2013). The LVIA study area has been chosen as 20 kilometres from the proposed turbines for visual and landscape effects, and 15 kilometres for effects on landscape character. This is the study area for which the baseline maps and viewpoint locations are produced and is referred to as the ‘study area’ or the ‘LVIA study area’. Furthermore, as prescribed by best practice guidance, professional experience of the assessment team and following initial visibility appraisals (See following Section 12.3 – *Visibility of the Proposed Development*), 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 landscape receptors beyond a 20 km radius from the Proposed Development, from where it is judged that potential significant effects on key characteristics and/or special qualities, or views are judged unlikely to occur;
- Effects on landscape character beyond a 15 km radius from the Proposed Development, where it is judged that potential significant effects on landscape character are unlikely to occur;
- Effects on visual receptors beyond a 20 km radius from the Proposed Development, 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 Development, where it is judged that potential significant effects are unlikely to occur;

The tall, vertical nature of the proposed turbines make them the most prominent elements of the Proposed Development from a landscape and visual perspective and have the most potential to give rise to significant landscape and visual effects. The landscape and visual impact of ancillary elements such as the proposed roads, substation, met mast and grid connection are addressed within this chapter, however, the proposed turbines are of primary focus in this LVIA.

12.2.2

Guidelines

The legislation and general guidance on Environmental Impact Assessment is set out in Chapter 1 of this EIAR. The LVIA assessment reported in this chapter complies with guidance documentation specifically pertaining to Landscape and Visual Impact Assessment.

Ireland signed and ratified the European Landscape Convention (ELC) in 2002, which introduces a pan-European concept which centres on the quality of landscape protection, management and planning. The Department of Arts, Heritage and the Gaeltacht has published a National Landscape Strategy for Ireland in 2015. The Strategy aims to ensure compliance with the ELC and contains six main objectives, which include developing a national Landscape Character Assessment and Developing Landscape Policies.

In 2000, the Department of the Environment and Local Government published 'Landscape and Landscape Assessment: Consultation Draft of Guidelines for Planning Authorities', which recommended that all Local Authorities adopt a standardised approach to landscape assessment for incorporation into Development Plans and consideration as part of the planning process. However, this DoEHLG 2000 guidance remains in draft form.

The LVIA in this chapter is primarily based upon *Guidelines for Landscape and Visual Impact Assessment, Third Edition* or GLVIA3 (The Landscape Institute/Institute of Environmental Management and Assessment, UK, 2013). A range of other guidelines also inform the preparation of this landscape and visual impact assessment, which include:

- Wind Energy Development Guidelines for Planning Authorities (Department of the Environment, Heritage and Local Government, 2006) and the Draft Revised Wind Energy Development Guidelines (Department of Planning, Housing and Local Government, 2019);
- Visual Assessment of Wind Farms: Best Practice (Scottish Natural Heritage, 2002).
- Visual Representation of Wind Farms: Version 2.2 (Scottish Natural Heritage, 2017).
- Siting and Designing Wind Farms in the Landscape, Version 3a (Scottish Natural Heritage, 2017).
- Assessing the Cumulative Impact of Onshore Wind Energy Developments. (Scottish Natural Heritage, 2012) & (Nature Scot, 2021)
- Photography and photomontage in landscape and visual impact assessment (Landscape Institute Advice Note 01/11, 2011)
- Visual representation of development proposals (Landscape Institute Technical Guidance Note 02/17, 2017)
- Spatial Planning for Onshore Wind Turbines – natural heritage considerations (Scottish Natural Heritage, 2015)
- Cumulative Impact of Wind Turbines on Landscape and Visual Amenity (Carmarthenshire County Council, 2013)

12.2.3

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 plans (Counties: Roscommon; Galway; Westmeath; Longford; Offaly) pertaining to landscape and wind energy;
- Landscape designations in the LVIA study area (Views and Prospects, Amenity Areas Historic Landscapes);

- Landscape character of the LVIA study area;
- Landscape character of the Proposed Development site based on:
 - Site Surveys undertaken throughout 2020 and 2021;
 - Landscape Character Types identified in *Landscape Character Types as a basis for Guidelines: Wind Energy Development Guidelines for Planning Authorities* (Department of the Environment, Heritage and Local Government, 2006) and also the Draft Revised Wind Energy Development Guidelines (2019)

Visual

- Identification of Visual Receptors in the LVIA study area;
- Preliminary assessments of visibility of the Proposed Development from visual receptors using ZTV mapping and on-site appraisals.

12.2.4

Assessment of Potential Impacts

The landscape and visual assessment methodology used in this chapter (outlined in Appendix 12-1) includes clearly documented methods based on the GLVIA guidelines (2013). This includes 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, 2017).

Photomontages are used to assess potential impacts, whereby the potential effects arising as a result of the Proposed Development are assessed from viewpoint locations representative of prominent landscape and visual receptors located within the LVIA study area. Further details of which along with other information on the methodology of landscape and visual impact assessment are presented in the methodology appendix - *Appendix 12-1*. 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 12.3).

12.3

Visibility of the Proposed Development

12.3.1

ZTV Mapping: Theoretical Visibility of the Proposed Development.

ZTV mapping is an important step in the LVIA process, in that it clearly shows which areas will have theoretical visibility of the proposed turbines and which areas will have no theoretical visibility.

The ZTV mapping methodology outlined in Section 1.3 of Appendix 12-1 was used to examine the theoretical visibility of the 20 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 12-1, actual visibility on the ground is significantly less than predicted by the ZTV mapping due to intervening factors such as on site screening from natural and man-made features, atmospheric weather and/or localised topography.

Generation of the ZTV utilises large scale topographical data (interpolation across 10 m OSi contour data) and does not account for topographical variation of smaller scale (e.g. < 10 metre). Therefore, in reality, small, localised undulations in topography are likely to further inhibit visibility of the Proposed Development that may not be represented in the ZTV map. Other 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 definitely no visibility of the Proposed Development, therefore receptors located in these areas can be screened out from further assessment.

12.3.2

Half Blade ZTV of the Proposed Development

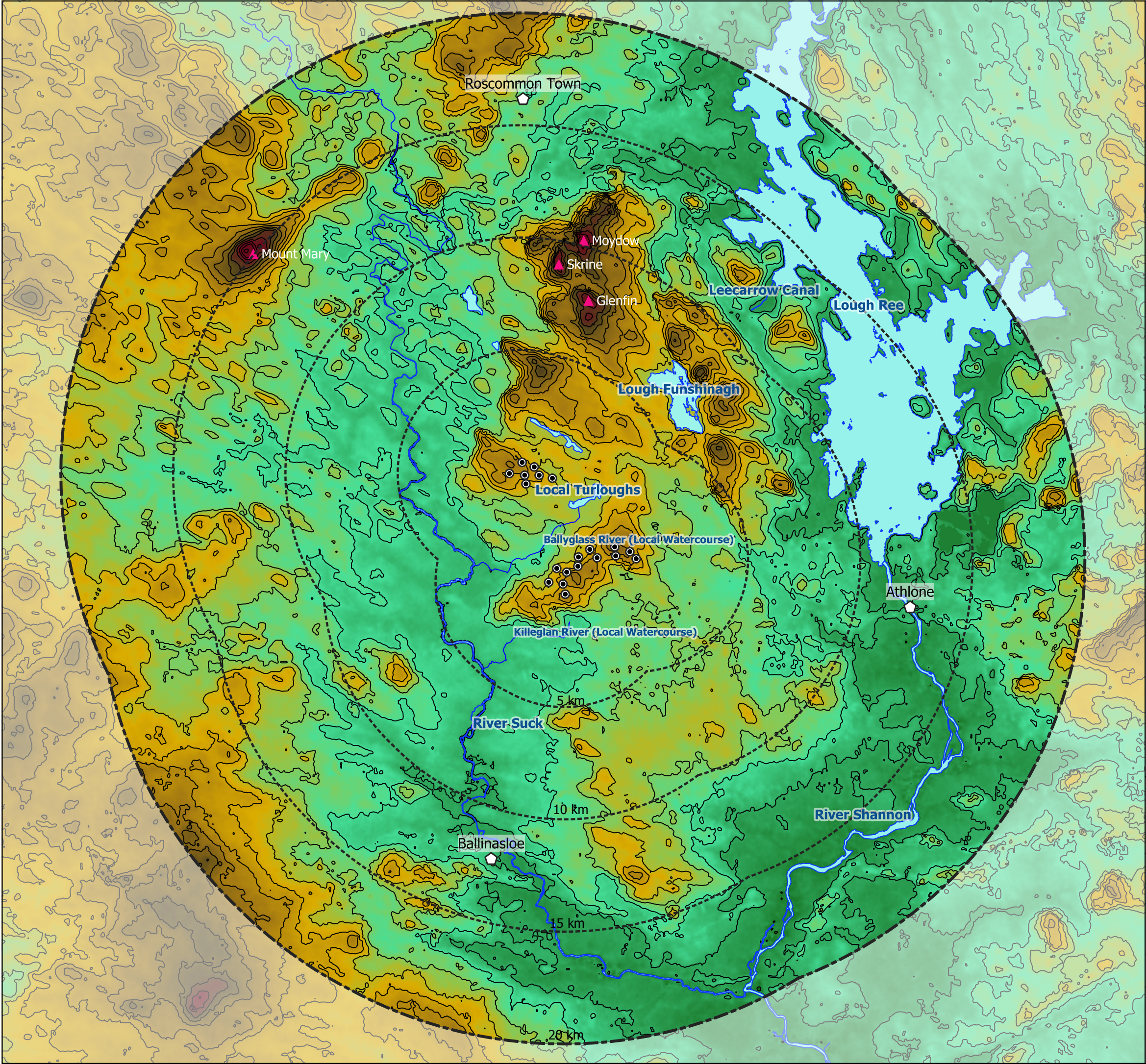
The Half Blade ZTV map of the Proposed Development and LVIA study area is shown in Figure 12-1 below. The ZTV map is used within several mapping figures included in this chapter to enable assessment of theoretical visibility from landscape and visual receptors (See Appendix 12-4 - *LVIA Baseline Map*; Figure 12-12 - *Landscape Character Areas & ZTV*; Figure 12-14 - *Visual Baseline & ZTV*). Separate colour bands are used on each ZTV map to indicate the number of turbines of which the half blade will potentially be visible. The legend on each map shows the number of visible turbines for each corresponding colour, which are as follows:

- Orange: 1-5 turbines visible.
- Green: 6-10 turbine visible
- Yellow: 11-15 turbines visible
- Dark Blue: 16-20 turbines visible

Figure 12-2 (below) shows the topographical features and elevation gradients existent within the receiving landscape of the LVIA study area, the geography of these topographical landforms define the distribution of theoretical visibility illustrated in Figure 12-1. The following descriptions and analysis of the ZTV refer to the 'Northern Cluster' which comprises 7 No. turbines - T1 to T7, and the 'Southern Cluster' which comprises 13 No. turbines - T8 to T20.

Distribution of Theoretical Visibility within 5 km of the Proposed Development

The ZTV (Figure 12-1) indicates that there is widespread full theoretical visibility of the Proposed Development within 5 km of the proposed turbines. There are areas immediately north-west and north of the Northern Cluster where theoretical visibility is limited by the topography. Immediately south of the Southern Cluster theoretical visibility is reduced to 10-15 turbines, as the Northern Cluster is obscured from view behind the ridgeline where the Southern Cluster is sited. Theoretical visibility of 1-5 turbines occurs south-west of turbines T8 is located, in the townlands of Breeole and Killeglan.



Map Legend

- ⦿ Turbines of the proposed Development
- LVIA Study Area
- Elevation Above Ordnance Datum
 - 25 Metres
 - 50 Metres
 - 75 Metres
 - 100 Metres
 - 125 Metres
 - 150 Metres
- Elevation Contours - 10 metre Interval
- Waterbodies
- Watercourses
- ▲ Topographic Features
- ⬡ County Hub Towns

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Drawing No.

Figure 12-2

Drawing Title

Physical Landscape Features

Project Title

Seven Hills Wind Farm, Co. Roscommon

Scale	Project No.	Date	Drawn By	Checked By
1:165,000	190907	16.05.2022	JW	OM

MKO

Planning and Environmental Consultants

Distribution of Theoretical Visibility to the North and North-East of the Site (Beyond 5km)

As shown in Figure 12-2, there is a topographical landform that extends north-north-east between 3-13 km from the Northern Cluster, these uplands are located around Skrine Hill. These relatively high elevations (>150m AOD) are a substantial feature in the gently undulating landscape; and will obscure views of the proposed turbines from large areas beyond 5 km to the north of the site, as shown by the large areas of no theoretical visibility in Figure 12-1.

A range of slightly smaller hills (elevation approximately 130m AOD) arc from the north to south-east between 5-10 km from the Proposed Development. As indicated by the ZTV, this topography provides substantial screening from the western shores of Lough Ree and most areas in County Roscommon located beyond 5km north-east of the site. Figure 12-1 shows there is either no theoretical visibility or very limited and intermittent theoretical visibility of the Proposed Development occurs within a large area along the route of the N61 as it heads north-north-west from Athlone to Roscommon Town. There is only theoretical visibility of 1-5 turbines within Roscommon Town. Full theoretical visibility occurs beyond 15 km from the Proposed Development east of Lough Ree in County Longford and County Westmeath.

Distribution of Theoretical Visibility to the East and South of the Site (Beyond 5km)

Full theoretical visibility occurs between 5-20 km east of the Southern Cluster, however it is interspersed with sporadic patches of no or limited theoretical visibility. There are some substantial areas of full theoretical visibility in the towns of Bellanamullia/Monksland and Athlone. Theoretical visibility becomes increasingly intermittent as the ZTV extends east into County Westmeath.

Between 5-10 km south-east of the Southern Cluster there is full theoretical visibility. Figure 12-2 shows a mound of elevation approximately 5 km south of the Southern Cluster that extends in both a southerly and easterly direction. As this gentle ridgeline reaches to the east it causes some screening, which is illustrated as an arc of limited and no theoretical visibility shown upon the Regional Road between Ballinasloe and Athlone in Figure 12-1. The southern portion of this topography has a relatively high elevation of 98 AOD compared with the Suck and Shannon basins to the south, it therefore obscures views of the Proposed Development from the very south of County Roscommon as shown by a large patch of no theoretical visibility on the ZTV map.

The River Shannon flows south from Lough Ree through Athlone where it traces the County Roscommon boundary, firstly with County Westmeath and then County Offaly as the river flows south-west. The river merges with the River Suck at the County Galway border before flowing south and beyond the LVIA study area. The Physical Landscape Features map (Figure 12-2) shows the path of the River Shannon as it tracks along a basin of low elevation and flat peatlands, the flood plains surrounding the river are referred to as the Shannon Callows and are a landscape of high ecological value. The ZTV map shows that there is predominantly full theoretical visibility in the Shannon basin, however there is very limited or no theoretical visibility upon the Shannon itself and the flats of the Shannon Callows (See the A0 map -*Appendix 12-4* for a high resolution ZTV).

County Offaly comprises a small portion (approximately 44km² or 2.7%) of the LVIA study area, it is located 16.5 km south-east of the nearest proposed turbine at its closest point. There is full theoretical visibility in approximately two thirds of this area and there are four large areas where there is no theoretical visibility of any of the proposed turbines.

Distribution of Theoretical Visibility to the South-West and West of the Site (Beyond 5km)

The Suck River Valley is located to the west of the Proposed Development. The River Suck flows from the north to south approximately 10 km west of the proposed turbines and demarks the boundary between County Roscommon and County Galway. The Suck River basin comprises a landscape of flat

peatlands where there is full theoretical visibility of the Proposed Development. This peatland landscape of full theoretical visibility extends 10 km north-west of the Northern Cluster to 10 km south-west of the Southern Cluster. There is mostly full theoretical visibility around the settlement of Ballinasloe and a large area of no theoretical visibility to the south of the town.

Figure 12-1 indicates predominantly full theoretical visibility with intermittent patches of limited theoretical visibility in areas between 10 and 20 km south-west, west and west-north-west of the Proposed Development. As shown in Figure 12-2, elevation rises to a landscape of rolling hills beyond the Suck River basin, approximately 10 km west of the Proposed Development. These elevations provide screening which obscures views of the proposed turbines from settlements in east County Galway such as Ahascragh and Castleblakeny as shown as no theoretical visibility on the ZTV map. The ZTV map indicates very limited theoretical visibility in areas surrounding the town of Mountbellew.

Distribution of Theoretical Visibility to the North-West of the Site (Beyond 5km)

Theoretical visibility of the Proposed Development is patchy and intermittent beyond 5 km north-west of the Northern Cluster. There is no theoretical visibility in a large area 15 km north-west of the Proposed Development where the high elevation of Mount Mary (164m AOD) will screen all turbines from view in a large area of both County Galway and County Roscommon. The ZTV shows theoretical visibility becomes more intermittent and limited as distance increases to the north-north-west of the Northern Cluster. The ZTV indicates full theoretical visibility in the settlements of Ballygar and Ballinamore Bridge, but very limited theoretical visibility in the settlements of Athleague, Castlecoote and Creggs.

12.3.3

ZTV Versus Actual Visibility

As mentioned previously, the ZTV map is a useful tool to indicate areas where there will be **no** visibility of the Proposed Development. In practice, large areas of the LVIA study area which have an indication of full theoretical visibility by the ZTV map (Figure 12-1) are likely to have no visibility of the Proposed Development.

Disproportionate Screening Effects

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 tall 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 screening elements such as vegetation (forestry, road-side hedgerows and trees) and buildings (particularly within towns and villages) on long range visibility are accentuated in flat lowland landscapes, this is called a disproportionate screening effect. The graphic in Figure 12-3 below best explains this 'disproportionate screening effect'. A ZTV may indicate full theoretical visibility of the proposed turbines from an open field or an open peatland. 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 wind turbine. Distance becomes a substantial factor determining visibility of proposed turbines as it is difficult to see beyond a few kilometres above screening within a flat landscape.

The image below illustrates the disproportionate screening effect that small features in the landscape can have on screening a proposed wind turbine from view. Figure 12-3 shows a 180 metre tall wind turbine located one kilometre from a viewing location. The illustration in Figure 12-3 is modelled proportionally to ensure measurement accuracy and scaled to fit this report. A 15-metre tall obstacle, such as a treeline is used as the landscape feature giving rise to the 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.

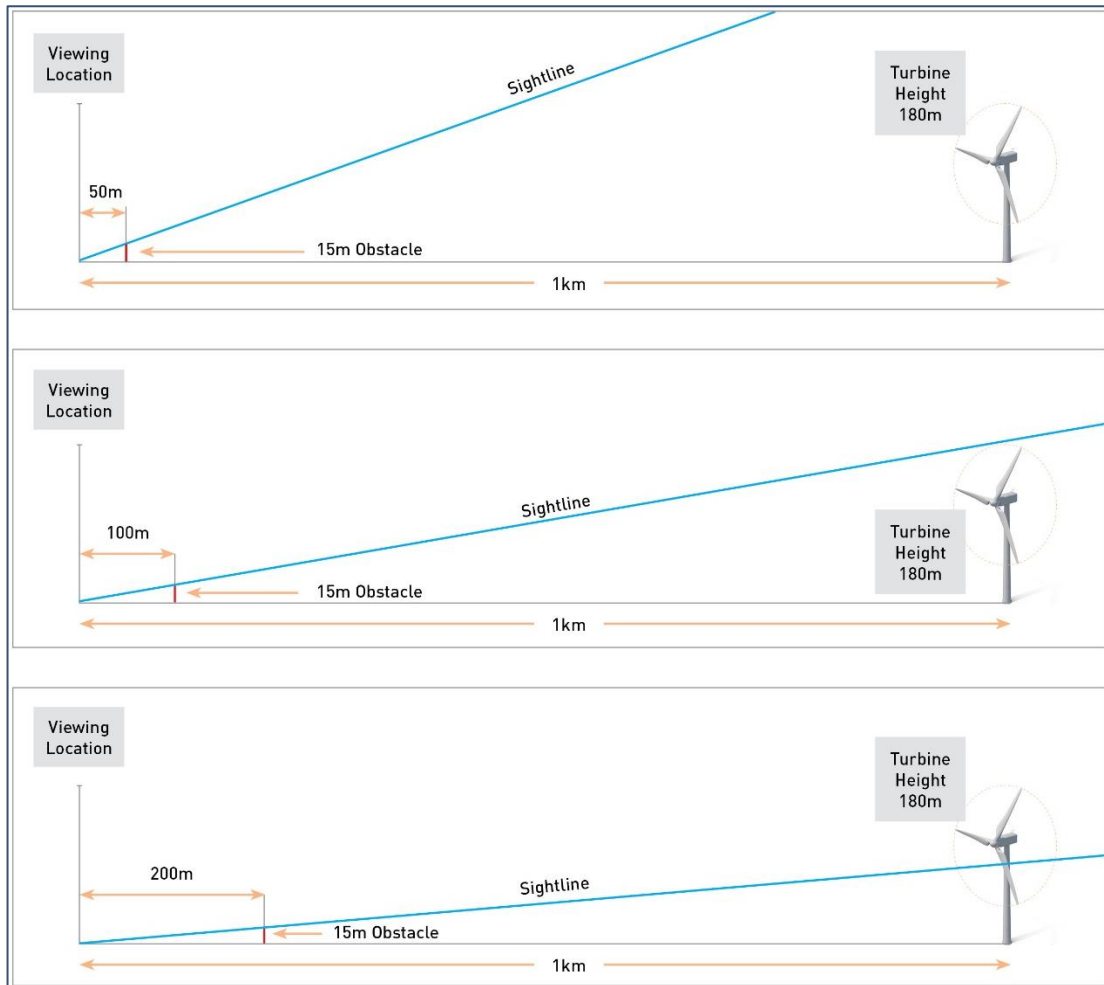


Figure 12-3 Disproportionate Screening Effect

12.3.3.2 On-Site Appraisal of Actual Visibility During Field Surveys

Multiple field surveys were conducted during 2020 and 2021 to determine the actual visibility from locations where the ZTV has indicated full theoretical visibility. These surveys determined that screening from localised undulations in topography, vegetation and man-made elements significantly reduce the likelihood of viewing turbines in vast areas of the LVIA study area, in particular areas beyond 10 km from the Proposed Development.

Appraisal of Visibility beyond 10 km from the Proposed Turbines

In a general sense, the field surveys determined that the proposed turbines are unlikely to be perceived from vast areas beyond 10 km from the Proposed Development where full theoretical visibility is indicated on the ZTV map. In most instances, screening existent in the undulating and highly vegetated landscape beyond 10 km from the Proposed Development did not permit open views in the direction of the Proposed Development. Visibility is only likely to occur in isolated areas of higher elevation where open, long-ranging landscape views 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 12.7, *Likely Significant Effects*.

Appraisal of Visibility between 5 and 10 km from the Proposed Turbines

In flat landscapes such as the basin of the Suck River Valley to the west or south of Lough Ree in the Shannon River Valley to the east, vegetation screening is a key determinant of visibility.

Disproportionate screening effects occur in many of these areas where only close, short-range landscape views are available. On-site appraisal between 5 - 10 km determined that visibility of the proposed turbines is only likely to occur upon areas of slightly elevated land where a rise in topography enables views above natural and man-made features in the local landscape. Visual effects arising from such locations are assessed in Section 12.7 - *Likely or Significant Landscape and Visual Effects*.

Appraisal of Visibility within 5 km of the Proposed Turbines

On-site appraisals determined that most visibility of the Proposed Development will most likely to occur within the rolling agricultural grasslands immediately surrounding both the northern and Southern Cluster. Field boundaries in the area are delineated by dry stone walls, low hedgerows and treelines which generally afford lesser screening than the denser mature vegetation existent in the low-lying landscape beyond 5km. However, actual visibility is still less than shown by the ZTV in this landscape, due to localised undulations in topography and other localised screening factors. A 'Route Screening Analysis' was conducted to objectively determine how much screening exists upon all roads within 5 km of the Proposed Development. Results and discussion of the route screening analysis are included in Section 12.7.3.3.4 - *Visibility in Close Proximity to the Site – Route Screening Analysis*.

In summary, ZTV mapping is more useful to determine where the proposed turbines will **not** be visible from, rather than where they will be visible from.

Landscape Baseline

The Landscape Baseline states baseline information about the receiving landscape of the Proposed Development 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 Development site from a landscape perspective.
- **Landscape Character of the Proposed Development Site** – A description of the physical landscape and characteristics of the site from site visits as well as an appraisal of its landscape value and sensitivity.
- **The Wind Energy Development Guidelines for Planning Authorities** – A review of the Wind Energy Development Guidelines (DoEHLG, 2006; DoHPLG, 2019) and siting guidance relating to the landscape characteristics of the Proposed Development site.
- **Landscape Character of the Wider LVIA Study Area** – A description of landscape in a wider setting including the identification of designated Landscape Character Areas (LCAs) located within 15 km of the Proposed Development, as well as Historic Landscape Characterisation.
- **Landscape Receptor Preliminary Assessment** – Use of ZTV mapping to screen in and scope out landscape receptors for assessment later in the chapter.

Landscape Designations and Policy Context

This sub-section reviews the policies and objectives of various planning policy documents relating to landscape, planning and the locational siting of wind farms, as they relate to the site of the proposed Seven Hills renewable energy development.

The Proposed Development is located in County Roscommon, therefore, the current Roscommon County Development Plan 2022-2028 (hereafter referred to as the RCDP) 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 Development site as a landscape suitable for a wind energy development.

As demonstrated by ZTV mapping (Figure 12-1), four other counties are located in the LVIA study area and comprise areas with theoretical visibility of the Proposed Development. Consequently, the county development plans of Counties Galway, Longford, Offaly and Westmeath were also consulted to identify relevant landscape designations within the LVIA study area.

County Roscommon

The RCDP came into effect on the 19th of April 2022. The following sections report the landscape policies in the RCDP pertinent to the Landscape and Visual Impact Assessment of the Proposed Development.

General Landscape Policy - RCDP

A recently updated Landscape Character Assessment for County Roscommon (hereafter referred to as LCACR) is included as a separate volume of the RCDP 2022-2028. General landscape policy within the RCDP centres around the LCACR:

“The key actions and recommendations identified in the LCA have been incorporated into the Plan across a broad range of policy objectives.”

Strategic aims for the future development of County Roscommon reported in the RCDP include high level statements about the protection, conservation and enhancement of landscapes in County Roscommon, such as Strategic aim No. 14:

“To protect, conserve and enhance the built and natural heritage and the landscape of County Roscommon for future generations; and reinforce the distinctive character of the county through ensuring that recognised sites and species of environmental importance are conserved and managed appropriately.”

Chapter 10 of the RCDP provides policy and development strategy in relation to *Natural Heritage*. Chapter 10 of the RCDP promotes sustainable development whilst encouraging protection of environmental quality, biodiversity and the landscapes within County Roscommon. Chapter 10 outlines specific policy in relation to the protection of valuable natural heritage features of the county such as Natura 2000 sites, Natural Heritage Areas, locations of Geological Heritage, woodland, trees, hedgerows, peatlands, wetlands, waterways and urban habitats. All of these protected landscape receptors are valuable contributors to the wider landscape of County Roscommon and are considered and where appropriate assessed throughout this LVIA.

Section 10.13 of the RCDP includes the following policies in relation to *Landscape Character*:

“It is a Policy of Roscommon County Council to:

NH 10.25: Minimise visual impacts on areas categorised within the County Roscommon Landscape Character Assessment including “moderate value”, “high value”, “very high value” and with special emphasis on areas classified as “exceptional value” and where deemed necessary, require the use of Visual Impact Assessment where proposed development may have significant effect on such designated areas.

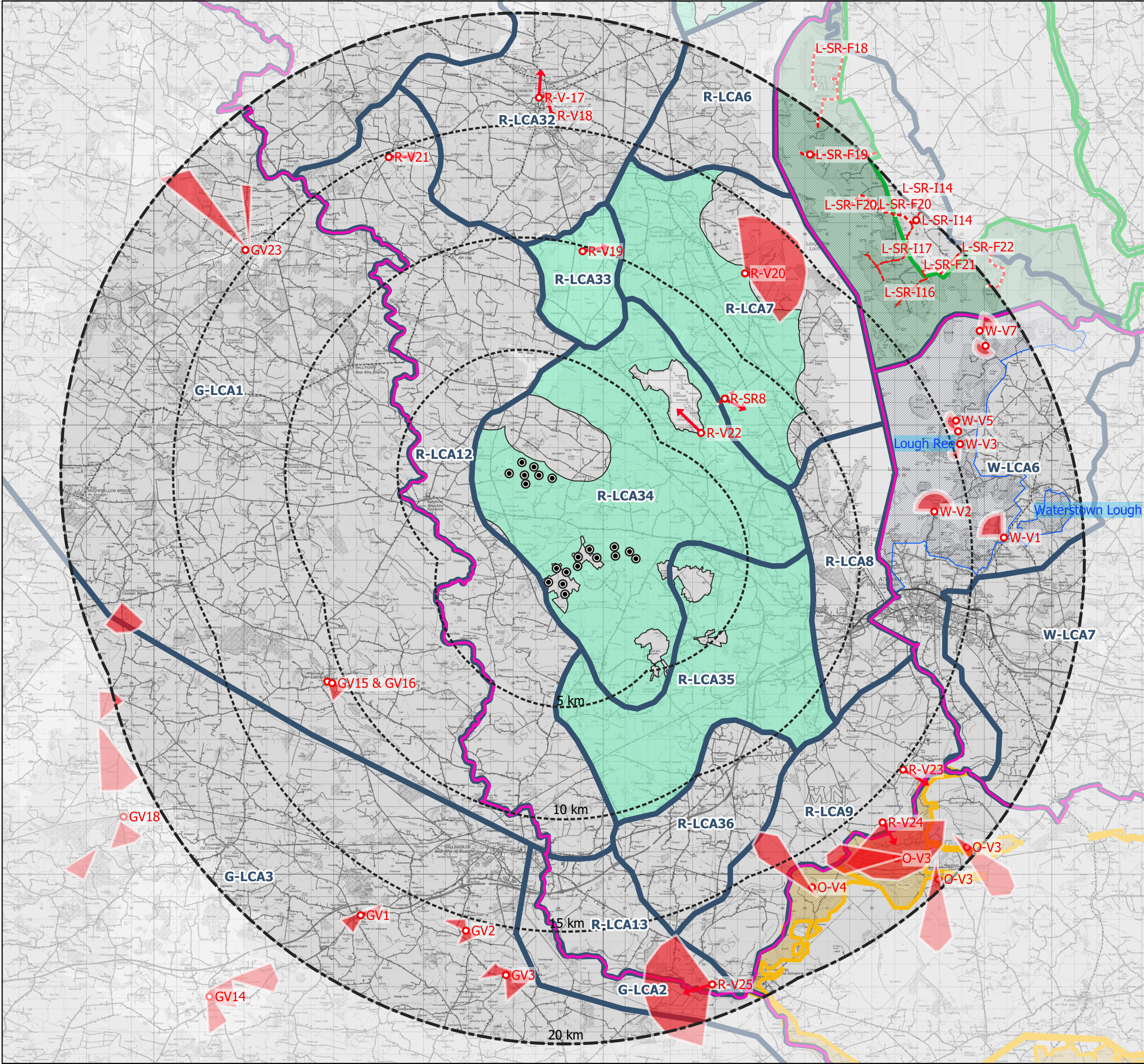
NH 10.26: Protect important views and prospects in the rural landscape and visual linkage between established landmarks, landscape features and views in urban areas.

The assessments included in this chapter address the potential impact of the Proposed Development on designated Landscape Character Areas (LCAs) in County Roscommon (See Appendix 12-2), as well as protected views and prospects as defined in the LCACR, which are reported below.

Landscape Character Assessment of County Roscommon (LCACR)

The Landscape Character Assessment of County Roscommon was initially published in 2008 and an amended version now forms part of the current RCDP (2022-2028). The LCACR identifies 36 No. Landscape Character Area (LCAs) within the County. As illustrated below in Figure 12-4, 11 No. Roscommon LCAs were identified within the LVIA Study Area for assessment of landscape character (15 km radius from the Proposed Development), these are listed below:

- LCA 6 - Upper Lough Ree Bogland
- LCA 7 - Mid Lough Ree Pastureland
- LCA 8 - Lower Lough Ree and Athlone Environs
- LCA 9 - Cloonown and Shannon Callows
- LCA 12 - Athleague and Lower Suck Valley
- LCA 13 - Suck Callows
- LCA 32 - Roscommon Town and Hinterland
- LCA 33 - Skrine Hill and Limestone Pavement
- LCA 34 - Lough Funshinagh, Stone Wall Grasslands and Esker Ridges
- LCA 35 - Brideswell Esker Belt
- LCA 36 - Ballydangan Pastures



Map Legend

- Turbines of the Proposed Development
- LVIA Study Area
- County Boundaries

Landscape Policy Designations

- Landscape Character Areas
- Roscommon 'Most Favoured' Areas for Wind Energy Potential
- Designated Scenic View - Origin of View
- Designated Scenic View - Field of View
- Designated Scenic View - Direction of Focus
- Designated Scenic Route
- County Offaly - Areas of High Amenity
- County Longford - Broad Zones
- County Westmeath - High Amenity Area
- Hub Towns

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Drawing No.

Figure 12-4

Drawing Title

Landscape Policy Context Map

Project Title

Seven Hills Wind Farm, Co. Roscommon

Scale	Project No.	Date	Drawn By	Checked By
1:165,000	190907	20.05.2022	JW	OM

Planning and Environmental Consultants

Each LCA is designated one of four value classifications based upon criteria such as ‘Distinctiveness’, ‘Quality’, ‘Rarity’ and ‘Representativeness’ the hierarchy of these values from most valuable to least valuable is reported below:

- Exceptional Value
- Very High Value
- High Value
- Moderate Value

The LCARC states that landscape of Exceptional value are very sensitive to change whereas *“Landscapes of Moderate Value, on the other hand, tend to be less sensitive and are therefore more tolerant of change”*.

As shown in Figure 12-4 above, the Proposed Development is located in *LCA 34 – Lough Funshinagh, Stone Wall Grasslands and Esker Ridges* which primarily comprises a Landscape Type of ‘Dry Farmland’. This LCA has the lowest value rating – ‘Moderate Value’. In this regard, the Proposed Development is appropriately sited in an LCA of the lowest value and therefore a landscape of lower sensitivity than other potential locations in County Roscommon. A comprehensive description of LCA 34 and all other LCAs screened in for assessment in the wider landscape surrounding the Proposed Development (to 15km) is included in Appendix 12-2.

Several Valued Landscapes of high quality are specifically identified in the LCACR and these landscapes *“merits special attention”*. The following Valued Landscapes are located within the LVIA Study Area and are given due attention and assessment in this LVIA:

- The Shannon and Suck River Corridors
- Roscommon Town and Skrine Hill
- Esker belts due to their sensitivity to quarrying activities.

Historic Landscape Characterisation

A Historic Landscape Characterisation (HLC) of County Roscommon is included in *Section 4.2.4* of the LCACR, designating 13 No. different historic land-use types. These types identify the effect of human interaction with the landscape and how activities have affected its form and function, as well as noting the period of origin. The Proposed Development site and the wider landscape of LCA 34 is designated as ‘Rectilinear Fields – Stonewalls (18th – 19th Century)’.

In general, the wider rural landscape of south Roscommon surrounding the site and LCA 34 is predominantly designated as ‘Rectilinear Fields – Hedgerows (18th – 19th Century)’. To the south of the site and LCA 34, the historic landscape character type is a mosaic of ‘Bogland (Prehistoric to Modern)’, ‘Rectilinear Fields – Hedgerows, Reclaimed Raised Bogs (18th – 20th Century)’ and ‘Extractive Industries (18th – 20th Century)’.

Designated Scenic Routes and Scenic Views

As noted previously (RCDP policy NH 10.26), it is policy of the RCDP to assess impacts from the designated scenic routes and views listed in Appendix 1 of the LCACR. All designated view points and scenic routes that are both listed in Appendix 1 of the LCACR and are also located in the LVIA Study Area (within 20km for visual receptors) are listed below in Table 12-1. The location of these designations and the focus of their view in relation to the Proposed Development is illustrated above in Figure 12-4 - *Landscape Policy Context Map*. The scenic routes and views in Figure 12-4 was extracted from ‘Figure 10 - Map of Scenic Routes and Views’ in Appendix 1 of the LCACR.

No description of scenic views were identified in the current RCDP or LCACR. However, the locations and indicative fields of view of Roscommon protected views have not changed since previous iterations

of the development plan and Landscape Character Assessment. Therefore, the 'view point' or 'feature of interest' recorded in Table 2-1 below are as they were reported in previous development plans and landscape character assessments.

**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. 'R' for Roscommon and 'G' for Galway. The last number in each label corresponds to the label or number assigned to each designation in the respective county development plans (e.g. R-V19 = Roscommon Designated Scenic View No.19).*

Table 12-1 County Roscommon View Points and Scenic Routes Located in the LVIA Study Area. Information extracted from Appendix 1 of the Landscape Character Assessment of County Roscommon (2008 & 2014)

Ref No.	View Point – Feature of Interest (LCACR, 2014)	Figure 12-4 Map Ref.
V17	View of Roscommon Castle and turlough.	R-V17
V18	View in Roscommon Town	R-V18
V19	Elevated views of surrounding stonewall farmland landscape with Lough Ree in distance.	R-V19
V20	View over Lough Ree from crest of hill along third class road	R-V20
V21	View from R366 overlooking Suck River and low undulating farmland	R-V21
V22	View from third class road overlooking Lough Funshinagh and mature woodland on the opposite side of the lake.	R-V22
V23	View from third class road across the Shannon callows.	R-V23
V24	View from third class road across the Shannon callows and Esker ridge in County Offaly.	R-V24
V25	Elevated view from third class road overlooking the Shannon callows to the south/southwest, with undulating farmland and mature trees. View to north/northwest overlooking flat raised cutover bog.	R-V25
Ref No.	Scenic Route – Feature of Interest (LCACR, 2014)	Figure 12-4 Map Ref.
R8	Elevated, panoramic scenic route overlooking Lough Ree and stonewalled field patterns. Athlone and Rindoon archaeological site in the distance	R-SR8

As the scenic amenity designations listed in Table 12-1 (above) are of a visual nature, they are comprehensively addressed in Section 12.5 of this Chapter – Visual Baseline, where ZTV mapping and on-site appraisals determine the likely visibility of the Proposed Development within these scenic views.

Section 3.5 of the LCACR discusses landscape in the context of Renewable Energy Development. The LCACR provides information and recommendations for LCAs which have the potential to accommodate wind energy development, which have informed the Renewable Energy Strategy of County Roscommon.

Landscape Policy Pertaining to Wind Energy Development - RCDP

Chapter 8 of the RCDP focusses on Climate Action Energy and Environment and sets out the aim of County Roscommon to align with European and National climate action policy. The following extracts from the RCDP include policy relating to the achievement of national climate action targets through implementation of renewable energy developments within the county, including support for wind energy developments:

“It is a Policy of Roscommon County Council to:

***CAEE 8.3** Support developments and actions that assist in achieving the national targets for energy from renewable energy, from renewable resources and reducing greenhouse gas emissions associated with energy production.*

***CAEE 8.4** Encourage and facilitate the various forms of renewable energy development detailed in the Renewable Energy Strategy that accompanies this Plan (as well as any other new forms of renewable energy which may be developed during the lifetime of this Plan), subject to satisfying the principles of proper planning and sustainable development.*

***CAEE 8.5** Facilitate wind energy developments primarily in areas designated in the Renewable Energy Strategy as “Most Favoured” and secondarily in areas designated as “Less Favoured” in the Renewable Energy Strategy, subject to normal planning criteria and having regard to the Wind Energy Guidelines (DECLG, 2006) and any update to the Guidelines that may issue during the lifetime of this Plan. This will include consideration of carbon benefit analysis, as appropriate.”*

The Renewable Energy Strategy (RES) for County Roscommon is a stand-alone document forming part of the RCDP 2022-2028. Siting of the Proposed Development at the subject site was plan lead, guided by the policy and designations in the previous (Roscommon Renewable Energy Strategy 2014-2020, in force when the iterative design process was underway) and recently adopted RES document(s). As shown in Figure 12-5 on the following page, the majority of the Proposed Development is sited within an area designated as ‘Most Favoured’ within the current Roscommon Renewable Energy Strategy, and a very small portion of the site is located in an area designated as ‘Not Favoured’. It is noted that before April 2022 when the current RCDP came into force, the **entirety** of the Proposed Development was sited in a landscape designated as ‘Most Favoured’ for the development of wind energy. In line with policy CAEE 8.5, the LVIA conducted in this chapter has been informed by the guidance detailed in the Wind Energy Development Guidelines (DoEHLG, 2006), as well as the Draft Revised Wind Energy Development Guidelines (DoHPLG, 2019).

As stated in the RES, “It is recognised that wind energy development currently offers the one of the most viable vehicles for renewable energy production in the county”. Following a sieve map analysis including landscape constraints informed by the LCACR, areas within the county have been designated as one of three categories:

- Most Favoured – “Wind farm development will be considered favourably, subject to compliance with all necessary siting and design standards.”
- Less Favoured – “Wind farm development will be considered, but the sensitivities revealed in these areas would render exploitation more problematic and therefore these areas are less favoured for wind energy development.”
- Not Favoured – “Wind farm development will not be considered favourably in these areas.”

Figure 7 of the RES shows *Areas Suitable for Wind Development* within County Roscommon, designating the county into one of the three categories reported above. These designations have been mapped with the location of the Proposed Development in Figure 12-5 below.

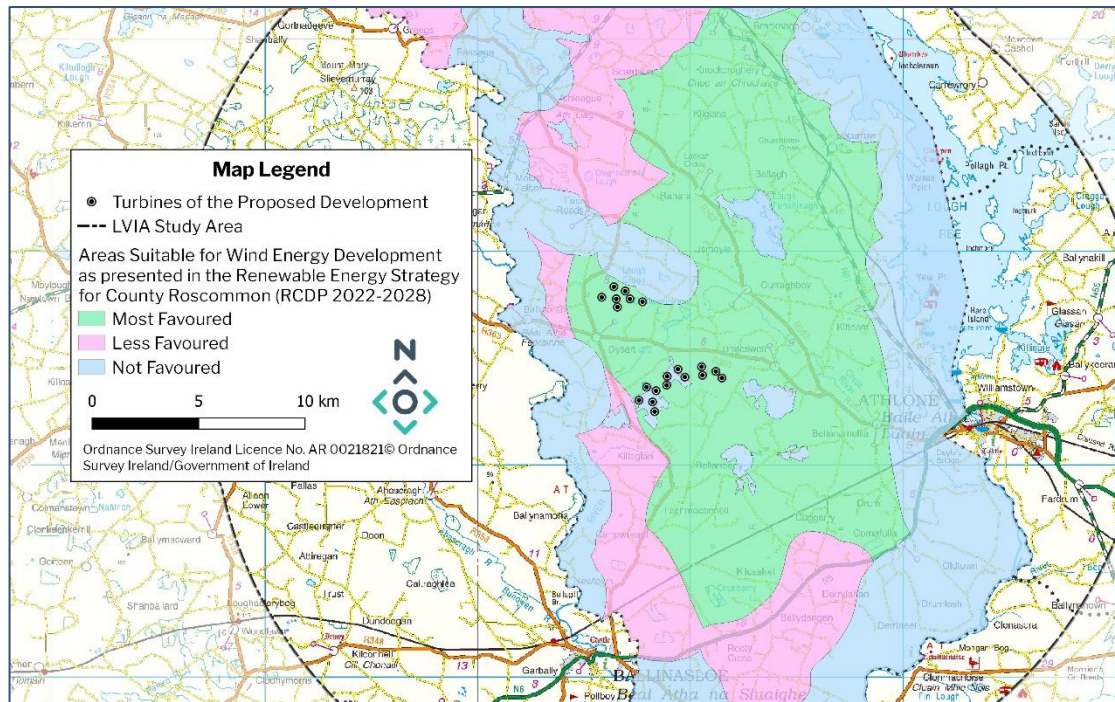


Figure 12-5 Proposed Development and Designations of Areas Suitable for Wind Energy Development in County Roscommon.

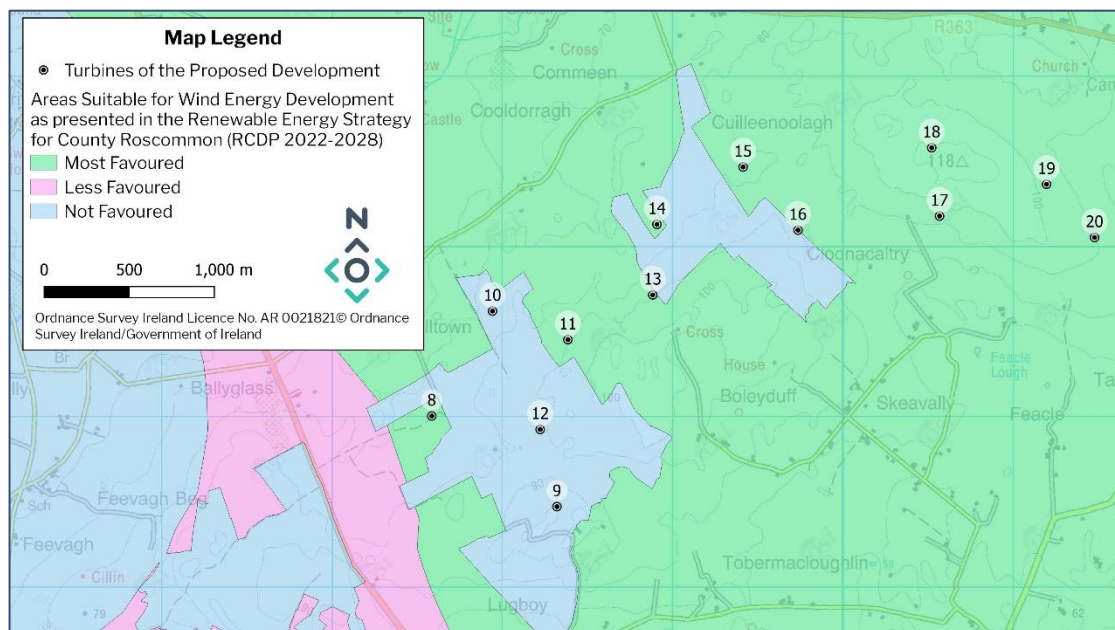


Figure 12-6 Close up of Southern Cluster and Designations of Areas Suitable for Wind Energy Development in County Roscommon.

As shown in Figure 12-5 above, the Proposed Development is predominantly sited in a landscape ‘Most Favoured’ for wind energy development. However, as shown in Figure 12-6, four of the proposed turbines (T9, T10, T12 & T16) are located in an area recently (April 2022) designated as ‘Not Favoured’ on account of geological sensitivities in an area to the south-west of the Proposed Development site.

As noted previously, the initial site selection for the Proposed Development was plan lead, followed closely by a detailed and rigorous iterative design process required to effectively bring a viable, appropriate and suitable wind farm design to the planning stage over circa a two year period. Throughout this time and process it was always the intention to site all of the proposed infrastructure within lands zoned as ‘Most Favourable’, which had been the case up until very recently.

The newly added 'Not Favoured' wind energy zoning within the Proposed Development site is attributed to the 'Killeglan Karst Landscape', a 'Geological Heritage Site (GHS) designated by the Geological Survey of Ireland due to karst characteristics of lands to the south-west of the Southern Cluster. It is noted that it does not appear in any of the maps seemingly utilised for the sieve mapping process in Appendix 1 of the RES but was introduced during the Material Alterations stage of the Draft Roscommon County Development Plan 2021-2027. These new wind zoning designations are relatively small areas enclosed by large areas of 'Most Favoured' zoning. In this regard, it appears these areas are newly designated as 'Not Favoured' for wind on account of potential for direct landscape effects and the designation has no real bearing on the visual impact of a wind farm in terms of the character and aesthetic of the wider landscape setting. The direct effects of the Proposed Development on the Killeglan Karst Landscape are therefore considered in this chapter. However, a comprehensive technical appraisal of the likely effects of the Proposed Development on the karst geology of the site in general and this specific area are included in Chapter 8 of this EIAR – *Lands Soil and Geology*.

Policy CAEE 8.8 in the RCDP states the requirement to balance renewable energy development with preservation and conservation of the natural and built environment.

“CAEE8.8 Ensure that renewable energy developments do not undermine the preservation and conservation of the natural and built environment and that an appropriate balance is achieved between renewable energy development and preservation of the natural environment.”

Policy and objectives in the RCDP (Chapter 10) relating to conservation of Natural Heritage were reported previously. *Chapter 9* of the RCDP provides policy and development strategy in relation to Built Heritage.

Built Heritage – Historic and Archaeological Landscapes

Chapter 9 of the RCDP places value upon built heritage, including policy objectives focussed on the preservation and conservation of Architectural Conservation Areas (ACA's); Archaeological landscapes; and, Historic Landscapes such as heritage gardens, demenses and other designated historic landscape features. These built heritage receptors are valuable contributors to the cultural character of the wider landscape of County Roscommon. This LVIA has been cognisant of sensitive built heritage receptors identified in the LVIA Study Area, with particular attention to how they might add value to local landscapes and visual amenity. Further detail on the impact of the Proposed Development on historic and archaeological landscapes and monuments is detailed in Chapter 13 – *Cultural Heritage*.

The only designated ACA located in the LVIA Study Area is the townscape of Roscommon Town (Approximately 16 km north of the Proposed Development with very limited theoretical visibility). Due to setback distance and limited visibility of the Proposed Development within the townscape of central Roscommon Town, the Proposed Development is not likely to directly impact this ACA. However, likely effects on the setting of Roscommon Town as viewed from the north are assessed from elevated vantage points where the proposed turbines may be visible (Photomontage Viewpoint 09).

A search was conducted to identify historic gardens, demesnes, parks or designated Historic landscapes within the LVIA Study Area where value is placed upon the visual and aesthetic qualities of the outdoor landscape. Loughnanane Park in Roscommon Town was identified in this search, however, on-site appraisal determined that there would be no visibility from this location. No other prominent Historic landscapes of this type were identified where the LVIA Study Area is located within County Roscommon.

The Rathcroghan Archaeological Complex is an important archaeological landscape, it is a series of archaeological monuments that are of “*major and national significance*”. The cultural landscape and scenic amenity at Rathcroghan are afforded special protection in the RCDP under Policy *BH 9.14*. The Rathcroghan site is located approximately 36 km north of the Proposed Development site at its closest point, far beyond the landscape included within the LVIA Study area. The Proposed Development is

not likely to be visible from Rathcroghan and therefore it will cause no significant impact upon the archaeological landscape or its visual amenities and is screened out from assessment in this Chapter.

Rivers and Waterways

The RCDP identifies inland waterways of Roscommon as features of '*rich built, natural and cultural heritage*'. Waterbodies are important landscape receptors providing ecological, aesthetic and recreational amenity value to the landscape. The following rivers and waterways were identified in County Roscommon and the LVIA Study Area:

- The Shannon River
- The River Suck
- Lough Ree
- Lough Funshinagh.
- Leacarrow Canal

These waterways are shown on the *Physical Landscape Features Map* - Figure 12-2, shown in the previous section. The Leacarrow Canal was found to have very limited theoretical visibility and on-site appraisals determined that it is highly unlikely that the Proposed Development will be visible from the canal, it is therefore screened out from further assessment. The other waterbodies and waterways identified in the LVIA Study Area are assessed later in this chapter.

12.4.1.2 Landscape Policy within the Surrounding Counties

While the site itself is located in Co. Roscommon, Counties Galway, Longford, Offaly and Westmeath are located within the LVIA Study Area. As indicated by ZTV mapping (See Section 12.3 previously), there is some theoretical visibility of the proposed turbines in every county in the LVIA Study Area. Therefore, relevant designations pertinent to the landscape and visual impact assessment conducted in this chapter are identified and listed below from the following County Development Plans:

- Galway County Development Plan 2015- 2021 (Galway County Council)
- Longford County Development Plan 2021-2027 (Longford County Council)
- Westmeath County Development Plan 2021-2027 (Westmeath County Council)
- Offaly County Development Plan 2021-2027 (Offaly County Council)

The Galway County Development Plan 2022-2028 is currently in Draft form and has not yet been adopted, this LVIA has been cognisant of the landscape policy and designations within this draft plan.

Landscape Character Areas – Other Counties in the LVIA Study Area (Galway, Longford, Offaly and Westmeath)

County Offaly is beyond 15 km from the Proposed Development site and beyond the study area for assessments of landscape character. All designated Landscape Character Areas of counties Galway, Longford and Westmeath located within the 15 km study area for assessment of landscape character are shown on Figure 12-4 above and are listed below in Table 12-2:

Table 12-2 Landscape Character Areas of County Galway, Longford and Westmeath located in the LVIA Study Area for Landscape Character (Within 15 km from the nearest proposed turbine).

Dev Plan Ref No.	Landscape Character Area	Figure 12-4 Map Ref.	Distance from the nearest turbine
County Galway – Landscape Character Types			
LCA 1	North East Galway (Balinasloe to Ballymoe)	G-LCA1	3.4km
LCA 2	Shannon & Suck River Valley between Portumna & Ballinasloe	G-LCA2	11.3km
LCA 3	East central Galway (Athenry, Ballinasloe to Portumna)	G-LCA3	10 km
County Longford – Landscape Character Units			
LCU 3	Shannon Basin/Lough Ree	L-LCA3	13.5km
County Westmeath – Landscape Character Areas			
LCA 5	Lough Ree/Shannon Corridor	W-LCA6	10.9km
LCA 7	Western Lowlands	W-LCA7	13.8km

Sensitive Landscape Designations – Other Counties in the LVIA Study Area (Galway, Longford, Offaly and Westmeath)

Counties Galway, Longford, Offaly and Westmeath designate sensitive landscape receptors within the county. Each county has differing naming conventions, sensitivity classifications and policy objectives pertaining to their respective landscape designations. In a general sense, it is a policy objective for each county to take additional care in the protection of the unique, valuable and sensitive landscapes which fall within the following designations:

- In the Galway County Development Plan 2015-2021 County Galway is divided up into Landscape Sensitivity Areas, every area within the whole county is given one of the following classifications. Special care is given to prevent inappropriate development in the highly sensitive landscapes (Class 5 – Unique & Class 4 – Special)
 - Class 1 - Low
 - Class 2 - Moderate
 - Class 3 - Medium
 - Class 4 - Special
 - Class 5 – Unique
- The Longford County Development Plan 2021-2027 (LCDP) designates ‘Broad Zones’ in the areas surrounding lakes, rivers, canals, and other waterways, as well as areas of outstanding landscape quality where inappropriate development will be prevented. The Broad Zones are mapped in *Appendix 7* of the LCDP.
- The Westmeath County Development Plan 2021-2027 (WCDP) has designated landscape receptors around lakes and waterbodies called ‘High Amenity Areas’ which are considered to have high amenity and recreational value where inappropriate development will be prevented.

- The 2021-2027 Offaly County Development Plan (OCDP) classifies 'Areas of High Amenity' as areas with scenic and amenity value worthy of special protection. Thirteen are listed and shown on *Figure 4.18* of the OCDP.

Designated landscape receptors are mapped in the landscape policy context map (Figure 12-4) previously and listed in Table 12-3 below. Most of the Landscape in County Galway located in the LVIA Study Area is designated as 'Class -1 Low' Sensitivity Area, although there are some 'Class-2 Moderate' Sensitivity Areas around the Suck River to the west of the Proposed Development. As these are the lowest landscape sensitivity designations in County Galway and there are no 'Class 4 -Special' or 'Class 5 - Unique' designations, they have not been included in Table 12-3 or Figure 12-4.

Table 12-3 Designated High Sensitivity Landscape Receptors located in County Longford, County Westmeath and County Offaly as well as the LVIA Study Area

Sensitive Landscape Receptor Designation	Distance from the nearest proposed turbine
County Longford – Broad Zones	
Eastern Banks of Lough Ree	15 km
County Offaly – Areas of High Amenity	
1- River Shannon and Callows	15 km
12 - Clonmacnoise Heritage Zone	15 km
County Westmeath – High Amenity Area	
Lough Ree	10.5 km
Waterstown Lough	17km

There is likely to be some visibility of the Proposed Development from within these sensitive landscapes, contributing towards the selection of photomontage viewpoints 13, 14 and 15, which are located within these sensitive landscapes.

Designated Scenic Amenity – Other Counties in the LVIA Study Area (Galway, Longford, Offaly and Westmeath)

Counties Galway, Longford, Offaly and Westmeath protect scenic amenity within their respective counties through the designation of scenic views, prospects and scenic routes. Each county has 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 Galway - Focal Points and Views
- County Longford – Views, Prospects and Scenic Routes
- County Offaly – Scenic Views, Prospects and Key Amenity Routes (Scenic Route)
- County Westmeath – Protected Views and Prospects

Designated scenic amenity and views from these counties are mapped in the landscape policy context map (Figure 12-4) previously and listed in Table 12-4 below.

Table 12-4 Designated Scenic Amenity of County Galway, Longford, Offaly and Westmeath within the LVIA Study Area

Dev Plan Ref No.	Designated Scenic Amenity Name / Description	Figure 12-4 Map Ref.
County Galway – Focal Points and Views		
1	Church Spire at Aughrim	G-V1
2	Quarry Plant on R355 between Ballinasloe and Laurencetown	G-V2
3	Clontuskert Abbey	G-V3
15	St Cuans Church, Ahascragh.	G-V15
16	Old Mill, Ahascragh	G-V16
23	Mount Mary	G-V23
County Longford – Views Prospects and Scenic Routes (F-Full Views; I – Intermittent Views)		
F.S-18	Rathcline, Carrowroe, Bleanavoher, Agharanagh (Rathcline Ed).	L-SR-F18
F.S-19	Cullentrath, Fortwilliam, Carrickmorán.	L-SR-F19
F.S-20	Cashel, Loughfarm, Elfeet (Adamson), Leab, Carrowbeg.	L-SR-F20
F.S-21	Tipper (Rathcline By)	L-SR-F21
F.S-22	Drumnee, Saints Island.	L-SR-F22
I.S-14	Cornadowagh, Ballyrevagh, Carrowbeg.	L-SR-I14
I.S-15	Drumnee, Claras, Corrool (Fox).	L-SR-I15
I.S-16	Portanure, Lismagawley, Pollagh	L-SR-I16
I.S-17	Collum, Derrydarragh, Carrowrory, Ballagh (Rathcline By)	L-SR-I17
County Offaly – Scenic Views and Key Amenity Routes		
V3	Pilgrims Road (L-07013) in the townlands of Clonmacnoise, Clonascra, Ballyduff and Bloom Hill. - Panoramic View to North, South and West Clonmacnoise and River Shannon, Eskers, Mongan Bog and Finlough.	O -V3
V4	Road no. R444 in the townlands of Clanmacnoise, Creevagh. View to River Shannon and Boglands.	O-V4
KAR1	R357 Blueball to Shannonbridge - Callows area of the River Shannon in particular.	O-SR1
County Westmeath – Protected View		
1	View over Lough Ree from parking/picnic area on the N55 Road between Ballykeeran and Glasson. – This is a panoramic view of Lough	W-V1

Dev Plan Ref No.	Designated Scenic Amenity Name / Description	Figure 12-4 Map Ref.
	Ree and the surrounding landscape from the car parking areas on the N55 Road between Ballykeeran and Glasson. View of Regional Significance	
2	Views of Lough Ree from Coosan waterfront from pier, slipway and forest walk trail. The focus of this view is Lough Ree to the north. Hare Island is an important feature of this view. View of Local Significance	W-V2
3	Views of Lough Ree from Carnakill pier and Portlick Forest Walk from pier and forest walking trail. The focus of this view is Lough Ree to the southwest. The lough's islands and wooded shores from the background and are an important feature of the view. View of Local Significance	W-V3
4	View of Lough Ree from Portlick Scout Campsite from short stretch of road along lake shore. The focus of this view is Lough Ree to the west. The lough's islands and wooded shores form the background and are an important feature of the view. View of Local Significance.	W-V4
5	View of Lough Ree from small pier at lake shore. The focus of this view is Lough Ree to the west. The south end of Inchmore and the north spit of Whinny are important features of the view. View of Local Significance.	W-V5
6	View of Lough Ree and reed beds from road and pier from local road and pier. This view should be considered to begin from the local road after it turns off to Lough Ree House (607024,753549) and ends at the water edge. The focus of this view is Lough Ree to the north and the shallow, reed filled water immediately adjacent. The far hilly bank and Inchbofin are important features of the view. View of Local Significance.	W-V6
7	View of Lough Ree from Lough Ree House marina from picnic area and marina. The focus of this view is Lough Ree to the north. The Saint's Island to the north and the round tower and church in the fields behind are also important features of the view. View of Local Significance.	W-V7

As the scenic amenity designations listed in Table 12-4 (above) are of a visual nature, they are comprehensively addressed in Section 12.5 of this Chapter – *Visual Baseline*, where ZTV mapping and on-site appraisals determine the likely visibility of the Proposed Development within these scenic views.

12.4.2 Landscape Character of the Proposed Development Site

Landscape character refers to the distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and how people perceive this. It reflects particular combinations of geology, landform, soils, vegetation, land use and human settlement, and creates the particular sense of place found in different areas. The identification of landscape character as outlined in the *Landscape and Landscape Assessment: Consultation Draft of Guidelines for Planning Authorities* Guidelines (DoEHLG, 2000) comprises the identification of primarily physical units (areas defined by landform and landcover) and, where appropriate, of visual units.

The Proposed Development site was visited multiple times during 2020 and 2021 where a preliminary 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 site descriptions.

Topography and Landform of the Southern Cluster

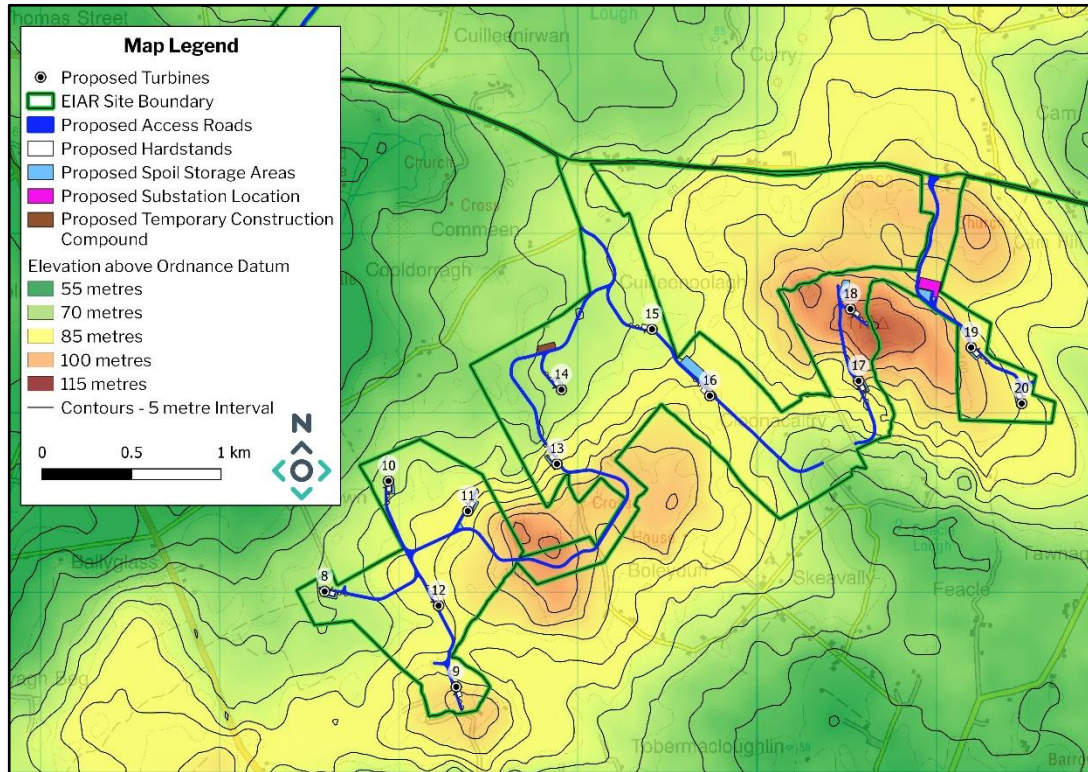


Figure 12-7 Topography of the landscape where the proposed turbines of the Southern Cluster are located

At a macro level the landscape in this area of south Roscommon is quite flat, however, the localised terrain of the site and its surrounding landscape comprises irregular, undulating topography attributed to quaternary geomorphology. Low amplitude glacial features and deposits (moraines and hummocky ridges) exist in the form of hillocks and depressions of variable size and shape.

As shown above in Figure 12-7 (above) the proposed turbines and infrastructure of the Southern Cluster are staggered along an elevated landform of hummocky terrain. The main ridgeline is arranged in a linear landform, with a south-west to north-east orientation. The hummocky ridgeline comprises irregular topography. Plate 12-1 below shows the ridgeline extending across the horizon from north-east (left of image) to south-west (right of image). The landform is seen as a gently sloping hill stretching across the landscape, it is not a feature with any unique or highly distinctive topographical characteristics.



Plate 12-1 View south towards the Southern Cluster site from agricultural lands north of Turbine T16.

Where possible the proposed turbines and infrastructure are sited just off the highest elevations, enabling them to take advantage of slight localised topography screening from either side of the ridgeline. Siting of the turbines on land of slightly higher elevation causes the turbines to predominantly be viewed above the horizon, reducing the potential for visual clutter and visual confusion from receptors in the surrounding landscape.

Topography and Landform of the Northern Cluster

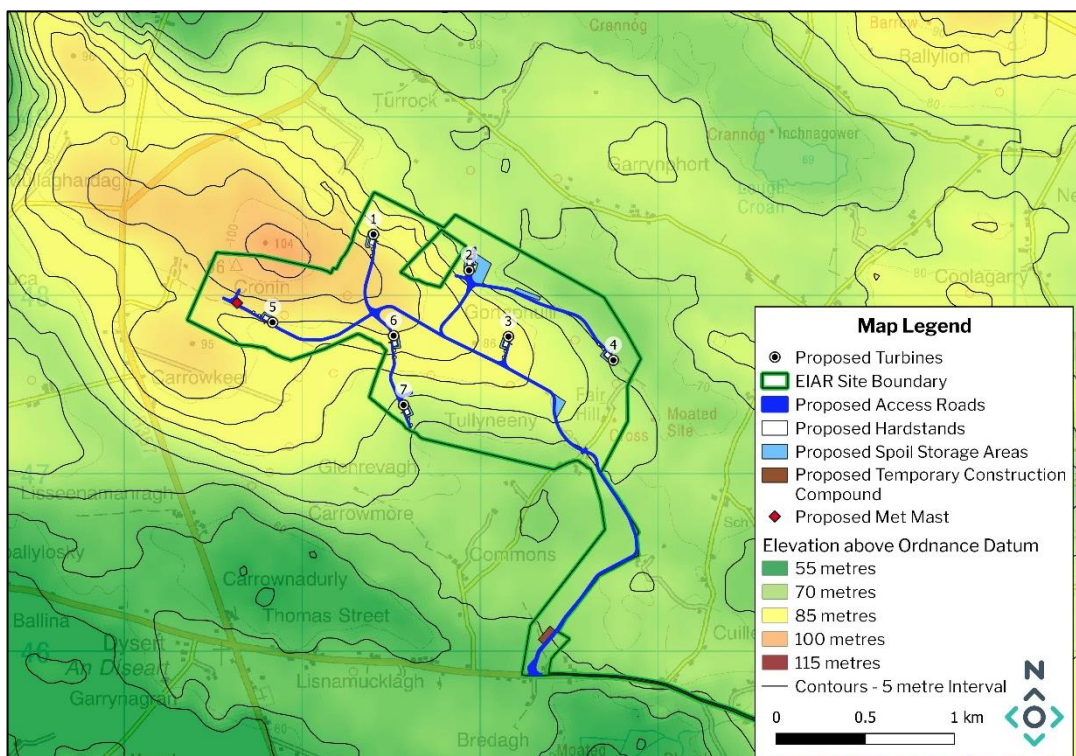


Figure 12-8 Topography of the landscape where the proposed turbines of the Northern Cluster are located

The turbines of the Proposed Development are sited around a finger of land on the south-eastern slope of a hill, the peak of the hill is located immediately north of turbine 5 in the townland of Cronin. Plate 12-2 (below) shows the view across the gently sloping and rolling farmland from a relatively high elevation north of turbine T5. As shown in Figure 12-8 above and Plate 12-2 below, the landform tapers

down gently to a plateau of flatter land to the south and south-east. There are relatively steep topography gradients to the north-west and west of the elevated peak. As noted on the ZTV previously (Figure 12-1), these steep gradients will actually obscure the turbines from view from visual receptors immediately north and north-west.



Plate 12-2 View to the south-east towards the Southern Cluster from a location north of turbine T5 at the site of the Northern Cluster.

Topography and Landform Surrounding the Proposed Substation

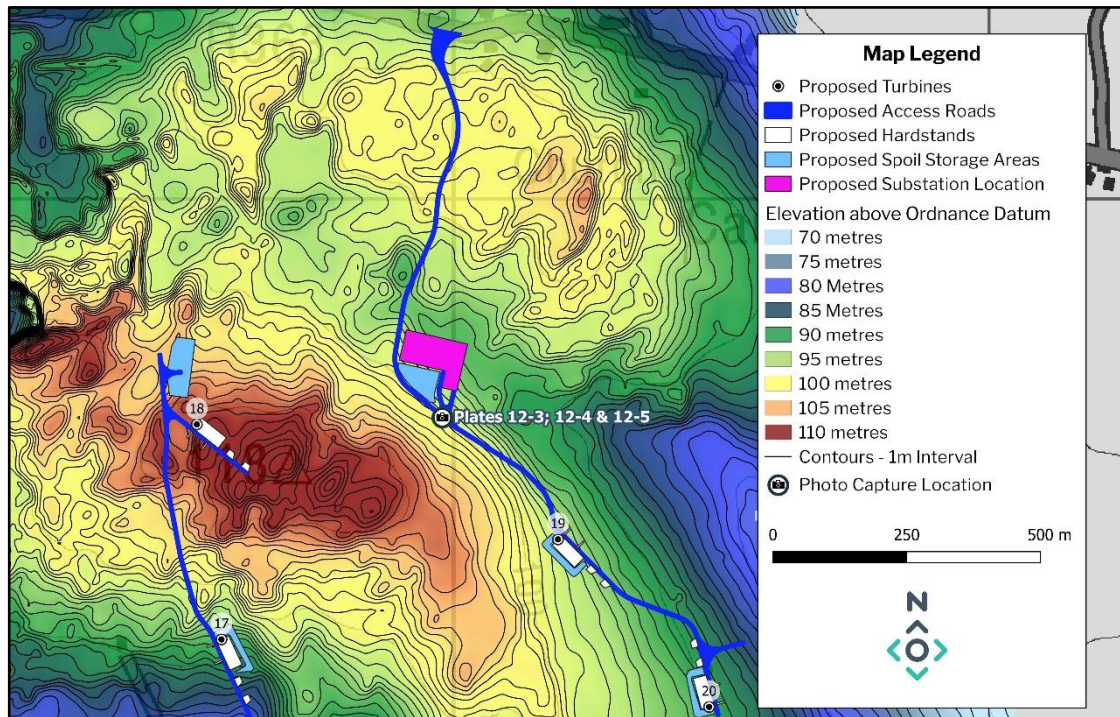


Figure 12-9 Topography of the landscape where the proposed substation is located

As shown in Figure 12-9, the proposed substation is located within a small valley between two elevated landform features to the south-west and north-east. The undulating landform wraps around the substation clockwise from the south-east to the north-west, then north-east. Plate 12-3 shows that the proposed substation is located in an environment enclosed by localised topography.

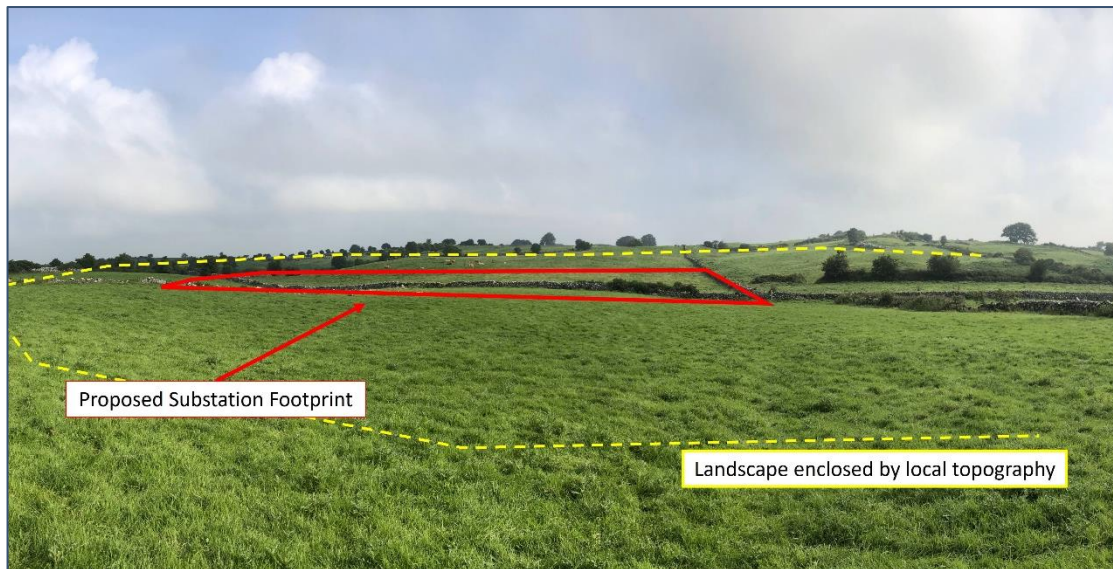


Plate 12-3 Location of the Proposed Substation.

The proposed substation is located on a relatively remote and elevated landform in comparison to the wider landscape setting. The localised topography characteristics will screen it from view from locations to the south, west and north-east. Plate 12-4 below shows a long ranging view to the lowland landscape to the south-east from an elevated vantage point proximate to the substation.



Plate 12-4 View to the south-south-east from an elevated vantage point proximate to the proposed substation location (Same capture location as Plate 12-3 above)

The only open views towards the substation will occur from the lowland landscape to the south-east, as illustrated in Plate 12-5 below. Considering the relatively remote and isolated location of the proposed substation, it is only likely to be visible within long-ranging views from distant receptors to the south-east.



Plate 12-5 Panoramic view of the remote enclosed valley where the proposed substation will be located.

Drainage

The Proposed Development is located within the 26D and 26G sub catchments of the Upper Shannon Catchment. The development site predominantly drains via local watercourses in a westerly direction to the River Suck which is located within 4km of both turbine clusters. There are a number of turloughs in the local landscape surrounding the site, they are predominantly situated within low-lying, localised depressions in the undulating landscape. A comprehensive description of the drainage regimes at the site of both the northern and Southern Cluster and within the wider landscape setting are included in Section 9.3.4 of Chapter 9 – *Water*.

From a geological perspective, this is a lowland limestone landscape. Quaternary glacial features and deposits are evident throughout the site. The geology of the area is of a karstic nature and drainage regimes on the site and in the surrounding landscape are influenced by a network of subterranean drainage. A detailed description and assessment of the site drainage is included in Chapter 9 of this EIAR – *Water*

Land Cover

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 Proposed Development site and surrounding area is a settled agricultural landscape comprising fields of grazing pasture delineated by dry-stone (limestone) walls.

As shown in the aerial imagery (Figure 12-10) below, the site of the Northern Cluster is defined by a patchwork of agricultural fields in a rectilinear arrangement. Ground cover upon the gently undulating lands of the Northern Cluster is predominantly improved grassland (limestone grasslands), used for the grazing of livestock, although some fields are used for arable crops (see Plate 12-6 and Plate 12-7 below). Fields are mostly bounded by dry stone walls, stock fencing and occasional clusters of mature broadleaf trees, scrub and gorse. Farm tracks of differing qualities and minor infrastructure exist throughout the site to facilitate on-going farming practices.

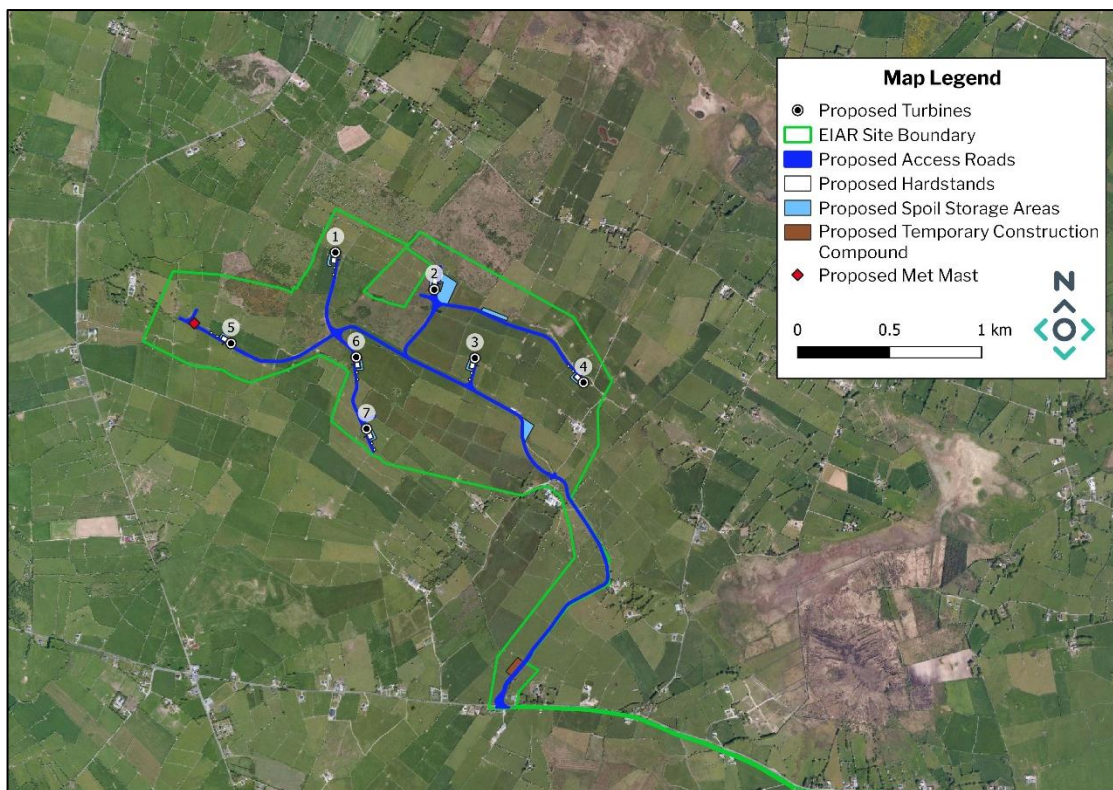


Figure 12-10 An Aerial Image of the Proposed Development site and proposed infrastructure footprint at the Northern Cluster.



Plate 12-6 View across fields of improved grassland in close proximity to Turbine T4 (Site of the Northern Cluster)



Plate 12-7 Arable farming on the site of the Northern Cluster near proposed turbine T2



Plate 12-8 A combination of Land Use at the site of the Northern Cluster – fields of thick gorse and bushes adjacent to pasture of improved grassland.

Agricultural land, calcareous grasslands and wild scrub land are the dominant landcovers of the site at the Southern Cluster. Due to its larger size and topographical variation, the site of the Southern Cluster comprises a differing distribution of landcover types and slightly irregular field pattern to that of the Northern Cluster.

Due to the karstic geology of the site, scrub, dry grassland and limestone boulder fields are prevalent at higher elevations of the Southern Cluster. As shown in Plate 12-9 below, agricultural fields are regularly interspersed with rocky outcrops, bushes and scrub. Due to the higher elevation there are minimal mature tall broadleaf trees visible within the landscape compared with the site of the Northern Cluster. There are large areas where the landcover comprises a density of bushes and scrub, as seen in Plate 12-10 below. Dry stone walls are commonly enveloped by bramble, blackthorn, hawthorn or hazel. Limestone boulders are seen to be interspersed amongst the vegetation in Plate 12-10. A comprehensive description and assessment of the Flora and Fauna on site is included in Chapter 6 – *Biodiversity*.

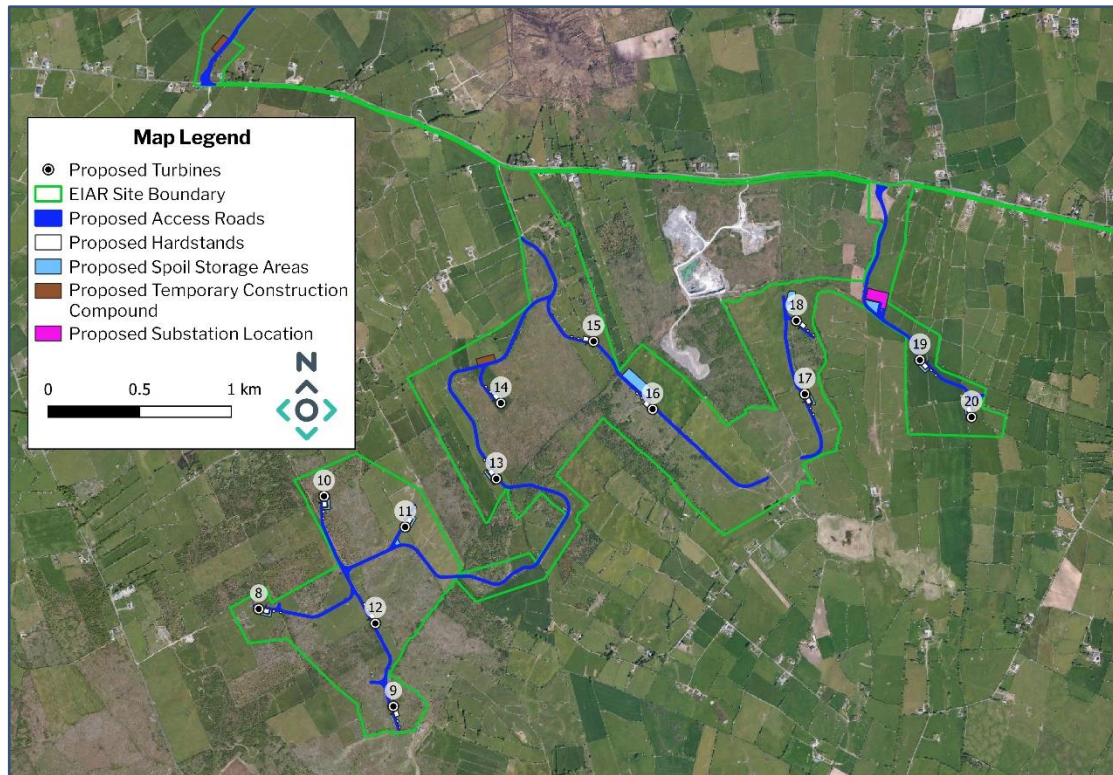


Figure 12-11 An Aerial Image of the Proposed Development site and proposed infrastructure footprint at the Northern Cluster.



Plate 12-9 View to the north-east from the west of the site at the Southern Cluster in proximity to turbine T8.



Plate 12-10 Short trees, bushes and dense undergrowth in proximity to turbine T11 at the site of the Southern Cluster.

Open fields of grassland bordered by dry stone walls and hawthorn trees exist throughout the site of the Southern Cluster, as shown in Plate 12-11 below.



Plate 12-11 View north-west across the open fields of agricultural land from the south-east of the site of the Southern Cluster.

Land Use

The Proposed Development site is part of a rural working landscape where agriculture is the primary land use. The fields within the site are primarily used as grazing pasture for sheep and cattle (see Plate 12-12 below) although arable farming does occur. Wilder areas of the site comprising dense bush (e.g. calcareous grassland habitats) are not used for any agricultural or recreational purposes.



Plate 12-12 Grazing Pasture for Cattle – A primary land use on the site.

The wider landscape surrounding the site is also a working agricultural landscape. Although there are several other land uses in proximity to the Southern Cluster. As shown in Figure 12-11 above, a quarry for mineral extraction exists immediately north of turbine T16 and north-west of T18.



Plate 12-13 Access to the Roadstone Cam quarry from the R363 Regional Road at the north-east of the Southern Cluster.

A graveyard (Plate 12-14 below) exists to the north-east of the site in the townland of Cam, it is visible north of turbine T19 in Figure 12-11 (see above).



Plate 12-14 Cam graveyard to the north-east of the Southern Cluster.

The Lugboy water reservoir exists to the south-west of the Southern Cluster adjacent to Turbine T9.

12.4.2.2 Landscape Value and Sensitivity of the Proposed Development site

Landscape Values were assessed in order to determine the landscape sensitivity of the Proposed Development site and its wider landscape setting and establish the capacity of the immediate landscape in which the Proposed Development will be built, as is prescribed by best practice guidance: *“as part of the baseline description the value of the potentially affected landscape should be established”* (Page 80, GLVIA, 2013). Comprehension of 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 considers scenic amenity designations, sensitivity and value designations found in local landscape policy (RCDP), as well as other indications of landscape value attached to undesignated landscapes. Table 12-5 (below) describes various factors that help identify landscape value (Page 84, GLVIA, 2013) that have been identified previously in the visual baseline exercise. These factors and indicators were appraised collectively to determine a landscape value for the Proposed Development site. The Landscape value and Susceptibility to change were then considered to form a landscape sensitivity classification of either Low, Moderate, High or Very High for the Proposed Development site.

Table 12-5 Indicators of Landscape Value and Sensitivity

Indicator	Description
Landscape Designations	<p>No sensitive County Roscommon landscape designations fall within the Proposed Development site itself. The Proposed Development site is located in County Roscommon LCA 34 – Lough Funshinagh, Stone Wall Grasslands and Esker Ridges which is an LCA of the lowest designated value rating – ‘Moderate Value’. The majority of the site is located in an area ‘Most Favoured’ for the Development of wind energy. In consideration of these designations (RCDP), the general landscape of the site and its setting is deemed to be of low sensitivity to wind energy development at a county level.</p> <p>A small portion of the Proposed Development site is a designated Geological Heritage Site called ‘Killeglan Karst Landscape’, which has very recently been assigned as an area ‘Not Favoured’ for wind energy in the current RCDP. The landscape area contained within this zone is based upon surface visible karst features which are of relatively high landscape value. Considering the relatively small scale of the new zoning and its location enclosed by larger areas ‘Most Favoured’, it suggests the ‘Not Favoured’ zoning is on account of potential direct landscape effects, and the designation has no bearing on the potential visual impact of a wind farm in terms of the wider landscape character and its aesthetic. A comprehensive technical appraisal of the likely effects of the Proposed Development on the karst geology of the site in general and the Killeglan Karst Landscape are included in Chapter 8 of this EIAR – <i>Land Soil and Geology</i>.</p>
Landscape Elements Quality/Condition	<p>It is a heavily modified landscape due to the dominant presence of agriculture and utility of the land for this purpose. The rolling hills of improved grassland and dry-stone walls have some aesthetic quality. The calcareous grasslands which are prevalent at the site of the Southern Cluster have ecological quality and value (See Chapter 06 – <i>Biodiversity</i>)</p>

Indicator	Description
	as well as turloughs in the wider area. The general condition and quality of the landscape is deemed to be Medium.
Scenic or Aesthetic Qualities	From elevated vantage points within the site there are scenic views across the rolling agricultural landscape, although it is noted there are no receptors in these isolated locations. The landscape of the site and wider setting comprises rolling fields of grassland bound by old stone walls, these give the landscape a strong identity and aesthetic character.
Rarity or Conservation Interests	Conservation interests include dry calcareous and neutral grassland (GS1) which are Annex 1 habitats (See Chapter 06 – <i>Biodiversity</i>) and the Killgelan Karst Landscape, which is designated as Geological Heritage Site (See Section 8.3.6 of Chapter 8 – <i>Land Soil and Geology</i>).
Wildness/Naturalness	The anthropological influence of agriculture, settlements and other surrounding land uses such as the quarry and water reservoir (Lugboy) has altered the perceived sense of naturalness or wildness in this landscape.
Recreational Value	The Proposed Development site comprises privately owned land and is not used for any public recreational activities.
Cultural Meaning / Associations	There are no cultural associations on the Proposed Development site. The dry stone boundary walls existent throughout the site are of local heritage importance and do give the landscape a historic and cultural identity (See <i>Chapter 13 - Cultural Heritage</i>)

In consideration of the factors detailed in Table 12-5 above, the landscape value of the Proposed Development site is deemed to be medium value in a local context. Seeing as the Proposed Development is predominantly located in an area Most Favoured for wind energy potential and an LCA of the lowest landscape value in Co. Roscommon, the susceptibility of the landscape of the site to the proposed change is Low. Overall, on balance, the sensitivity of this landscape to wind farm development is deemed to be Low.

12.4.3

The Wind Energy Development Guidelines for Planning Authorities (DoEHLG, 2006), & DoPHLG, 2019)

The Wind Energy Development Guidelines (DoEHLG, 2006) provides best practice 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 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 site assessment.

The six landscape character types include ‘Mountain Moorland’, ‘Hilly and Flat Farmland’, ‘Flat Peatland’, ‘Transitional Marginal Land’, ‘Urban/industrial’ and ‘Coastal’ landscape character types. In consideration of Roscommon County Council landscape designations and site visits conducted by the MKO landscape team, the physical characteristics of the Proposed Development 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 (DoEHLG, 2006) were implemented for the Proposed Development.

12.4.3.1.1 **Hilly and Flat Farmland**

The key characteristics of Hilly and Flat Farmland landscape type as stated in the wind energy development guidelines (DoEHLG, 2006 & DoHPLG, 2019) are:

- *“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 siting and design guidance given for ‘Hilly and Flat Farmland’ landscape in the DoEHLG and DoHPLG 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.”

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.

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.”

Layout

“The optimum layout is linear, and staggered linear on ridges (which are elongated) and hilltops (which are peaked), but a clustered layout would also be appropriate on a hilltop. Where a wind energy development is functionally possible on a flat landscape a grid layout would be aesthetically acceptable.”

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.”

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.”

With reference to the DoEHLG guidelines, the following factors were considered in the strategic siting of the Proposed Development in this undulating ‘Hilly and Flat Farmland’ landscape: location, spatial extent and scale, spacing, layout, height and cumulative effects.

In terms of **location**, the proposed turbines of the Southern Cluster are sited along an elevated ridge line and the Northern Cluster is sited upon an elevated plateau, as shown on the elevation maps Figure 12-7 and Figure 12-8 (see previously). As shown in most of the photomontages (Volume 2 photomontage booklet) an optimum aesthetic effect is achieved as the proposed turbines are most often viewed above the horizon where the turbines do not overlap other landscape elements and visual clutter and confusion is reduced.

In terms of **spatial extent**, the southern turbines are not a dense cluster but an appropriately balanced array across the southern ridgeline, the seven turbines of the Northern Cluster comprise a small spatial extent of the landscape. The Proposed Development adheres to the mandatory four times tip height set back distance from residential buildings prescribed in the Draft Wind Energy guidelines (DoEHLG, 2019), as well as the 500 metre set back distance noted in the current Wind Energy Development Guidelines (DoEHLG, 2006).

In terms of **spacing and layout**, the turbines of the Proposed Development are not randomly arranged in the landscape. In line with the spacing and layout guidance, the southern turbines are sited in a staggered linear array across a ridgeline with relatively regular spacing amongst turbines, sympathetic to the staggered and slightly irregular arrangement of existing field patterns. The northern turbines are sited in an orderly cluster upon a small hill with adequate inter-turbine spacing.

In terms of **height**, the proposed turbines are relatively large in scale in comparison with the landscape. However, the development as a whole retains a relatively even profile; when viewing the turbines, the nacelles are positioned at relatively even heights, improving visual coherence within the undulating landscape.

In terms of **cumulative effect**, there are very few existing or permitted wind farms in this area of County Roscommon (See Section 12.6 – *Cumulative Baseline*). As shown in the volume 2 photomontage booklet, there are limited instances where the Proposed Development will be visible in conjunction with other turbines. In this regard, cumulative effects are likely to be very minor and will not cause wind energy to visually dominate (See Section 12.7.3.4.1 – *Cumulative Visual Effects – Other Wind Farms*).

12.4.4

Landscape Character of the Wider Study Area

The landscape surrounding the site is a rural agricultural landscape. The area is, in general, composed of rolling limestone grasslands interspersed with low limestone and glacial till ridges and with lakes or turloughs present in low valley areas between the low ridges. It is a settled landscape, clusters of residential dwellings are organised in a linear fashion along local and regional roads surrounding the site. Within 5 km of the site exist several small population centres – Curraghboy, Brideswell, Dysart, Taghmaconnell, Ballyforan and Four Roads.

Rolling farmland of relatively low population density continues to the north beyond 5 km from the Proposed Development. Landform rises to the Skrine uplands in the north-east, Moydow, Glenfin and Skrine are prominent hills within the otherwise flat landscape. Beyond 5 km to the west, south and east, flat boglands comprise much of the landscape, typical to that seen throughout the Irish midlands. To the west and south the landscape is heavily influenced by the presence of the Suck River, to the east and south-east Lough Ree and the Shannon River are prominent and valuable features of the landscape. Mount Mary is located approximately 15km north-west of the Northern Cluster in County

landscape. Mount Mary is located approximately 15km north-west of the Northern Cluster in County Galway. The elevated areas in the north-west have a higher proportion of coniferous forest than other areas of the LVIA Study Area.

12.4.4.1 Historic Landscape Characterisation

As stated by the Heritage Council of Ireland (2013), *“Homesteads and settlements, field boundaries and field patterns, buildings and monuments, demesnes, planted woodlands, cut bogs, roads, quarries, mines and factories all attest to the imprint of people on the landscape. These cultural elements, combined with the natural landscape, give distinctive character to different places”*. The old stone walls delineating field and townland boundaries within the site and wider setting of LCA 34 give the landscape a distinctive visual and historic character, local identity and sense of place.

An esker belt exists to the south of the site, these glacial landforms have historic importance as elevated pathways across the flat boggy midland landscape. Eskers are also rich in glacial minerals and have historically been mined for their resources. A commercial Roadstone quarry at Cam is currently in operation, at the north east of the Southern Cluster.

Monuments, buildings and other specific features of cultural heritage value within the surrounding landscape are identified and assessed in detail in Chapter 13 – *Cultural Heritage*. The designated Landscape Character Areas in County Roscommon incorporate the historic character and value of heritage features within the Landscape Character Study.

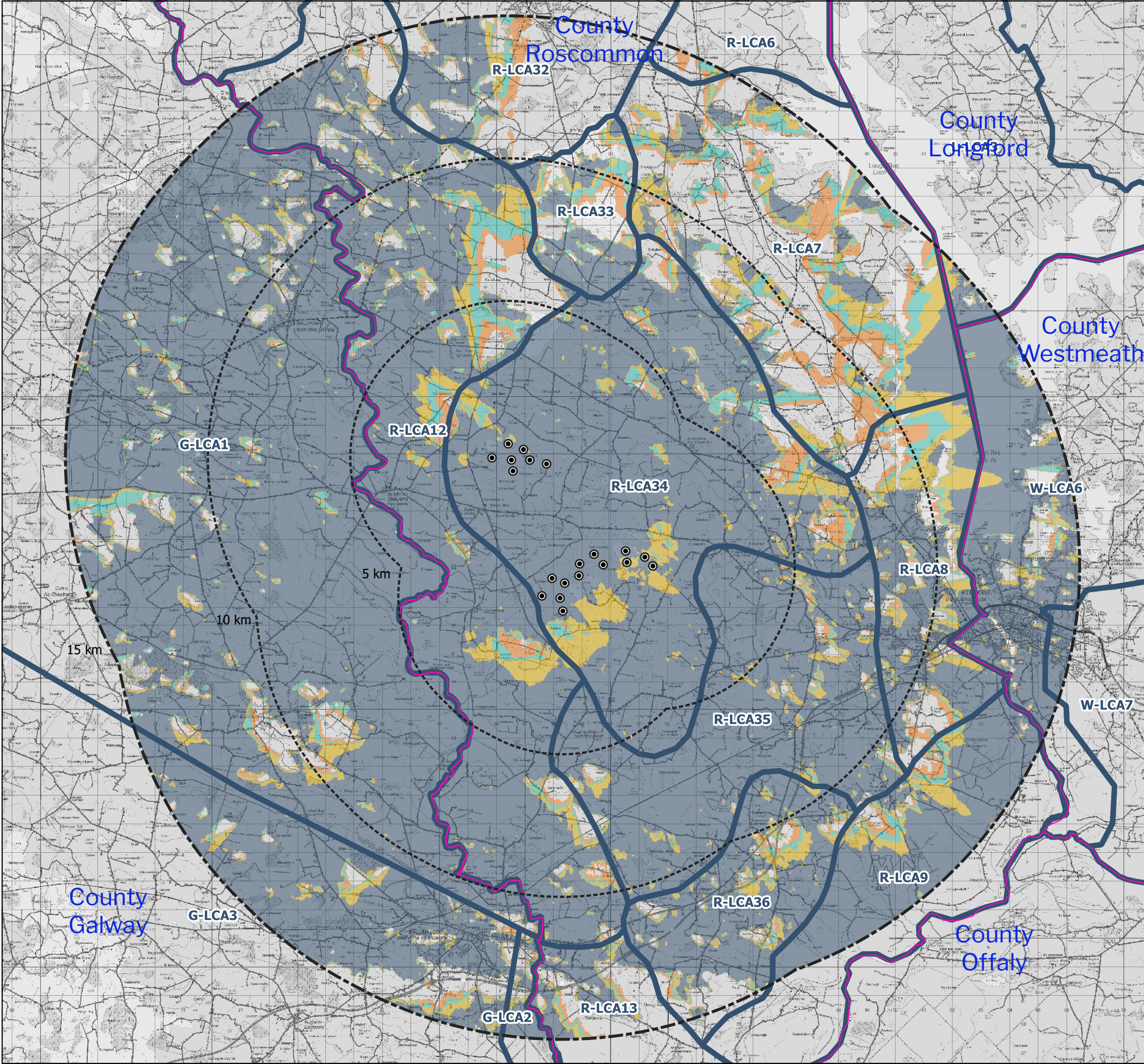
12.4.4.2 Designated Landscape Character Areas (LCAs)

As noted in Section 12.2.1, the LVIA Study Area for assessment of landscape character extends to 15 km from the proposed turbines. In the previous section - *Landscape Policy Context*, 17 No. designated LCAs were identified in Counties Roscommon, Galway, Offaly, Longford and Westmeath within 15 km of the Proposed Development.

12.4.4.2.1 LCA Preliminary Assessment

A map showing all LCAs within 15km and the distribution of theoretical visibility of the Proposed Development occurring in each LCA is shown in Figure 12-12 below.

Each LCA is listed below in Table 12-6, as well as a description of theoretical visibility within each LCA, as indicated by the ZTV in Figure 12-12. Several LCAs identified in the LVIA Study Area (15km for landscape character) have very small areas of theoretical visibility indicated by the ZTV map in Figure 12-12. The potential visibility of the Proposed Development was appraised on site (multiple surveys conducted during 2020 and 2021) from all LCAs with very limited or partial theoretical visibility. Table 12-6 then determines which LCAs are screened in for assessment later in this chapter (See also Appendix 12-2) based upon the ZTV and on-site visibility appraisals.



Map Legend

- Turbines of the Proposed Development
- LVIA Study Area (15km for Assessment of Effects on Landscape Character)
- County Boundaries
- Landscape Character Areas
- Half Blade Zone of Theoretical Visibility (ZTV)
 - 1-5 Turbines Theoretically Visible
 - 6-10 Turbines Theoretically Visible
 - 11-15 Turbines Theoretically Visible
 - 16-20 Turbines Theoretically Visible

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Drawing No.

Figure 12-12

Drawing Title

LCAs and ZTV Map

Project Title

Seven Hills Wind Farm, Co. Roscommon

Scale	Project No.	Date	Drawn By	Checked By
1:130,000	190907	20.05.2022	JW	OM



Table 12-6 LCA Preliminary Assessment.

Map Ref	LCA	Theoretical Visibility (TV) as indicated by ZTV	Actual Visibility	Screened in for Assessment
Up to 5 km				
R-LCA34	Roscommon LCA 34 - Lough Funshinagh, Stone Wall Grasslands and Esker Ridges	Predominantly full TV. Some limited theoretical visibility to the north-east.	Visibility of the Proposed Development very likely from within this LCA.	Yes
R-LCA12	Roscommon LCA 12 - Athleague and Lower Suck Valley Grasslands and Esker Ridges	Predominantly full TV in close proximity to the site. Intermittent TV in areas to the north and south of the LCA.	Visibility of the Proposed Development very likely from within this LCA.	Yes
R-LCA35	Roscommon LCA 35 - Brideswell Esker Belt	Predominantly full TV. Some limited theoretical visibility to the north-east.	Visibility of the Proposed Development very likely from within this LCA.	Yes
G-LCA1	Galway LCA 1 - North East Galway (Balinasloe to Ballymoe)	Predominantly full TV in close proximity to the site. Limited TV in areas to the west and north-west of the LCA.	Visibility of the Proposed Development very likely from within this LCA.	Yes
5 to 10 km				
R-LCA7	Roscommon LCA 7 - Mid Lough Ree Pastureland	Very limited TV throughout the LCA. Some areas of partial and full TV at higher elevations.	Actual visibility only likely to occur on remote and isolated areas of higher elevation.	No
R-LCA8	Roscommon LCA 8 - Lower Lough Ree and Athlone Environs	Full TV in areas west of Athlone, very limited TV around the western banks of Lough Ree.	Visibility of the Proposed Development very likely from localised areas within this LCA	Yes
R-LCA33	Roscommon LCA 33 - Skrine Hill and Limestone Pavement	Full TV to the south of this LCA, very limited TV to the north.	Visibility of the proposed turbines very likely from areas south of Skrine and Glenfin Hill.	Yes
R-LCA36	Roscommon LCA 36 - Ballydangan Pastures	Full TV in large portions of this LCA, limited TV to the south.	Visibility of the Proposed Development very likely from northern areas of this LCA in closer proximity	Yes

Map Ref	LCA	Theoretical Visibility (TV) as indicated by ZTV	Actual Visibility	Screened in for Assessment
			to the Proposed Development	
10 to 15 km				
R-LCA6	Roscommon LCA 6 - Upper Lough Ree Bogland	Very small areas of partial TV located within the LVIA study area for landscape character.	Visibility of the Proposed Development is not likely from areas of this LCA located within the LVIA Study Area for Landscape character	No
R-LCA9	Roscommon LCA 9 - Cloonown and Shannon Callows	Large areas of Full TV around the Shannon River. Areas of Very limited TV towards the north of the LCA.	Longer distance views to the north are very limited within this flat bogland landscape. Actual visibility of the Proposed Development is only likely to occur in localised areas of slightly higher elevation located within this LCA.	Yes
R-LCA13	Roscommon LCA 13 – Suck Callows	Large areas of no TV. Some patches of full and partial TV to the north and south of the LCA.	Actual visibility likely to be very limited due to screening from localised topography to the north and vegetation within the landscape.	No
R-LCA-32	Roscommon LCA 32 - Roscommon Town and Hinterland	Large Areas of No TV in the east of the LCA and LVIA Study Area. Full TV from some remote areas to the south west of the LCA in the LVIA Study Area.	Some localised areas of slightly higher elevation where the proposed turbines may be visible.	Yes
G-LCA2	Galway LCA 2 - Shannon & Suck River Valley between Portumna & Ballinasloe	Very small area within the LVIA Study Area for landscape character. Some areas of full TV around Ballinasloe	Visibility of the Proposed Development is not likely from areas of this LCA located within the LVIA Study Area for Landscape character	No
G-LCA3	Galway LCA 3 - East central Galway (Athenry, Ballinasloe to Portumna)	Large areas of Full TV. Areas of no TV or very limited TV to the south of Ballinasloe.	In general, actual visibility likely to be very limited due to screening from localised topography to the north and vegetated nature of the landscape.	Yes

Map Ref	LCA	Theoretical Visibility (TV) as indicated by ZTV	Actual Visibility	Screened in for Assessment
			There is likely to be visibility from localised areas of high elevation.	
L-LCA3	Longford LCU 3 - Shannon Basin/Lough Ree	Area of full TV located within the LVIA study area for landscape character, only located on the waterbody of Lough Ree.	No areas of this LCA are located on land (not within Lough Ree) are located in the LVIA study area for assessment of landscape character.	No.
W-LCA6	Westmeath LCA 6 - Lough Ree/Shannon Corridor	Intermittent TV, some patches of Full TV and No TV. Some limited theoretical visibility around the eastern banks of Lough Ree.	Very limited visibility Around Athlone and Lower elevations around the eastern shore of Lough Ree.	Yes
W-LCA7	Westmeath LCA 7 - Western Lowlands	Full TV, although a very small section of the LCA is located in the LVIA study Area for assessment of landscape character.	No visibility anticipated within areas of this LCA located east of Athlone - within the LVIA study Area.	No

LCAs in Table 12-7 below are screened out from further assessment in this LVIA, views towards the Proposed Development were either entirely screened or substantially screened. In some cases distance to the Proposed Development site and the limited footprint of the LCA located within the LVIA Study Area (15 km for assessments of landscape character) precluded LCAs from being assessed further in this LVIA.

Table 12-7 LCAs with no significant visibility found on site – **Screened Out** from further assessment

Landscape Character Area with no Significant Visibility found on Site, Screened out from further Assessment
Roscommon LCA 6 - Upper Lough Ree Bogland
Roscommon LCA 7 - Mid Lough Ree Pastureland
Roscommon LCA 13 – Suck Callows
Galway LCA 2 -Shannon & Suck River Valley between Portumna & Ballinasloe
Longford LCU 3 - Shannon Basin/Lough Ree
Westmeath LCA 7 - Western Lowlands

Following the pre-assessment exercise, the LCAs shown in Table 12-8 below have been selected for assessment due to their visibility within the study area and the potential landscape effects that may arise as a result of the Proposed Development.

Table 12-8 LCAs **Screened In** for full assessment

Landscape Character Areas with likely visibility of the Proposed Development, screened in for further assessment
Roscommon LCA 34 - Lough Funshinagh, Stone Wall Grasslands and Esker Ridges
Roscommon LCA 12 - Athleague and Lower Suck Valley Grasslands and Esker Ridges
Roscommon LCA 35 - Brideswell Esker Belt
Galway LCA 1 - North East Galway (Balinasloe to Ballymoe)
Roscommon LCA 8 - Lower Lough Ree and Athlone Environs
Roscommon LCA 33 - Skrine Hill and Limestone Pavement
Roscommon LCA 36 - Ballydangan Pastures
Roscommon LCA 9 - Cloonown and Shannon Callows
Roscommon LCA 32 - Roscommon Town and Hinterland
Galway LCA 3 - East central Galway (Athenry, Ballinasloe to Portumna)
Westmeath LCA 6 - Lough Ree/Shannon Corridor

A detailed description of the eleven LCAs screened in for assessment (Table 12-8) and the likely effects on landscape character as a result of the Proposed Development are presented in the Landscape Character Assessment Tables that form Appendix 12-2. A summary of landscape effects on these LCAs are reported in Section 12.7.3.1 of this chapter - *Operational Phase Effects*.

12.5 Visual Baseline

12.5.1 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 via a photomontage methodology (See Appendix 12-1 – *LVIA Methodology*). To this end, the following visual receptors have been identified within the LVIA study Area and are listed in order of priority:

- Designated Scenic Routes and Views
- Viewing Areas (e.g. marked on OSi Maps)
- Settlements
- Recreational and Tourist Destinations
- Recreational Routes (Waymarked Walking Routes; Cycle Routes; Scenic Drives; Tourist Routes)
- Transport Routes

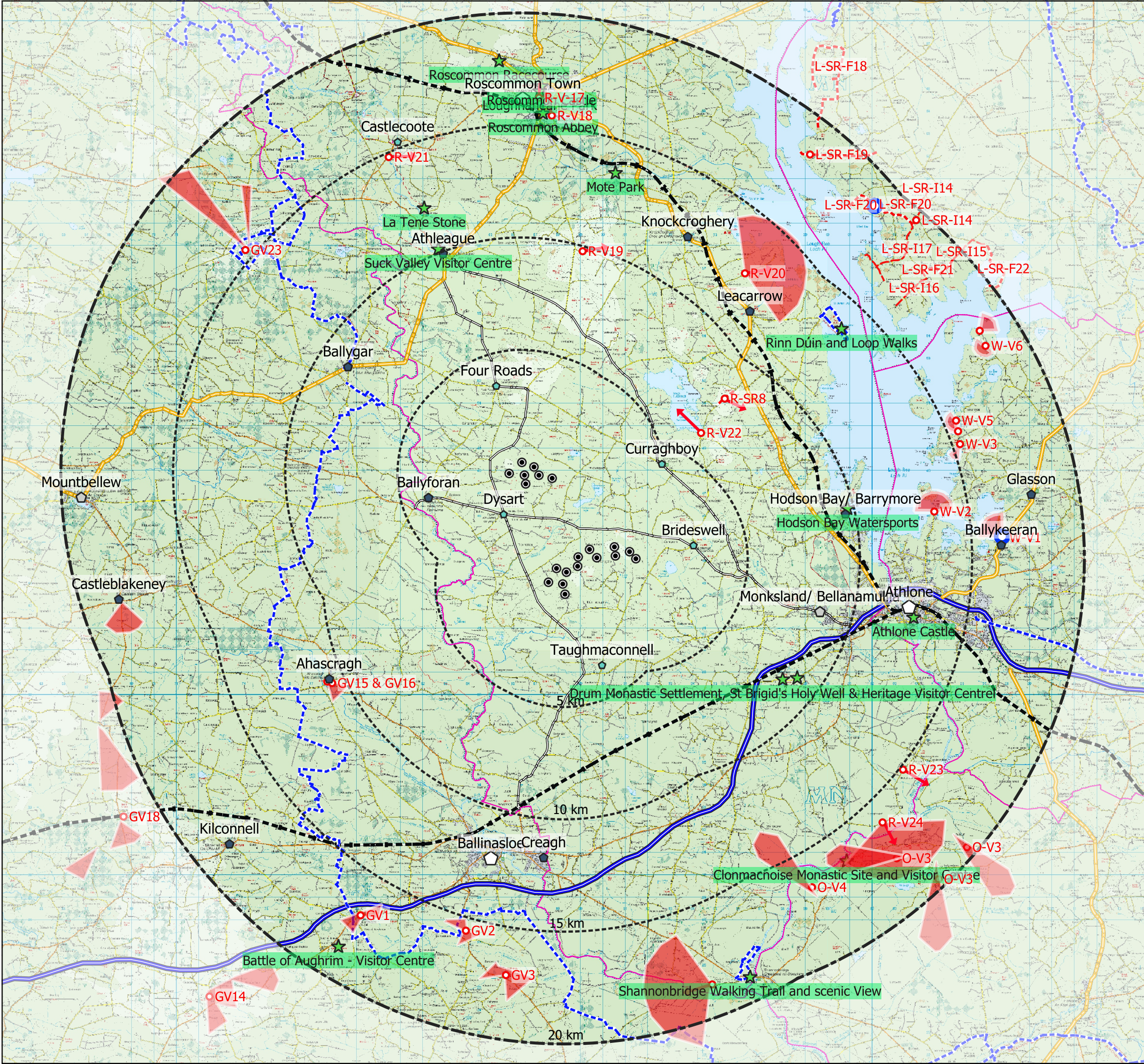
These visual receptors are identified in the visual baseline map (Figure 12-13 below) and listed in tables in the following sections along with theoretical visibility at those locations indicated by the ZTV map in Figure 12-14, seen below. During site visits conducted during 2020 and 2021, the likely visibility of the Proposed Development 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 Development or where on-site appraisal determined visibility of the Proposed Development to be very unlikely or very limited.

12.5.1.1 Designated Scenic Routes and Views

39 no. designated scenic routes and views were previously identified and described in Table 12-1 and Table 12-4 in Section 12.4.1 of this chapter – *Landscape Designations and Policy Context*. These scenic amenity designations are mapped in Figure 12-4 (seen previously) and also the visual receptor map shown below – Figure 12-13.

Table 12-9 (below) lists the scenic designations 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 12-9 and whether it is likely that the designated scenic amenity is directed towards the Proposed Development. Table 12-9 also notes the theoretical visibility of the Proposed Development from these designated locations is as indicated by the ZTV in Figure 12-14.


Based upon these initial visibility assessments, scenic amenity designations are either screened in or out for full assessment in this LVIA. No scenic designations were identified within 5km of the Proposed Development site.



Map Legend

- Turbines of the Proposed Development
- LVIA Study Area
- County Boundaries
- Visual Receptors**
 - Designated Scenic View - Origin of View
 - ➔ Designated Scenic View - Direction of Focus
 - Designated Scenic View - Field of View
 - Designated Scenic Route
 - OSi Viewing Area
- Settlement Hierarchy - Standardised**
 - Small Village of Local Importance
 - Village
 - Town
 - County Hub Town
 - ★ Tourism and Recreation Destination
 - Way Marked Walking Trails
 - National Road - Transport Route
 - M6 Motorway - Transport Route
 - Regional Roads (within 10km) Transport Route
 - Rail Network - Transport Route

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Drawing No.

Figure 12-13

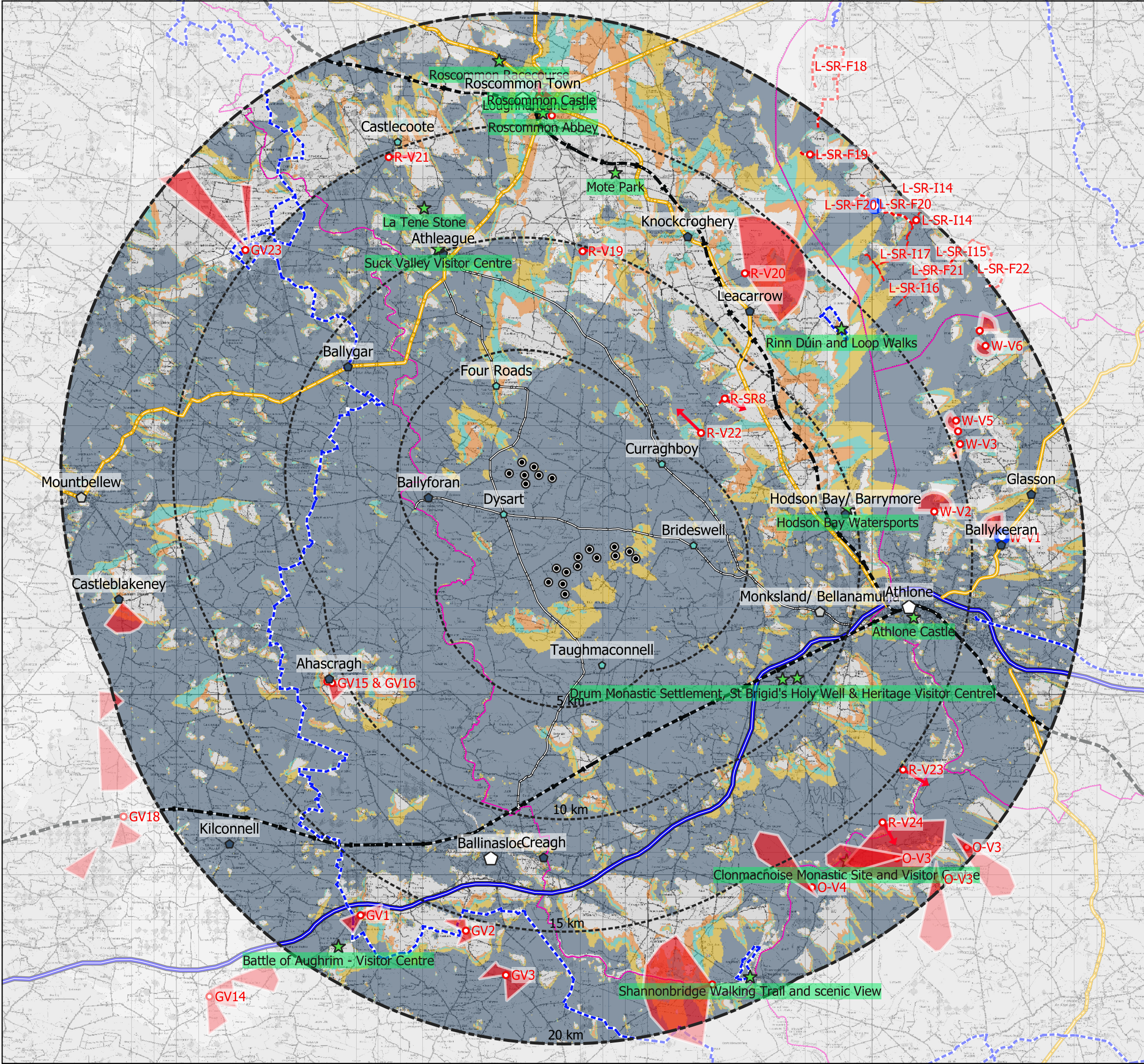
Drawing Title

Visual Receptors - Visual Baseline

Project Title

Seven Hills Wind Farm, Co. Roscommon


Scale	Project No.	Date	Drawn By	Checked By
1:165,000	190907	20.05.2022	JW	OM



Map Legend

- Turbines of the Proposed Development
- LVIA Study Area
- Half Blade ZTV
 - 1-5 Turbines Theoretically Visible
 - 6-10 Turbines Theoretically Visible
 - 11-15 Turbines Theoretically Visible
 - 16-20 Turbines Theoretically Visible
- County Boundaries
- Visual Receptors**
 - Designated Scenic View - Origin of View
 - ➔ Designated Scenic View - Direction of Focus
 - Designated Scenic View - Field of View
 - Designated Scenic Route
 - OSi Viewing Area
- Settlement Hierarchy - Standardised
 - Small Village of Local Importance
 - Village
 - Town
 - County Hub Town
 - Tourism and Recreation Destination
 - Way Marked Walking Trails
 - National Road - Transport Route
 - M6 Motorway - Transport Route
 - Regional Roads (within 10km) Transport Route
 - Rail Network - Transport Route

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Drawing No.

Figure 12-14

Drawing Title

Visual Receptors & ZTV

Project Title

Seven Hills Wind Farm, Co. Roscommon

Scale	Project No.	Date	Drawn By	Checked By
1:165,000	190907	20.05.2022	JW	ÓM

Table 12-9 Designated Scenic Amenity – Preliminary Assessment

Map Ref.	Scenic Route/View Description	Direction and Range of View	Directed to Turbines?	Theoretical Visibility	Screened in for Assessment
5 to 10 km					
R-SR8	Elevated, panoramic scenic route overlooking Lough Ree and stonewalled field patterns. Athlone and Rindoon archaeological site in the distance	SE	No – but within panoramic views	Full	Yes
R-V19	Elevated views of surrounding stonewall farmland landscape with Lough Ree in distance.	E-N-E Linear Range	No	Full/Partial	No
R-V22	View from third class road overlooking Lough Funshinagh and mature woodland on the opposite side of the lake.	N-W Linear Range	Partially	Full	Yes
G-V15	St Cuans Church, Ahascragh.	Indication Unclear	Unlikely	None	No
10 to 15 km					
R-V20	View over Lough Ree from crest of hill along third class road	E 150 degrees	No	Full	No
R-V21	View from R366 overlooking Suck River and low undulating farmland	E Linear Range	No	Full	No
G-V16	Old Mill, Ahascragh	Indication Unclear	Unlikely	None	No
W-V2	Views of Lough Ree from Coosan waterfront from pier, slipway and forest walk trail.	NW & NE	No	Partial	No
15 to 20 km					
R-V17	View of Roscommon Castle and turlough.	N Linear Range	No	None	No
R-V18	View in Roscommon Town	N-N-W Linear Range	No	None	No
R-V23	View from third class road across the Shannon callows.	SE Linear Range	No	Partial	No

Map Ref.	Scenic Route/View Description	Direction and Range of View	Directed to Turbines?	Theoretical Visibility	Screened in for Assessment
R-V24	View from third class road across the Shannon callows and Esker ridge in County Offaly.	S-S-E 150 degrees	No	Full	No
R-V25	Elevated view from third class road overlooking the Shannon callows to the south/southwest, with undulating farmland and mature trees. View to north/northwest overlooking flat raised cutover bog.	W-S-W 150 degrees	No	None	No
G-V1	Church Spire at Aughrim (*View 43 in the Draft GCDP 2022)	SW-NE or NE-SW	No	None/Very Partial	No
G-V2	Quarry Plant on R355 between Ballinasloe and Laurencetown	SE and NE	Yes	None	No
G-V3	Clontuskert Abbey	NE (Very Unclear)	Unlikely	Full/Partial	No
G-V23	Mount Mary	N and NW	No	Full /None	No
L-SR-F18	Rathcline, Carrowroe, Bleanavoher, Agharanagh (Rathcline Ed).	No Indication	Likely	None/Very Partial	No
L-SR-F19	Cullentrath, Fortwilliam, Carrickmorán.	No Indication	Likely	None/Very Partial	Yes
L-SR-F20	Cashel, Loughfarm, Elfeet (Adamson), Leab, Carrowbeg.	No Indication	Likely	Full/Partial/None	Yes
L-SR-F21	Tipper (Rathcline By), Corrool (Kenny), Corrool (Fox).	No Indication	Unlikely	None/Very Partial	No
L-SR-F22	Drumnee, Saints Island.	No Indication	Unlikely	Partial	No
L-SR-I14	Cornadowagh, Ballyrevagh, Carrowbeg.	No Indication	Likely	Full/None	Yes.
L-SR-I15	Drumnee, Claras, Corrool (Fox).	No Indication	Unlikely	None	No

Map Ref.	Scenic Route/View Description	Direction and Range of View	Directed to Turbines?	Theoretical Visibility	Screened in for Assessment
L-SR-I16	Portanure, Lismagawley, Pollagh	No Indication	Unlikely	None/Very Partial	No
L-SR-I17	Collum, Derrydarragh, Carrowrory, Ballagh(Rathcline By)	No Indication	Unlikely	Partial	No
O -V3	Pilgrims Road (L-07013) in the townlands of Clonmacnoise, Clonascra, Ballyduff and Bloom Hill.	Panoramic – North, South and West Clonmacnoise and River Shannon, Eskers, Mongan Bog and Finlough.	Partially	Partially	Yes
O-V4	Road no. R444 in the townlands of Clanmacnoise, Creevagh.	N-W River Shannon and Boglands.	Yes	Full	Yes
O-SR1	R357 Blueball to Shannonbridge	“Callows area of the River Shannon in particular”	Partially	Full	No
W-V1	View over Lough Ree from parking/picnic area on the N55 Road between Ballykeeran and Glasson..	W/NW	Yes	Full	Yes
W-V3	Views of Lough Ree from Carnakill pier and Portlick Forest Walk from pier and forest walking trail.	SW	Partially	Partial	No
W-V4	View of Lough Ree from Portlick Scout Campsite from short stretch of road along lake shore	W/NW	Partially	Partial	No
W-V5	View of Lough Ree from small pier at lake shore	W	Yes	Full	Yes
W-V6	View of Lough Ree and reed beds from road and pier from local road and pier.	SW	Yes	Full	Yes

Map Ref.	Scenic Route/View Description	Direction and Range of View	Directed to Turbines?	Theoretical Visibility	Screened in for Assessment
W-V7	View of Lough Ree from Lough Ree House marina from picnic area and marina.	N	No	Full	No

Ten of the scenic designations are in some way directed towards the site with likely open visibility of the Proposed Development and are taken forward for assessment in this LVIA.

12.5.1.2 OSI Viewing Areas

Two viewing areas were identified in an Ordnance Survey of Ireland (OSI) map of the LVIA study area, these viewpoints are described below in Table 12-10 and whether there is theoretical visibility indicated by the ZTV map and if the views are focussed in the direction of the Proposed Development.

Table 12-10 OSI Viewing Area in the LVIA Study Area

OSI Viewing Area Location and Description	Theoretical Visibility (ZTV)	Direction/Focus of View	Screened in for assessment?
15 to 20 km			
Viewpoint and recreational picnic area off the N55 National Road at Ballykeenan in County Westmeath. Expansive landscape views across Lough Ree to the west and north-west.	Full Theoretical Visibility	Focused towards the Proposed Development	Yes
Viewpoint off a local road in the townland of Loughfarm in County Longford. Expansive landscape views across Lough Ree to the west.	Full Theoretical Visibility	Focused towards the Proposed Development	Yes

12.5.1.3 Settlements

In order to identify which settlements within the 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 Roscommon, Galway, Longford, Offaly and Westmeath were consulted. The settlement hierarchies of the five 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.

- County Hub Town
- Town
- Village
- Small Village of Local Importance

Table 12-11 (below) lists the settlements located in the LVIA study area. Table 12-11 notes the theoretical visibility of the Proposed Development from each settlement as indicated by the ZTV in Figure 12-14. On-site appraisals determined the likely visibility of the proposed turbines from each location. Based upon these initial visibility assessments, settlements are either screened in or out for further assessment in this LVIA.

Table 12-11 Settlement Hierarchy and preliminary visibility assessment.

Settlement	County - Settlement Hierarchy	Standardised Settlement Hierarchy	Theoretical Visibility	On-site appraisal of Visibility	Screened in?
Up to 5 km					
Ballyforan	Roscommon - Serviced Village	Village	Full	Some Visibility Likely	Yes
Brideswell	Roscommon - Unserviced Village	Small Village of Local Importance	Full	Likely	Yes
Curraghboy	Roscommon - Unserviced Village	Small Village of Local Importance	Full	Likely	Yes
Dysert (<i>known locally as Dysart*</i>)	Roscommon - Unserviced Village	Small Village of Local Importance	Full	Likely	Yes
Four Roads	Roscommon - Unserviced Village	Small Village of Local Importance	Partial	Likely	Yes
Taughmaconnell	Roscommon - Unserviced Village	Small Village of Local Importance	Full	Likely	Yes
5 to 10 km					
Athleague	Roscommon - Serviced Village	Village	Partial	Some Visibility Likely	Yes
Ballygar	Galway - Village	Village	Full	Some visibility likely	Yes
Hodson Bay / Barrymore	Roscommon - Serviced Village	Village	Full/Partial	Unlikely	No

Settlement	County - Settlement Hierarchy	Standardised Settlement Hierarchy	Theoretical Visibility	On-site appraisal of Visibility	Screened in?
Monksland / Bellanamullia	Roscommon – Regional Growth Centre	Town	Partial	Likely	Yes
10 to 15 km					
Athlone	Westmeath – Regional Growth Centre	County Hub Town	Full	Likely to be Limited	Yes.
Ahascragh (Galway)	NA	Village	None/ Partial	Likely to be Very Limited	No
Ballinasloe	Galway - County Town	County Hub Town	Full	Likely to be Limited	Yes
Knockcroghery	Roscommon - Serviced Village	Village	Partial/ None	Likely to be Very Limited	No
Leacarrow	Roscommon - Serviced Village	Village	None	Likely to be Very Limited	No
15 to 20 km					
Ballykeeran (Westmeath)	NA	Village	Full	Visibility Likely	Yes
Castleblakeney (Galway)	NA	Village	None/ Partial	Likely to be Very Limited	No
Castlecoote	Roscommon - Unserviced Village	Small Village of Local Importance	Full/Partial	Likely to be very Limited	No
Glasson	Westmeath - Rural Centre	Village	Partial	Likely to be Limited	No
Kilconnel	Galway - Village	Village	Full	Likely to be Limited	No
Mountbellew	Galway - Village	Town	Full	Likely to be Limited	No
Roscommon Town	Roscommon - County Town	County Hub Town	Partial	Some Visibility likely	Yes

**The village of Dysert (as reported in the RCDP) is known and spelled locally as Dysart. ‘Dysart’ is therefore used elsewhere in this chapter and throughout the EIAR.*

12.5.1.4 Recreation and Tourist Destinations

Recreational 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 Roscommon, Galway, Longford, Offaly and Westmeath listed on Tripadvisor.ie. Prominent outdoor tourism and recreational destinations identified in the LVIA study area are listed below in Table 12-12.

Table 12-12 Prominent outdoor Recreational and Tourism Destinations in the LVIA study Area

Destination	Description	Theoretical Visibility	On-site appraisal of Visibility	Screened in?
5 to 10 km				
Drum Heritage Visitor Centre - Roscommon	Monastic settlement, St Brigid's Holy Well, and heritage visitor centre.	Full	Likely to be Limited	No
Glendeer Pet Farm and Nature Walks - Roscommon	Open farm, visitor centre and walking trails.	Full/Partial	Likely to be very Limited	No
Hodson Bay	Recreational Watersport amenities -Hodson Bay Marina, and Baysports Waterpark	None	Very Unlikely	No
La Tene Stone Roscommon	Historical monument - cult Celtic stone in the grounds of Castlestrange Demense.	Full	Likely to be very Limited	No
10 to 15 km				
Athlone Castle	Historical tourist destination.	Full	Likely to be very Limited	No
The Suck Valley Visitor Centre	Visitor centre, and picturesque starting point for many recreational trails.	Full	Likely to be very Limited	No
Rinn Dúin and Loop Walks	Historical monument and recreational walking trails.	None / Partial	Likely to be very Limited	No
Mote Park	Picnic area, walking trails and recreational amenities	None	Unlikely	No
15 to 20 km				
Clonmacnoise	Nationally important monastic site and visitor centre	Full	Visibility Likely	Yes

Destination	Description	Theoretical Visibility	On-site appraisal of Visibility	Screened in?
Shannonbridge	Tourism destination - walking trail, a Napoleonic fort and panoramic views of the Shannon River.	Full/Partial	Some limited visibility anticipated	Yes
Roscommon Town Tourism/ Recreational Amenities	Roscommon Castle, Roscommon Abbey, Loughnanane Park, Roscommon Racecourse.	Partial	Some limited visibility anticipated	Yes
Battle of Aughrim Visitor Centre	Heritage Tourism Site	None	No visibility anticipated	No

12.5.1.5 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 encompasses the following:

- Waymarked walking routes (Source - Sport Ireland Designated Trails)
- Cycle routes (Source - Sport Ireland Designated Cycle Routes)
- Scenic drives and tourist routes (e.g. the Wild Atlantic Way)

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; Heritagemaps.ie and Activeme.ie. 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 12-13 and are listed in Table 12-13 below along with theoretical visibility distributed upon each route by ZTV mapping.

Table 12-13 Recreational Routes in the LVIA Study Area

Route Name	Description	Theoretical Visibility (ZTV)	Actual Visibility	Screened in?
Up to 5km				
The Hymany Way - Way Marked Walking Trail.	Walking Trail of moderate prominence - Local roads, tracks and off-road from Ballygar in east Galway to Portumna in south-east Galway. The northern section of this trail tracks through farmland and boglands to the west of the site.	Full TV along most of the trail, where it exists in the LVIA study area.	Actual visibility will be substantially less than as indicated by the ZTV. Localised topography and screening within the vegetated landscape will screen the proposed turbines from view along much of the route	Yes

10 to 15 km				
The Suck Valley Way - Way Marked Walking Trail.	Walking Trail of moderate prominence – The walking loop tracks along both the east and western valley of the Suck River from Ballygar in east Galway to Castlerea in north-east Galway.	Intermittent TV (Full / Partial and None) along the trail where it exists in the LVIA study area.	Actual visibility will be substantially less than as indicated by the ZTV. Localised topography and screening within the vegetated landscape will screen the Proposed Development from view along much of the route	No
Rinn Dúin Loop Walks	Walking trails on the banks of Lough Ree of local prominence.	None / Partial	Likely to be very Limited	No
Mote Park Loops	Short Walking Trails of local prominence.	Predominantly No TV	Visibility very unlikely	No
15 to 20 km				
Shannonbridge River Shannon Loop – Way Marked Walking Trail	Short walking trail along the Shannon from Shannonbridge fortifications.	Full TV along most of the trail.	Unlikely to be any visibility of the Proposed Development.	No
Mullingar - Athlone - Old Rail Trail Greenway	Designated greenway cycle route and walking trail in County Westmeath from Athlone to Mullingar.	Predominantly full TV and some areas of no TV	Unlikely to be any visibility of the Proposed Development.	No
The Pilgrims Road to Clonmacnoise Cycle Route	Cycle route from Ballycumber to Clonmacnoise in county Offaly	Predominantly full TV and some areas of no TV	Actual visibility will be substantially less than as indicated by the ZTV, however there is likely to be some elevated locations with views towards the proposed turbines.	Yes

12.5.1.6 Transport Routes

National Primary and National Secondary roads as well as train routes were identified within the LVIA study area. The visual baseline exercise determined that most visibility of the Proposed Development will occur within 5km of the development site. As there are no National Primary or National Secondary routes within 5 km of the Proposed Development, Regional Roads within 5 km were included in the visual baseline exercise. Regional Roads and Local Road transport routes within 5 kilometres of the site were also assessed as part of the route screening analysis included in Section 12.7.3.3.4.

Table 12-14 (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 12-14. 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. For the purpose of viewpoint selection locations were identified where most open visibility is likely to occur on these transport routes.

Table 12-14 Transport Routes in the LVIA Study Area.

Transport Route	Description	Theoretical Visibility (TV)	Screened in for Assessment based upon Visibility Appraisals
Up to 5 km			
R357 Regional Road	Northwards from Ballinasloe to Athleague – passing the Proposed Development to the west	Predominantly Full TV, some areas of partial and no TV to the south and north of the site.	Yes
R363 Regional Road	From Ballyforan east to Brideswell. Road passes between the two turbine clusters	Predominantly Full TV	Yes
R362 Regional Road	Southwards from Athleague to Athlone. Road passes to the east of the Proposed Development	Full TV where the road is in close proximity to the site	Yes
5 to 10 km			
Rail Network	Dublin-Westport Trainline	Full/Partial TV in areas 5 km north of Athlone. Predominantly No TV along the rest of the route.	No
Rail Network	Portarlinton-Galway Trainline	Predominantly Full TV	Yes
M6 Motorway	Galway - Kinnegad	Full TV and Partial TV for most of the Route. A large area of no TV in County Galway	Yes
N61 National Road	Roscommon Town - Athlone	Full/Partial Tv in areas 5 km north of Athlone. Predominantly No TV along the rest of the route.	No

Transport Route	Description	Theoretical Visibility (TV)	Screened in for Assessment based upon Visibility Appraisals
N63 National Road	Roscommon Town - Mountbellew	Full (but intermittent) TV in all areas west and north-west of the proposed site. No and Partial TV north of the site around Roscommon Town.	Yes
10 to 15 km			
N55 National Road	Athlone – North East	Mixed TV	Yes
15 to 20 km			
N60 National Road	Roscommon Town – North West	Mixed TV	Yes
N63 National Road	Roscommon Town – North East	No/Partial TV	No

12.5.2

Visual Receptor Preliminary Assessment

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

Zone of Theoretical Visibility mapping and visibility appraisals conducted on site during surveys undertaken in 2020 and 2021 were used to scope out visual receptors from further assessment. In the case of the visual receptors shown in Table 12-15 below, views towards the Proposed Development were either entirely screened or substantially screened from view. In some cases, the factor of distance to the Proposed Development site as well as the directional focus of views was included in the screening assessments and was a contributing factor precluding these locations being selected as viewpoints.

Table 12-15 Visual Receptors **Screened Out**

Visual Receptor Category	Visual Receptor with no significant visibility found on site (or views focussed away from the Proposed Development)
Designated Scenic Routes	R-V19; G-V15; R-V20; R-V21; G-V16; W-V2; W-V4; R-V17; R-V18; R-V23; R-V24; R-V25; G-V1; G-V2; G-V3; G-V23; L-SR-F18; L-SR-F21; L-SR-F22; L-SR-I15; L-SR-I16; L-SR-I17; O-SR1; W-V2; W-V3; W-V4; W-V7;
Osi Viewing Areas	All Viewing Areas screened in

Visual Receptor Category	Visual Receptor with no significant visibility found on site (or views focussed away from the Proposed Development)
Settlements	Hodson Bay / Barrymore; Knockcroghery; Glasson; Kilconnel; Mountbellew; Castleblakeney; Ahascragh; Leacarrow
Recreational and Tourist Destinations	Drum Heritage Centre; Glendee Pet Farm; Hodson Bay Watersports; La Tene Stone; Athlone Castle; Suck Valley Visitor Centre; Rinn Dúin and Loop Walks; Mote Park; Battle of Aughrim Visitor Centre.
Recreational Route	Suck Valley Way; Rinn Dúin Loop Walks; Mote Park Loops; Shannonbridge River Shannon Loop; Mullingar - Athlone - Old Rail Trail Greenway
Transport Route	Dublin-Westport Trainline; N61 National Road; N63 National Road

Following the pre-assessment exercise, the visual receptors listed below in Table 12-16 have not been screened out for any of the reasons outlined above. Therefore, these receptors are screened in and will be assessed further in the assessment below (Section 12.7). In order to inform the assessment, individual viewpoints were selected at or along those receptors, from which photomontages were produced. In some instances, a visual receptor may be represented by a photomontage viewpoint that is closer to the Proposed Development but of similar geographical location and orientation.

Photomontage imagery was captured from many locations in the LVIA Study Area. 17 No. Photomontage viewpoints were selected for the final Volume 2 photomontage booklet which accompanies this EIAR. Before selection of the final viewpoints, early-stage photomontages (draft overlaid wireframes) were produced from almost all of the visual receptors listed Table 12-16 below. In some instances, the early-stage photomontages indicated limited visibility (e.g. viewpoints at the Villages of Athleague and Ballygar) of the Proposed Development and were not taken forward for inclusion in the final photomontage booklet. These early-stage photomontages and the visual receptors they represent will be presented and discussed in text during the assessments included in Section 12.7.3.3 of this chapter.

Table 12-16 Visual receptors **Screened In** for further assessment - utilised to establish photomontage viewpoint locations.

Visual Receptor Category	Visual Receptor Name (Description)	Photomontage Viewpoint
Designated Scenic Routes	R-SR8	VP07
	R-V22	VP08
	L-SR-F19	Represented by VP15
	L-SR-F20;	Represented by VP15
	L-SR-I14	Represented by VP15
	O -V3	Represented by VP13
	O-V4	Represented by VP13

	W-V1	Represented by VP14
	W-V5	Represented by VP14
	W-V6	Represented by VP14
Osi Viewing Area	Ballykeen	VP14
	Loughfarm	VP15
Settlements	Bridewell	VP01
	Curraghboy	VP02
	Four Roads	Represented by VP03
	Dysart	VP04
	Taghmaconnell	VP05
	Ballyforan	VP10
	Athleague	AltVP-A (Early-Stage Photomontage: Overlaid Wireframe – Shown in text)
	Ballygar	AltVP-B (Early-Stage Photomontage: Overlaid Wireframe – Shown in text)
	Monksland / Bellanamullia	VP06
	Athlone	Represented by VP06 and VP14
	Ballinasloe	AltVP-C (Early-Stage Photomontage: Overlaid Wireframe – Shown in text)
	Ballykeeran	VP14
	Roscommon Town	VP09
Recreational and Tourist Destinations	Clonmacnoise	VP13
	Shannonbridge	Represented by VP13
	Roscommon Town Tourism/ Recreational Amenities	Represented by VP09
Recreational Routes	The Hymany Way	Represented by VP17
	The Pilgrims Road to Clonmacnoise Cycle Route	Represented by VP13

Transport Routes	R357 Regional Road	VP04; VP03; VP11 and VP12
	R363 Regional Road	VP01; VP16; VP04 and VP10
	R362 Regional Road	VP02
	Rail Network	AltVP-D (Early-Stage Photomontage: Overlaid Wireframe – Shown in text)
	M6 Motorway	AltVP-D (Early-Stage Photomontage: Overlaid Wireframe – Shown in text)
	N63 National Road	Represented by AltVP-A & AltVP-B (Early-Stage Photomontage: Overlaid Wireframe – Shown in text)
	N55 National Road	VP14
	N60 National Road	VP09

The viewpoints listed above were selected according to the key visual receptors identified in the visual baseline where open visibility of the Proposed Development is likely to occur occurs.

12.5.3 Visual Amenity from Residential Receptors

The likely visibility of the Proposed Development was appraised during multiple surveys conducted during 2020 and 2021, they determined that most visibility of the Proposed Development will occur within 5 km of the proposed turbines. This area is a settled agricultural landscape where there are many residential properties. Due to the relatively open nature of the landscape and absence of dense screening (fields bordered by dry stone walls) in many locations proximate to the development, selection of photomontage viewpoint locations aimed to represent residential properties located in close proximity to the Proposed Development. The following viewpoints are located in proximity to residential receptors within 1km to 1.5 km from the Proposed Development where the greatest potential for significant landscape and visual effects are likely to occur:

- > VP11 – townland of Mullaghardagh
- > VP12 – townland of Lugboy
- > VP16 – townland of Commeen
- > VP18 – townland of Skyvalley

Cumulative Baseline - Other Wind Energy Developments

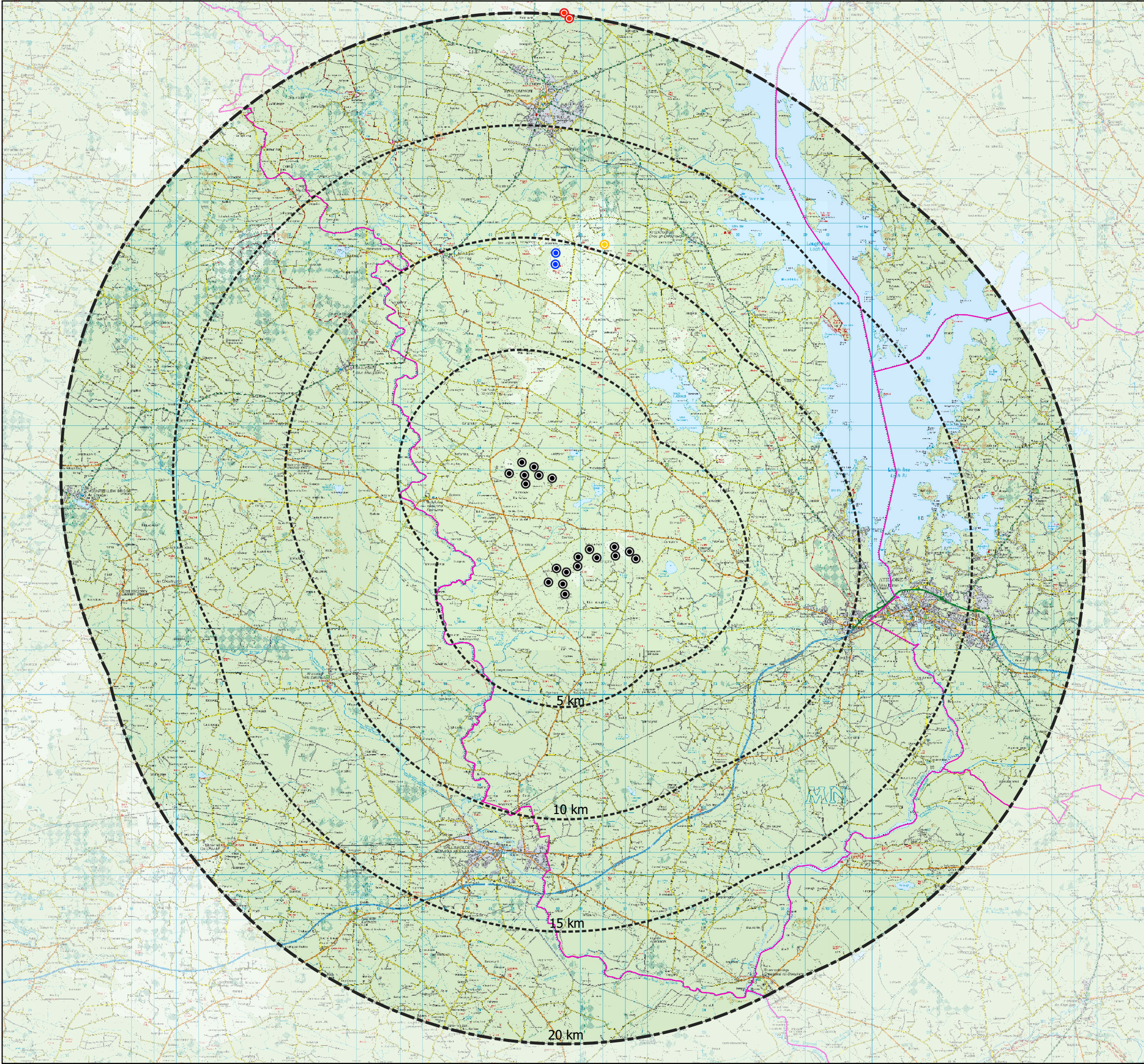
In terms of cumulative landscape and visual effects, other wind energy projects are of primary focus, as only these would be described as very tall vertical elements in the landscape and have greatest potential to give rise to significant cumulative effects. Other wind energy developments, within 20km of the Proposed Development, were identified by searching past planning applications lodged through the various planning authorities (County Councils of Roscommon, Galway, Longford, Offaly and Westmeath, as well as An Bord Pleanála) online planning portals. The information identified in the initial planning search was then used to verify, by means of a desk-based study and ground-truthing, whether the permitted wind energy developments had been constructed. The existing, permitted and recently proposed wind turbines present within the LVIA study area are listed in Table 12-17 below:

Table 12-17 Other existing, permitted and proposed wind farms within 20km of the Proposed Development

Other Wind Farms	Status	No. of Turbines	Distance from the Proposed Development
Skrine Wind Farm	Existing	2	8.5km
Derrane Wind Farm	Permitted	2	20km
Kilcash Wind Farm	Proposed	1	10.3km

There are 3 no. existing, permitted and proposed wind farms within a 20-kilometre radius of the Proposed Development. The locations of the 3 wind farms can be identified on the Cumulative Baseline map, Figure 12-15 below. All of these wind turbines are located to the north of this location. Initial visibility appraisals determined that the proposed turbines will only be viewed in conjunction with these developments in open views to the north from south of the development or southerly views to the Proposed Development from north locations north of the developments listed in Table 12-17. If they are theoretically visible, all turbines are included within the wireframe images and proposed photomontage imagery in the Volume 2 photomontage booklet.

An assessment of cumulative landscape and visual effects are included in the assessment of effects detailed in Section 12.7. While there is a primary focus on the cumulative impact of other wind farm developments, cumulative effects also considers the cumulative impact of the differing components of the Proposed Development, such as the two turbine clusters, the proposed substation and other ancillary infrastructure.



Map Legend

- ⦿ Turbines of the Proposed Development
- LVIA Study Area
- County Boundaries
- ⦿ Existing Skrine Wind Farm
- ⦿ Proposed Kilcash Turbine
- ⦿ Permitted Derrane Wind Farm

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Drawing No.

Figure 12-15

Drawing Title

Cumulative Baseline

Project Title

Seven Hills Wind Farm, Co. Roscommon

Scale	Project No.	Date	Drawn By	Checked By
1:165,000	190907	20.05.2022	JW	OM



12.7 Likely or Significant Landscape and Visual Effects

12.7.1 'Do-Nothing Scenario'

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

12.7.2 Construction Phase Effects

It is estimated that the construction phase of the Proposed Development will last between approximately 18-24 months. The construction stage of the development will involve construction of 20 no. wind turbines, one onsite substation, a met mast, all associated hardstand areas, construction of access roads, all the associated excavation works for the cable connection to proposed substation locations and Grid Connection to the 110 kV substation in Monksland as detailed in Chapter 4 of this EIAR. Construction phase effects also include the use of spoil storage areas, a temporary construction compound and 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 turbines and associated elements.

12.7.2.1 Landscape Effects (Construction Phase)

The earthworks such as cut and fill required to facilitate construction of the Proposed Development will have a direct effect on the landscape. Where excavation is required, existing landcover, vegetation and spoil will be removed during the construction phase. In most instances, groundworks and excavation trenches will be re-instated upon completion of construction. The construction activities may potentially cause temporary impacts on the landscape such as the creation of temporary structures, dust and noise. In general, it is considered that the construction phase will have a short-term, 'Slight', 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 4-9 of this EIAR. Any protected field boundary walls (designated as National Monuments) which will be affected during the construction phase will be removed by hand (under licence from the National Monuments Service), in advance of groundworks commencing on site.

12.7.2.2 Visual Effects (Construction Phase)

The most substantial visual effects will arise from requisite construction activities such as building tower sections and erecting the turbines, these will be short-term, slight, negative visual effects. The equipment and vehicles required to transport and erect the wind farm components include large cranes and large haulage vehicles; these will cause Slight, short-term negative visual effects.

General housekeeping measures, necessary for Health & 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 other construction activities are included in Chapter 4 of this EIAR. The visual effects of the ancillary project elements (not turbines), please see 'Ancillary Project Elements' in Section 12.7.3.5.

Grid Connection – Construction Phase Effects

The proposed Grid Connection will be located underground, therefore the greatest effects attributed to this element of the Proposed Development will occur during the construction phase. The majority of cable route works are to be carried out along existing private and public road corridors. The construction phase of the proposed underground cabling will be temporary, localised and transient in nature, as the works move along the cable route. The works will include roadside vegetation removal, soil stripping, excavation and other associated construction activities. These activities will cause temporary change to the physical landscape along the Grid Connection route. Changes will be localised to the immediate environment surrounding the Grid Connection route and will not affect the character of the landscape setting or visual amenity of the wider area. The proposed Grid Connection works are likely to cause temporary, negative landscape and visual effects of ‘Slight’ significance.

The following measures will be implemented to mitigate effects during the construction phase and operational phase of the proposed Grid Connection:

- In all circumstances, excavation depths and volumes will be minimised, and excavated material will be re-used where possible.
- Where the cable trench is to be located in the road verge, subsoil should be piled on site and re-used after cabling works. Should any medium planting be removed, it should be replaced with the same or similar species whenever it is not possible to salvage and reinstate. New topsoil should be provided should the existing topsoil not be of sufficient standard (to comply with BS 3882:2015).
- Any areas of bare soil remaining after the landscaping phase will be seeded as soon as possible with a grass seed mix to minimise sediment run-off.

12.7.3 Operational Phase Effects

12.7.3.1 Landscape Effects

12.7.3.1.1 Landscape of the Proposed Development Site

The landscape character of the Proposed Development site will undergo a change in character from its current condition by the introduction of vertical man-made structures into the landscape of the site and. The footprint of the proposed turbines and ancillary infrastructure comprises approximately 30 Ha, this is 5% of the area within the EIAR Site Boundary (approx. 587 Ha). There will be a substantial magnitude of change to the landscape in localised areas within the site where the landscape is materially altered (infrastructure footprint).

In a local context, the Proposed Development site is located in a landscape of medium value, however, it is not recognised as a landscape of any regional or national value or importance. The majority of the Proposed Development is located in an area 'Most Favoured' for wind energy development as well as an LCA with the lowest sensitivity rating in County Roscommon. On balance the landscape sensitivity 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 site. These direct landscape effects will be highly localised to the footprint of the Proposed Development. Effects on the perceptual and aesthetic character of the site are also deemed to be of Moderate significance.

Mitigation by Design

Initial site selection and siting of the Proposed Development in this landscape was plan lead, followed closely by a detailed and rigorous iterative design process required to effectively bring a viable, appropriate and suitable wind farm design to the planning stage over circa a two year period. Throughout this time and process it was always the intention to site all of the proposed infrastructure within lands zoned as 'Most Favourable', which had been the case up until very recently.

The majority of the Proposed Development is located in a 'Most Favoured' area for wind energy development, notwithstanding the four turbines of the Southern Cluster which are sited in a 'Not Favoured' area in the very recently adopted RCDP 2022-2028. The Proposed Development is sited within a Landscape Character Area designated as 'Moderate' Value which is the lowest LCA value rating of LCAs in County Roscommon, as stated in the LCACR.

The siting and design of the proposed Wind Farm adheres to the guidance for the siting of wind farms in Hilly and Flat Farmland Landscape Types in terms of location, spatial extent, spacing and layout, as set out in The Wind Energy Development Guidelines for Planning Authorities (DoEHLG, 2006), & (DoPHLG, 2019), as reported previously in Section 12.4.3.

As noted in section 12.1.5 *Assessment of Other Alternative Turbine Layouts*, initial turbine layout iterations considered a larger number of turbines as well as a substantially larger infrastructure footprint (roads, hardstands, etc). The final Proposed Development design includes turbines of a larger height than those included in the previous design iterations. The taller turbines maximise the potential of this area for wind energy development to contribute towards county and national renewable energy targets, whilst reducing the no. of turbines within the landscape and reducing the size of the infrastructure footprint.

Mitigation of Landscape Effects within the Landscape of the Development Site

The following measures have been included in the project design in order to avoid or reduce direct effects on landscape receptors of the development site:

- The spatial configuration of the proposed infrastructure footprint has been carefully designed to avoid (in most instances) and minimise the loss of valuable landscape receptors on the site, such as: Dry calcareous and neutral grassland (GS1) (Annex 1 habitat) and other karst features.
- The internal site road layout makes use of the existing informal agricultural tracks wherever possible, to minimise the requirement for new tracks within the site and where possible retain the integrity of existent field boundary walls, hedgerows and hawthorn trees.
- In order to minimise cut and fill activities required to construct the Proposed Development, the proposed access roads and other infrastructure such as hard stands have been designed to avoid steep gradients and hilly terrain within the hummocky landscape of the site.
- The proposed substation is sited in a location enclosed by localised topography, reducing visibility from receptors in the surrounding landscape, therefore reducing perceptual impacts on the landscape aesthetic.
- In all circumstances, excavation depths and volumes will be minimised, and excavated material will be re-used where possible.
- A re-planting program is included as part of the application and detailed in the Construction Environmental Management Plan to offset the clearance of hedgerows required for the construction of the turbines and hardstand infrastructure.
- During initial vegetation stripping, all topsoil material will be temporarily stored on site and used for “dressing” the edges of the development infrastructure during reinstatement/regrading. 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 establishment of a species rich grassland.

Effects on the Killeglan Karst Landscape

The boundary lines defining the Killeglan Karst Landscape Geological Heritage Site (GHS) are directly mapped around surface karst features such as limestone boulders. There will be a loss of karst surface features in a very small area of the GHS where the footprint of the Proposed Development overlaps the existing ground cover of the GHS, and this comprises a very small percentage of the overall development footprint. The iterative design process included extensive geological and hydrological surveys (Chapters 8 and 9) to minimise the extent of the Proposed Development footprint sited within sensitive habitats or on top of unsuitable karst geology. Where possible, the micro-siting of all infrastructure utilises agricultural land or existing agricultural tracks within the site and the GHS. Therefore, highly localised direct landscape effects will occur, but overall, loss of very small areas of land cover will be Slight in the context of the wider landscape setting and its overall character.

Residual Landscape Effects

Once the Proposed Development is operational and construction activity is complete, the landscape will naturally re-vegetate around the Proposed Development 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 site are deemed to be of ‘Slight’ significance.

12.7.3.1.2 Landscape Character Areas

An assessment of the effects on landscape character was undertaken for the eleven designated Landscape Character Areas within the LVIA study area that were identified as having notable visibility

in the Landscape Receptor Preliminary Assessment previously in Section 12.4.4.2.1 and listed in Table 12-8. The individual assessments for each LCA are summarised in Table 12-18 below and are included in detail in *Appendix 12-2* of this EIAR - *Landscape Character Assessment Tables*. The assessment criteria and grading scales which aided the assessment of landscape effects are detailed in Section 1.5.2 of the methodology appendix – *Appendix 12-1*.

Table 12-18 Landscape Character Area Assessment Summary

Landscape Character Area	LCA Sensitivity to Wind Farm Development	Magnitude of Change	Significance of Landscape Character Effect (EPA, 2017)
Roscommon LCA 34 - Lough Funshinagh, Stone Wall Grasslands and Esker Ridges	Low	Moderate	Slight
Roscommon LCA 8 - Lower Lough Ree and Athlone Environs	High	Negligible	Slight
Roscommon LCA 9 - Cloonown and Shannon Callows	High	Negligible	Slight
Roscommon LCA 12 - Athleague and Lower Suck Valley Grasslands and Esker Ridges	Medium	Slight	Slight
Roscommon LCA 32 - Roscommon Town and Hinterland	Medium	Negligible	Not Significant
Roscommon LCA 33 - Skrine Hill and Limestone Pavement	Medium	Slight	Slight
Roscommon LCA 35 - Brideswell Esker Belt	Low	Moderate	Slight
Roscommon LCA 36 - Ballydangan Pastures	Low	Slight	Not Significant
Galway LCA 1 - North East Galway (Balinasloe to Ballymoe)	Medium	Slight	Slight
Galway LCA 3 - East central Galway (Athenry, Ballinasloe to Portumna)	Medium	Negligible	Not Significant
Westmeath LCA 6 - Lough Ree/Shannon Corridor	High	Negligible	Slight

Discussion of Landscape Effects on LCAs

The largest magnitude of change will occur in LCA 34 (Lough Funshinagh, Stone Wall Grasslands and Esker Ridges) as the Proposed Development will materially change the landscape of this LCA. The landscape will only be directly altered in localised areas comprising approximately 0.2% of this LCA (Infrastructure footprint = approximately 0.3 km² the LCA = 139 km²). The proposed turbines are likely

to be most visible from most areas within this LCA and will to some degree change the visual and perceptual aesthetic of this LCA. The magnitude of change was deemed to be moderate as the addition of new uncharacteristic features (turbines) will likely cause a change in landscape character in a localised area but will not redefine the character of the LCA.

The majority of the proposed turbines are all sited in an area designated as 'Most Favoured' for wind energy development and LCA 34 is a landscape designated as one of the lowest value in The LCACR. In light of these designations sensitivity of this landscape to wind energy development was deemed to be **Low**. The effects on the character of this LCA are deemed to be of 'Slight' significance.

The Proposed Development will not materially alter any of the other LCAs in the LVIA Study Area. However, when the proposed turbines will be visible from another LCA, to some degree, they will likely alter the perceptual aesthetic of the landscape and its character. Relatively widespread visibility of the proposed development is likely to occur in Roscommon LCA 35 - Brideswell Esker Belt. Therefore, the magnitude of change was deemed to be Moderate for LCA 35, balanced with a Low sensitivity the significance of effect on LCA 35 was deemed to be 'Slight'.

Several LCAs comprise landscape in close proximity to the Proposed Development where the proposed turbines will be clearly visible such as: Roscommon LCA 12 - Athleague and Lower Suck Valley Grasslands and Esker Ridges; Roscommon LCA 33 - Skrine Hill and Limestone Pavement; Roscommon LCA 36 - Ballydangan Pastures; and, Galway LCA 1 - North East Galway. Although the Proposed Development is likely to be visible within these LCAs, the geographical extent of expected visibility through the entirety of these LCAs is likely to be limited, therefore, the magnitude of change was deemed to be Slight. Likely significant effects on the landscape character of the aforementioned LCAs were deemed to be of 'Slight' significance or 'Not Significant' as appropriately balanced with their sensitivity.

Westmeath LCA 6 - Lough Ree/Shannon Corridor and Roscommon LCA - 8 Lower Lough Ree and Athlone Environs recorded effects on landscape character of 'Slight' significance. This is attributable to the 'High' value and sensitivity designations attributed to these two LCAs in the respective development plans, the presence of Lough Ree and the River Shannon, as well as the designation of WM LCA 6 as a County Westmeath High Amenity Area. The Proposed Development will be seen in the background of scenic views in Westmeath LCA 6, however, effects on landscape character will be substantially mitigated by distance. Due to set back distances (approximately 10km) and limited visibility, the Proposed Development will have a negligible impact upon sensitive landscape receptors such as the River Shannon or Lough Ree.

12.7.3.2 Cumulative Landscape Effects

The requisite construction activities on the site may have some minor cumulative landscape effects in combination with quarrying activities in the surrounding landscape (Cam Quarry north-east of Southern Cluster) in terms of traffic, dust and noise, however, these impacts will be mitigated by the measures detailed in the Construction Environmental Management Plan (CEMP) – See Appendix 4-9. Cumulative impacts on the character of the wider landscape are most likely to occur as a result of the proposed turbines, where they might be visible in conjunction with other existing, permitted or proposed turbines. A comprehensive assessment of likely effects arising from the intervisibility of the Proposed Development and other wind farms as well as the two proposed turbine clusters is included in Section 12.7.3.4 - *Cumulative Visual Effects*.

After identifying the cumulative baseline and cumulative status for each LCA (see Appendix 12-2), it was considered whether the addition of the Proposed Development would change the cumulative status of the individual LCAs. There are only 2 existing turbines located within the surrounding landscape of the LVIA Study area, as well as two permitted and one proposed turbine. All existing, permitted and proposed turbines have a substantial set back distance (> 8.5 km) from the proposed turbines and in a general sense cumulative effects upon the wider landscape of the LVIA Study Area are not significant.

12.7.3.3 Visual Effects

12.7.3.3.1 Selection of Photomontage Viewpoints

Photomontages were used to assess the visual effects arising as a result of the Proposed Development from 18 no. viewpoint locations. These 18 no. viewpoint locations are shown on Figure 12-16 below as well as the A0 Map – *Appendix 12-4 LVIA Baseline Map*. The locations chosen for photomontages follow a detailed and extensive process including review of baseline information, site visits and high-quality photo taking at multiple locations within the LVIA study area. Many locations, which based on a desktop review had the potential for views of the site, had complete intervening screening or were screened to such an extent that the development of photomontages was not considered useful in terms of the assessment process i.e. little or no visibility towards the Proposed Development.

Multiple on-site surveys and visibility appraisals conducted throughout 2020 and 2021 determined that visibility of the Proposed Development is greatest from locations in close proximity to the Proposed Development due to the characteristics of the surrounding landscape. In this regard, viewpoint selection was particularly focussed on locations proximate to the site, 10 of the 18 final photomontage locations are located within 5 km of the site.

Alternative Photomontage Viewpoints – Early Stage Overlaid Wireframes

Photomontage imagery was captured from many locations in the LVIA Study Area other than the 18 No. Photomontage viewpoints that were selected for the final Volume 2 photomontage booklet. Early-stage photomontages (stitched photos with draft overlaid wireframes) were produced from many other locations in the LVIA Study area. These photomontage viewpoints were not selected for inclusion in the final Volume 2 photomontage booklet due to limited visibility of the Proposed Development or absence of prominent visual receptors. These early-stage photomontages do not form part of the assessment of visual effects (which are included in Appendix 12-3). However, several of these early-stage photomontages are presented and discussed in text to illustrate certain points later in this section of the report. The location of early-stage photomontage viewpoints discussed in text are marked as orange icons in Figure 12-16 and labelled as AltVP (e.g. A, B, C, D, E, F, G, H, I, J, K & L).

12.7.3.3.2 Summary of Viewpoint Assessment – Appendix 12-3

Visual effects were assessed using the assessment methodology described in Appendix 12-1. Each viewpoint location is shown in Figure 12-16 below. A comprehensive and detailed assessment of each individual photomontage is presented in Appendix 12-3 of this EIAR – *Photomontage Assessment Tables*. The determination of visual effects for each viewpoint is included in Appendix 12-3. Appendix 12-3 and Table 12-19 (below) should be read in conjunction with the photomontage booklet forming Volume 2 of the EIAR.

The visual effect of the Proposed Development was assessed from each viewpoint in terms of the sensitivity of the visual receptors, along with the magnitude of change, as recommended in the GLVIA3 (2013) guidelines. This, in conjunction with a detailed review of the photomontages themselves as well as the likely visibility of the Proposed Development within the LVIA Study Area informed the assessment of visual effects.

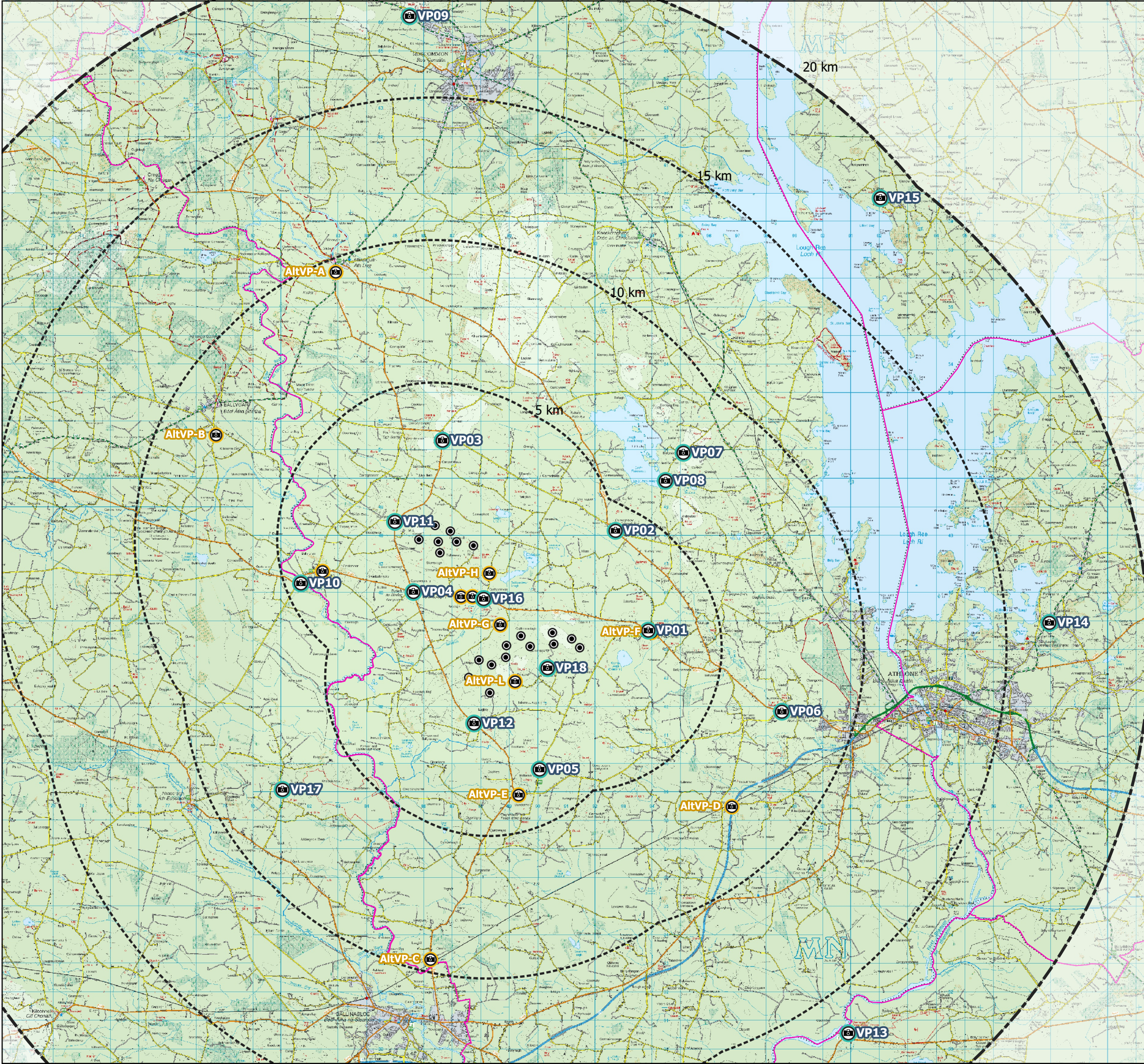
Visualisations such as photomontages are tools that can represent the likely effect of a development and are used to inform the reader's prediction of how that development will appear in the landscape. In terms of the predicted visual quality of the proposed turbines, however, whether a visual effect 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.

Table 12-19, Figure 12-16, and the Photomontage Booklet should be viewed whilst reading Appendix 12-3. Each photomontage is comprehensively assessed in Appendix 12-3 including the potential for cumulative visual effects. Factors which mitigate the visual effects from each viewpoint location are also noted in Appendix 12-3 to give a residual visual effect. The significance of each residual visual effect for each viewpoint is summarised in Table 12-19 below.

12.7.3.3.3 **Mitigation by Design – Visual Effects**

As noted throughout this chapter, initial site selection and siting of the Proposed Development in this landscape was plan lead, followed closely by a detailed and rigorous iterative design process required to effectively bring a viable, appropriate and suitable wind farm design to the planning stage over circa a two year period. Throughout this time and process it was always the intention to site all of the proposed infrastructure within lands zoned as ‘Most Favourable’, which had been the case up until very recently. The majority of the Proposed Development is located in a ‘Most Favoured’ area for wind energy development, notwithstanding the four turbines of the Southern Cluster which are sited in a ‘Not Favoured’ area in the very recently adopted RCDP 2022-2028. The siting and design of the proposed Wind Farm adheres to the guidance for the siting of wind farms in Hilly and Flat Farmland Landscape Types in terms of location, spatial extent, spacing and layout, as set out in The Wind Energy Development Guidelines for Planning Authorities (DoEHLG, 2006), & (DoPHLG, 2019), as reported previously in Section 12.4.3.

As noted in section 12.1.5 *Assessment of Other Alternative Turbine Layouts*, initial turbine layout iterations considered a larger number of turbines as well as a substantially larger infrastructure footprint (roads, hardstands, etc). The final Proposed Development design includes turbines of a larger height than those included in the previous design iterations. The taller turbines maximise the potential of an area predominantly designated as ‘Most Favoured’ for wind energy to contribute towards county and national renewable energy targets, whilst reducing the no. of turbines visible within the landscape and reducing the size of the infrastructure footprint.



Map Legend

- Turbines of the Proposed Development
- LVIA Study Area
- County Boundaries
- Photomontage Viewpoint Locations
Volume 2 Photomontage Booklet
- Early Stage Photomontage (Overlaid Wireframe)

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Drawing No.

Figure 12-16

Drawing Title

Photomontage Viewpoint Locations

Project Title

Seven Hills Wind Farm, Co. Roscommon

Scale
1:130,000

Project No.
190907

Date
20.05.2022

Drawn By
JW

Checked By
OM



Table 12-19 Viewpoint Assessment Summary

VP No	Description	Grid Ref. (ITM)	Visual Sensitivity of Receptor(s) (at viewpoint)	Magnitude of Change	Residual Significance of Visual Effect (EPA, 2017)
01	View from R363 Regional Road in the townland of Brideswell . The viewpoint is located approximately 2.5 km east of the nearest proposed turbine (T20).	E 593,826 N 744,704	Medium	Slight	Slight
02	View from the Village of Curraghboy in the townland of Carrick. The viewpoint is located on the R362 Regional Road, approximately 4.1 km north-east of the nearest proposed turbine (T19).	E 592,691 N 748,194	Medium	Slight	Slight
03	View from Four Roads in the townland of Correal. The viewpoint is located on the R357 Regional Road, approximately 3 km north of the nearest proposed turbine (T1).	E 586,616 N 751,362	Medium	Substantial	Moderate
04	View from the village of Dysart in the townland of Carrownadurley. The viewpoint is located at the intersection between the R363 and R357 Regional Roads, approximately 1.6 km south-west of the nearest proposed turbine (T7). <ul style="list-style-type: none"> ➤ Photomontage 4A shows a field of view directed in a westerly direction. ➤ Photomontage 4B shows a field of view directed in a north-easterly direction. 	E 585,596 N 746,053	Medium	Moderate	Moderate
05	View from the GAA club in Taughmacconnell in the townland of Onagh. The viewpoint is located on the L2024 Local Road, approximately 3.2 km south of the nearest proposed turbine (T9).	E 590,023 N 739,825	Low	Slight	Not Significant
06	View from Bellanamullia in the townland of Cloonakilla. The viewpoint is located outside of Cloonakilla National School on the R362 Regional Road, approximately 7.4 km south-east of the nearest proposed turbine (T20).	E 598,523 N 741,854	Medium	Slight	Not Significant

VP No	Description	Grid Ref. (ITM)	Visual Sensitivity of Receptor(s) (at viewpoint)	Magnitude of Change	Residual Significance of Visual Effect (EPA, 2017)
07	View from the L2017 Local Road in the townland of Lisfelim . The viewpoint is located on County Roscommon Scenic Route No. 8, approximately 7.6 km north-east of the nearest proposed turbine (T19).	E 595,072 N 750,935	High	Moderate	Moderate
08	View from Lough Funshinagh and in the townland of Lisfelim. The viewpoint is located in close proximity to County Roscommon Scenic View No. 22, approximately 6.4 km north-east of the nearest proposed turbine (T19).	E 594,443 N 749,939	High	Slight	Slight
09	View from the Racecourse on the N60 national Road in Roscommon Town . The viewpoint is located approximately 17.9 km north of the nearest proposed turbine (T1).	E 585,462 N 766,249	Medium	Slight	Not Significant
10	View from Ballyforan Marina on the bank of the River Suck in the townland of Ballyforan. The viewpoint is located approximately 4.4 km south-west of the nearest proposed turbine (T5).	E 581,643 N 746,355	High	Slight	Slight
11	View from the R357 Regional Road in the townland of Mullaghardagh . The viewpoint is located approximately 1 km north-west of the nearest proposed turbine (T5).	E 584,946 N 748,514	Medium	Moderate	Moderate
12	View from the R357 Regional Road in the townland of Lugboy . The viewpoint is located approximately 1.1 km south-west of the nearest proposed turbine (T9).	E 587,724 N 741,441	High	Moderate	Moderate
13	View from Clonmacnoise monastic site and Shannon Callows in County Offaly. The viewpoint is located in proximity to Clonmacnoise Castle and Heritage Centre on the southern banks of the Shannon River. The viewpoint is located approximately 17.3 km south of the nearest proposed turbine (T9).	E 600,831 N 730,577	High	Slight	Slight

VP No	Description	Grid Ref. (ITM)	Visual Sensitivity of Receptor(s) (at viewpoint)	Magnitude of Change	Residual Significance of Visual Effect (EPA, 2017)
14	View from a Viewing Area in Ballykeeran , County Westmeath. The viewpoint is located at a viewpoint and picnic area off the N56 National Road in the townland of Ballaghkeeran Big. The viewpoint is located approximately 16.5 km east of the nearest proposed turbine (T20).	E 607,924 N 744,975	Very High	Negligible	Slight
15	View from a Viewing Area in the townland of Loughfarm , County Longford. The viewpoint is located on Longford Scenic Route 20, approximately 18.8 km north-east of the nearest proposed turbine (T4).	E 601,991 N 759,884	High	Negligible	Not Significant
16	View from R363 Regional Road in the townland of Commeen . The viewpoint is located approximately 1.8 km north of the nearest proposed turbine (T14).	E 588,061 N 745,808	High	Substantial	Significant
17	View from a Local Road in the townland of Castlegar East . The viewpoint is located approximately 7.6 km west-south-west of the nearest proposed turbine (T8).	E 580,987 N 739,111	Low	Moderate	Slight
18	<p>View from a Local Road in the townland of Skyvalley. The viewpoint is located approximately 850 metres south of the nearest proposed turbine (T17). The viewpoint is representative of residential receptors in close proximity to the Proposed Development.</p> <ul style="list-style-type: none"> ➤ Photomontage 18A shows a field of view directed in a westerly direction. ➤ Photomontage 18B shows a field of view directed in a north-easterly direction. 	E 590,301 N 743,384	High	Substantial	Significant

The assessment of visual effects determined the residual significance of the visual effects to range from 'Not Significant' to 'Significant', with the number of findings at each level of significance listed in Table 12-20 below.

Table 12-20 Summary of Viewpoint Impact Assessment Results

Significance of Residual Visual Effect	Description	No. of Viewpoints
Profound	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment	0
Very significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment	0
Significant	An effect, which by its character, magnitude, duration or intensity alters a sensitive aspect of the environment	2
Moderate	An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends	5
Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities	7
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.	4
Imperceptible	An effect capable of measurement but without significant consequences	0

The significance of the residual visual effect was not considered to be "Profound" or "Very Significant" at any of the 18 viewpoint locations. A residual visual effect of "Significant" was deemed to arise at two of the 18 viewpoint locations and 'Moderate' at five locations. All other viewpoints were assessed as resulting in Slight (7) and Not Significant (4) residual visual effects.

The viewpoint assessment results (See Appendix 12-3) will be summarised and discussed in more detail in the following sections.

12.7.3.3.4 **Visibility in Close Proximity to the Site – Route Screening Analysis**

The results of the photomontage assessment indicate that the most significant visual effects are likely to arise in close proximity to the site. Visibility of the Proposed Development from areas in close proximity to the site (< 5 km) is mitigated by screening from localised undulations in topography, and the vegetated nature of the landscape immediately surrounding the site. In order to test this objectively, a method termed Route Screening Analysis (RSA) was conducted in February and May 2021 to comprehensively assess the varying characteristics of screening factors existent on roads surrounding the Proposed Development.

The RSA determined the actual likely visibility of the Proposed Development in comparison with theoretical visibility on all public roads within 5 km of the Proposed Development. The roads were surveyed using a methodology outlined in Section 1.3.3 of Appendix 12-1, one of three screening classifications were recorded as these roads were driven:

- No screening – unobstructed and open views, where views of the proposed turbines would be readily available (See Plate 12-15).
- Partial or Intermittent Screening - Partial or intermittent views of the proposed turbines would be available. Screening in the form of vegetation, local topography or built form will limit or restrict views of the proposed turbines but may not entirely prevent views. e.g. Light deciduous roadside vegetation (see Plate 12-16)
- Dense Screening - a location from which no view in the direction of the proposed turbines would be available, and from which the turbines will not be seen (See Plate 12-17). This is as a result of Very Dense vegetation or significant topographical screening (e.g. areas with no visibility on the ZTV).

The results of the route screening survey are mapped in Figure 12-17 below, this figure shows the extent at which each screening classification is present on all public roads within 5 km of the Proposed Development. Where roads continued beyond 5 km from the site, the RSA survey continued to record the screening until an appropriate termination point or junction.



Plate 12-15 Example of class **'No Screening'**. The image shows how the landscape is fully visible on either side of the road due to an absence of screening.

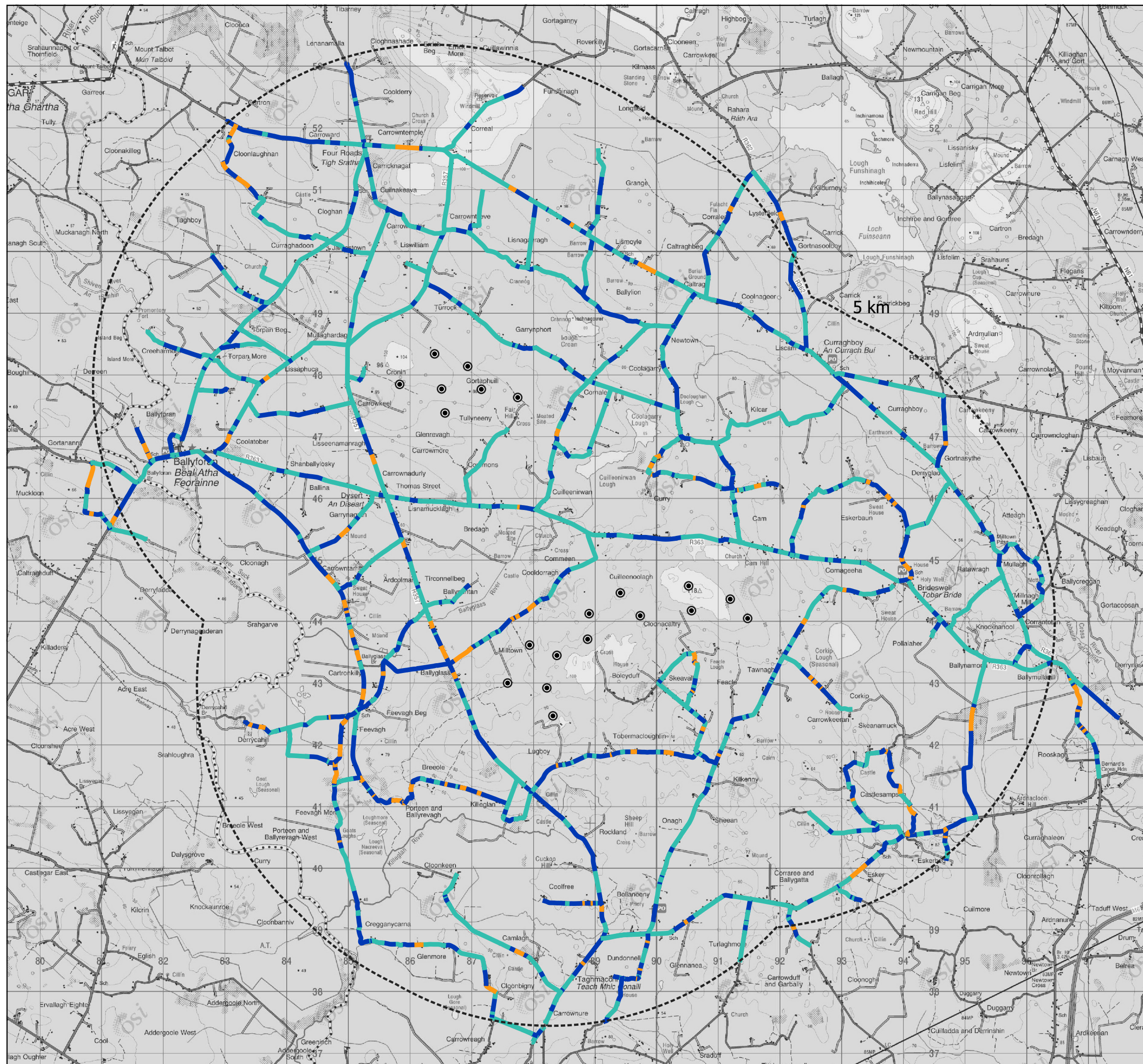


Plate 12-16 Example of class '**Partial or Intermittent Screening**'. The image shows how the landscape on either side of the road is partially or intermittently screened from view by roadside vegetation.



Plate 12-17 Example of class '**Dense Screening**'. The image shows how the landscape on either side of the road is fully screened from view by roadside vegetation.

Figure 12-17 below shows the three screening classes mapped during the route screening survey upon all public roads within 5 km of the Proposed Development.



Map Legend

- Turbines of the Proposed Development
- Route Screening Analysis
- Class 1 - No / Very Little Screening
 - Class 2 - Partial / Intermittent Screening
 - Class 3 - Dense / Full Screening

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Drawing No.

Figure 12-17

	Drawing Title
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Route Screening Analysis

Project Title

Seven Hills Wind Farm, Co. Roscommon

Scale 1:60,000	Project No. 190907	Date 20.05.2022	Drawn By JW	Checked By ÓM
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The route screening analysis determines the extent and density of screening present in the immediate vicinity of the proposed site. This allows the actual likely visibility of turbines to be considered and assessed in an objective and quantitative manner reducing the level of subjectivity involved in determining actually how visible the proposed extension turbines will be in the local landscape immediately around the site. Table 12-21 shows the distribution of the screening classes on the 210.1km of public road surveyed within 5 km of the Proposed Development.

Table 12-21 Distribution of Screening Classes recorded (within 5km) during the Route Screening Analysis.

Screening Class	Length of road mapped in Figure 12-10	Percentage distribution of screening on the surveyed roads
Class 1 – No Screening	122.4 km	58.3%
Class 2 – Partial/Intermittent Screening	75.4 km	35.9%
Class 3 – Full/Dense Screening	12.3 km	5.8%

‘No Screening’ was recorded for just over half (58.3%) of the surveyed roads. Some form of screening was recorded for just less than half (41.7%) of the roads surveyed, suggesting that visibility of the Proposed Development will be significantly mitigated by screening factors in many areas surrounding the site. Actual visibility within 5 km of the Proposed Development is likely to be a lot less than is indicated by the ZTV mapping in Figure 12-1 which shows widespread theoretical visibility of all turbines in a majority of this area.

Figure 12-17 shows that open views (‘Class 1 - No Screening’) mostly occur in the grassy farmland landscape surrounding the Proposed Development where dry-stone walls do not provide effective screening. It is noted that ‘Class 1- No screening’ was recorded if it was likely that any of the proposed turbines would be visible, even if most of the other turbines are likely to be screened from view in another direction. For instance, Plate 12-18 below shows that there is no screening to the left of the view where some of the turbines of the Northern Cluster are likely to be visible, and there is dense screening to the right of the view where the Southern Clusters will be completely obscured from view. The capture location of Plate 12-18 was recorded as ‘Class 1 - No Screening’ in Figure 12-17



Plate 12-18 View to the east along a Local road to the north-west of the Northern Cluster of the Proposed Development. This is classed as ‘No Screening’ even though the Southern Cluster will be entirely obscured from view by dense screening.

In general, Figure 12-17 shows that Intermittent screening (Class 2) and Dense Screening (Class 3) was found at slightly lower elevations, such as along roads to the west of the site around the River Suck where there is a relatively high prevalence of roadside hedgerows and mature woodland. Screening occurs less on the open rolling farmland surrounding the Northern Cluster.

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

See Appendix 12-3 for a comprehensive description and assessment of visual effects of each photomontage included in the Volume 2 photomontage booklet. The assessment tables in Appendix 12-3 also include mitigating factors, and where appropriate, a residual visual effect accounting for mitigation is given for each viewpoint.

Residential Visual Amenity & Local Settlement Centres within 5km

It was established that most visibility of the Proposed Development will occur within 5 km of the Proposed Development. There is an absence of dense screening within this settled agricultural landscape where residential properties exist. It is likely that the most significant visual effects arising as a result of the Proposed Development will occur from residential receptors and settlement centres located in close proximity to the Proposed Development. Therefore, it was deemed appropriate to select photomontages from viewpoint locations representative of these residential receptors and local settlement centres.

The proposed turbines are predominantly sited in a location designated as 'Most Favoured' for wind energy development and all of the following viewpoints are located in LCAs (34 & 35) of the lowest value rating in County Roscommon. Also, with regards to the siting of turbines in proximity to residential dwellings, the Proposed Development adheres to the minimum 500 metre set back distance in the current Wind Energy Development Guidelines (2006, DoEHLG) and also the 4 times tip height set-back distance explicitly set out for residential visual amenity prescribed by the Draft Revised Wind Energy Development Guidelines (2019, DoHPLG).

Visual Effects were assessed from the following locations:

Viewpoint 01 – Brideswell and the R363 Regional Road.

Several photomontages were captured within the townland of Brideswell, most visibility is likely to occur to the north of the village where photomontage viewpoint 01 is located and the R363 exits to the north. The Northern Cluster are barely visible from viewpoint 01 and turbines of the Southern Cluster will have limited visibility due to screening from landform vegetation and built form. Visual effects of 'Slight' significance are likely to occur from viewpoint 01.

Plate 12-19 (below) shows an early stage overlaid wireframe (AltVP-F) from another location in Brideswell approximately 110 metres south-east of viewpoint 01. In comparison with viewpoint 01, the likely visibility and the significance of visual effects are limited from the capture location shown in Plate 12-19 by the intervening screening.



Plate 12-19 Early stage overlaid wireframe (AltVP-F) from a location proximate to Photomontage Viewpoint 01.

Viewpoint 02 – Curraghboy

All proposed turbines are visible from the village of Curraghboy and there is substantial visual separation between the two turbines clusters. Visual effects were deemed to be of 'Slight' significance from this viewpoint. This is one of the most open views towards the Proposed Development from Curraghboy, turbines are likely to be obscured from view in other areas of Curraghboy by vegetation screening existent in the landscape. The location of this viewpoint was carefully selected to ensure both turbine clusters are visible amongst the mature treelines in the area.

Viewpoint 03 - Four Roads

This viewpoint is one of the most elevated locations in close proximity to the Proposed Development, therefore, it represents one of the most open view of all proposed turbines. The proposed turbines will substantially change the character of the landscape from this viewpoint. Visual effects from receptors such as residential receptors in the surrounding area and road users on the R357 are deemed to be of 'Moderate' significance. Visibility of the proposed turbines within the actual village of Four Roads will be very unlikely.

Viewpoint 04 Dysart

Turbines of both clusters are visible from Dysart although the Northern Cluster turbines are much more prominent due to their proximity, most of the Southern Cluster turbines are obscured from view. Four of the Northern Cluster are clearly visible but their prominence is mitigated by the distance from the receptor and the other vertical elements in the foreground in particular the mature treelines. Visual effects were deemed to be of 'Moderate' significance.

Viewpoint 05 Taughmaconnell

Visual effects were deemed to be of 'Slight' significance from the viewpoint captured from outside Taughmaconnell GAA grounds. The turbines of the Northern Cluster are not visible and turbines of the Southern Cluster will be substantially screened by intervening topography and vegetation existent within the landscape.

An early-stage photomontage was produced from a capture location (AltVP-E) outside of Taughmaconnell community centre approximately 1.1km south-west of viewpoint 05. An excerpt of the early-stage photomontage is shown in Plate 12-20 below. Plate 12-20 shows that mature treelines will significantly screen the proposed turbines from view, it is only likely that the hubs and blades of three turbines will be visible from this location, as well as some blade tips above the treeline. On-site appraisals determined are likely to have very limited visibility of the proposed turbines from residential receptors located in Taughmaconnell between Viewpoint 05 and the capture location of Plate 12-20.



Plate 12-20 Early stage photomontage from outside the community centre at Taughmaconnell (AltVP-E in Figure 12-16)

Plate 12-20 is a good example of a disproportionate screening effect. When the landscape is relatively flat and the turbines and receptor (viewer) are positioned at a similar elevation, the screening (mature treelines in this case) within the landscape can have a disproportionate effect on visibility with distance.

Viewpoint 10 – Ballyforan

Residual visual effects of ‘slight’ significance were deemed to arise from viewpoint 10 at Ballyforan Marina. Only turbines of the Southern Cluster are likely to be visible above the treeline. Assessment of visibility in the Village of Ballyforan determined that there is only likely to be very limited visibility of the proposed turbines. Plate 12-21 below, shows a photomontage captured from the centre of Ballyforan. The red graphics in the image show a close up of the rendered turbine components, only blade tips of two turbines of the Southern Cluster are likely to be visible from this location.



Plate 12-21 Photomontage from the R363 Regional Road in centre of Ballyforan Village (AltVP-K in Figure 12-16)

Viewpoint 11 – Mullaghardagh

Residual visual effects were deemed to be of ‘Moderate’ significance from this location. Due to their proximate location to this viewpoint, the northern turbines are relatively prominent features of the landscape, however the Southern Cluster is not visible. There are long-ranging panoramic views of the landscape to the south, west and north from this viewpoint location. These views have some aesthetic value (although not designated), however, they are focussed in the opposite direction of the Proposed Development and the proposed turbines do not obstruct or intrude upon them.

Viewpoint 12 –Lugboy

This viewpoint is located on the R357 Regional Road that tracks along the western boundary of the site. This viewpoint is one of the first open and clear views of the landscape of the development site as receptors drive north from Ballinasloe. The viewpoint was afforded a high sensitivity on account of the

residential receptors in proximity to the site, located behind this viewpoint. From this location the proposed turbines are set back 480 metres further than the 4 times tip height set-back distance explicitly set out for residential visual amenity prescribed by the Draft Revised Wind Energy Development Guidelines (2019, DoHPLG). Residual visual effects were deemed to be of 'Moderate' significance. No turbines of the Northern Cluster are visible from this location and most of the southern turbines are partially screened behind the ridgeline. Turbines in closest proximity (T9) will be prominent additions to the landscape from this location. Residual visual effects are deemed to be of 'Moderate' significance'.

Viewpoint 16 – Commeen

The photomontage from viewpoint 16 shows an open view of the Southern Cluster from the R363 Regional Road as it intersects the two turbine clusters. The Northern Cluster is not visible from this location. Residual visual effects were deemed to be 'Significant' from this location on account of the substantial change arising as a result of the Proposed Development and high sensitivity of residential receptors in close proximity to the Proposed Development. Although, siting of these turbines adheres to the 4 times tip height set-back distance explicitly set out for residential visual amenity in the Draft Revised Wind Energy Development Guidelines (2019, DoHPLG). Regular spacing and ordered siting of the turbines ensures that they read coherently within the landscape, with minimal visual stacking or occurring from the perspective of viewpoint 16.

During the field survey, there were many attempts to capture photomontages from this regional road (R363) where both the northern and Southern Cluster would be visible in opposite fields of view. Two locations were found where this occurs along the R363 regional road. Plate 12-22 and Plate 12-23 (seen below) are draft overlaid wireframes from these two locations. Draft overlaid wireframes are early stage photomontages giving a rough indication of where the turbines would be located and the approximate degree of visibility that will occur.



Plate 12-22 Early-stage photomontage – Overlaid Wireframe from the R363 Regional Road (AltVP-I in Figure 12-16)



Plate 12-23 Early-stage photomontage – Overlaid Wireframe from the R363 Regional Road (AltVP-J in Figure 12-16)

Open views of the proposed turbines in both directions (Plate 12-22 & Plate 12-23) along this regional road will only occur momentarily for a receptor driving this route. These locations were not selected for the final photomontage booklet as Viewpoint 16 was a view of higher aesthetic quality and showed one of the more prolonged views of the open landscape where the entirety of the Southern Cluster is visible. Viewpoint 16 is in closer proximity to the Southern Cluster, so the proposed turbines would be viewed as larger and more prominent features of the landscape than from the locations shown above. Turbines of both clusters will be partially screened by topography undulations and vegetation screening from the locations shown above.

Viewpoint 18 – Skyvalley

Significant residual visual effects are likely to occur in the townland of Skyvalley due to the wide spatial extent of turbines visible and the relative proximity to residential receptors in this area. It is noted that vegetation such as mature woodland and garden hedges to the west of this viewpoint and within residential curtilage will reduce visibility of the proposed turbines from local residential receptors. Other photomontages were captured from locations in the Skyvalley area, see Plate 12-24 below, showing a photomontage produced from the most proximate location to the proposed turbines to the

west of Skyvalley townland. Viewpoint 18 shows a worse-case scenario due to the spatial extent of turbines visible from this one location compared with other photomontages that were not included in the Volume 2 photomontage booklet.



Plate 12-24 Photomontage from a viewpoint location to the west of Skyvalley, 1.2km west of Viewpoint 20 (AltVPL in Figure 12-16)

Designated Scenic Amenity

Forty designated scenic views or scenic routes were identified in the LVIA Study Area (see Section 12.5 – *Visual Baseline*). During desktop studies and visibility appraisals, thirty of these designations were excluded from assessment as the focus of the view/route was either directed away from the site or no views towards the Proposed Development could be established during site visits due to screening from vegetation, settlements or localised topography. The remaining ten scenic amenity designations (R-SR8; R-V22; L-SR-F19; L-SR-F20; L-SR-I14; O-V3; O-V4; W-V1; W-V3; W-V6) were brought forward for viewpoint assessment. Due to the long-ranging nature of the views (>15km) in neighbouring Counties Longford, Westmeath and Offaly, scenic designations were represented by one viewpoint per county.

Viewpoint 07- County Roscommon Scenic Route No. 8 (R-SR8)

Most of the proposed turbines are visible in the long ranging landscape view from viewpoint 8. The view towards the Proposed Development from this scenic route does not comprise any landscape features of unique aesthetic value, such as the specific views mentioned in the designation of this scenic route (e.g Lough Ree), where protected views are focussed to the east in the opposite direction. Residual Visual effects were deemed to be 'Moderate'.

Viewpoint 08 – Lough Funshinagh, County Roscommon Scenic View No. 22 (R-V22)

The upper blade arcs of the 7 no. Northern Cluster turbines are visible above a distant treeline on the far side of Lough Funshinagh from this viewpoint location, all turbines of the Southern Cluster are not visible in the photomontage. As indicated by the 'Roscommon Scenic Routes and Views Map' in Appendix 1 of the LCACR (and Map 5 of the Roscommon Renewable Energy Strategy), the directional focus of this designated view is to the north-west. The visible turbines are directly west-south-west of this viewpoint, therefore they are likely to be in the periphery of the intended designated view. Regardless of whether the Proposed Development is seen within the intended designated view, the turbines do not impact significantly on the existing view and Residual Visual Effects were deemed to be of 'Slight' Significance.

Viewpoint 14 – Ballykeeran, County Westmeath designated Scenic View W-V3 and representative of W-V1, as well as a popular Osi Viewing Area.

Viewpoint 14 is designated as very high sensitivity on account of its official designations and that it is a popular location in proximity to Athlone where receptors come to in order to admire the views. The Proposed Development is viewed above the skyline as a regular and ordered array of turbines in the background of this view. The turbines are seen as very small elements and they read coherently within the background of the long ranging landscape view. Residual Visual effects were deemed to be of 'Slight' significance.

Viewpoint 15 – Loughfarm, Representative of County Longford Designated Scenic Routes L-SR-I14, L-SR-F19, SR-F20, as well as an OSi Viewing Area.

Residual Visual effects were deemed to be 'Not Significant' from this viewpoint. All turbines of the Proposed Development are visible in the very background of the expansive landscape views from this location although the lower components of all turbines are substantially obscured from view by the

intervening landform. The visible components of the turbines are small features above the skyline and they do not obstruct any valuable landscape views. At a distance greater than 18km from the proposed turbines, a visual receptor will have to be scanning the horizon in order to identify the Proposed Development.

Viewpoint 13 – Clonmacnoise Heritage Site, Representative of County Offaly designated Scenic Views O-V3 and O-V4.

This is a location of high sensitivity due to the heritage value of the site at Clonmacnoise and the Shannon River which is visible in the photomontage. Although all 20 no. proposed turbines will be visible from this viewpoint, the towers and lower blade arcs of the turbines are substantially screened from view by the intervening landform and vegetation. Clonmacnoise is greater than 17km from the Proposed Development, consequently the turbines are small background features and visual effects are significantly mitigated by distance. Residual Visual Effects were deemed to be of ‘Slight’ significance.

No Significant visual effects are likely to arise at any of the designated scenic amenities in the LVIA Study Area as a result of the Proposed Development.

Settlements

Viewpoint 06 – Bellanamullia

This viewpoint is from a slightly elevated location on the R362 as it exits Bellanamullia to the west. A small number of turbines from the Southern Cluster will be partially visible above the distant treeline and no turbines of the Northern Cluster will be visible from this viewpoint location. The intervening distances mitigates the potential for any significant effects, residual visual effects are deemed to be ‘Not Significant’. Visibility of the Proposed Development is likely to be very limited to the east of this viewpoint location due to disproportionate screening effects of woodland and built form in the relatively flat landscape where long distance views are not available in the direction of the Proposed Development.

Viewpoint 09 - Roscommon Town

Residual visual effects from Roscommon Town are deemed to be ‘Not Significant’. The turbines are visible from the elevated perspective of viewpoint 09 (Roscommon Racecourse) however, they are substantially screened from view by intervening topography at Skrine Hill. Visual effects are significantly mitigated by distance as the proposed turbines will be small background features in the background of the view. Due to the lower elevation and built form in Roscommon Town, as well as screening in the heavily vegetated landscape to the south of this viewpoint (visible in the middle distance of the photomontage), there are few areas in the landscape surrounding this viewpoint where visibility of the turbines will occur.

Athleague Village, and N63 National Road.

An early stage photomontage was produced from the most open view towards the Proposed Development from the N63 National Road on the outskirts of the village of Athleague. The Draft overlaid wireframe shown below in Plate 12-25 was captured from outside the Athleague cemetery, it shows a view to the south-east where the nearest proposed turbine is approximately 9.6 km distant. Even though this viewpoint is at a slightly elevated location, there is very limited visibility of the Proposed Development, as shown in the draft overlaid wireframe below. No visibility is likely from receptors within the village of Athleague itself.



Plate 12-25 Draft Overlaid Wireframe from The N63 National Road to the south of Athleague (AltVP-A in Figure 12-16)

Ballygar Village

On-site appraisals determined that there would be no visibility of the Proposed Development from within Ballygar village. Ballygar is located at one of the lowest elevations and flattest areas in the LVIA study area, where few long ranging landscape views are available. The impact of screening elements such as vegetation and built form on long range visibility are accentuated in the flat lowland landscape surrounding Ballygar. This disproportionate screening effect is evident in the early stage photomontage produced from the GAA club to the south of Ballygar where there are open fields, but visibility of the Proposed Development is obscured by the distant treeline; see Plate 12-26 below.

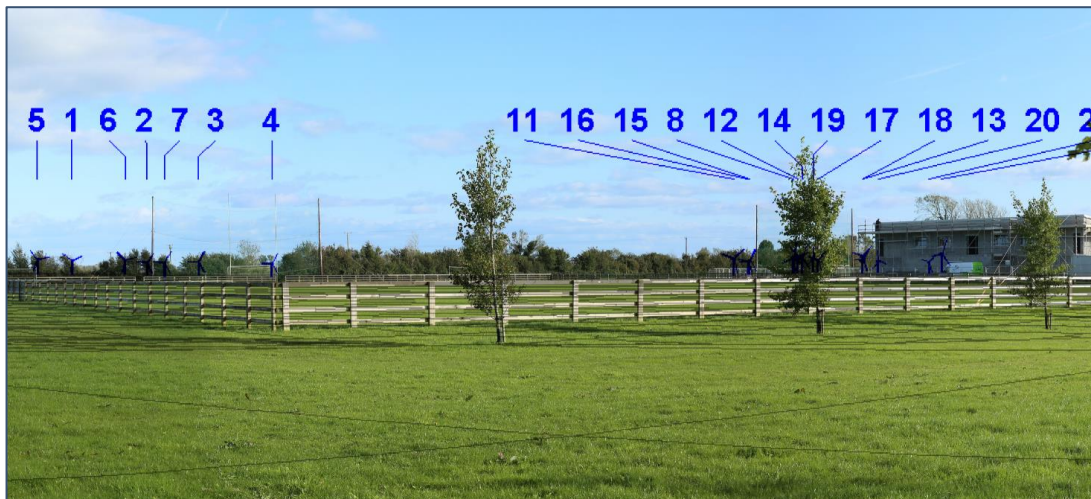


Plate 12-26 Draft Overlaid Wireframe from Ballygar GAA club (AltVP-B in Figure 12-16)

Ballinasloe Town - R357 Regional Road and the Dublin to Galway Rail Network

It is likely that there will be very limited visibility of the Proposed Development within the Hub Town of Ballinasloe. An early stage photomontage was captured from the R357 regional road as it exits Ballinasloe to the north, towards the Proposed Development. The overlaid wireframe from this location is shown in Plate 12-27 below. This was captured from a location beyond (north) of the Dublin to Galway railway line, approximately 2km from the centre of Ballinasloe Town. It is very unlikely that turbines of the Proposed Development will be visible in this flat landscape where disproportionate screening effect significantly reduces visibility with distance.

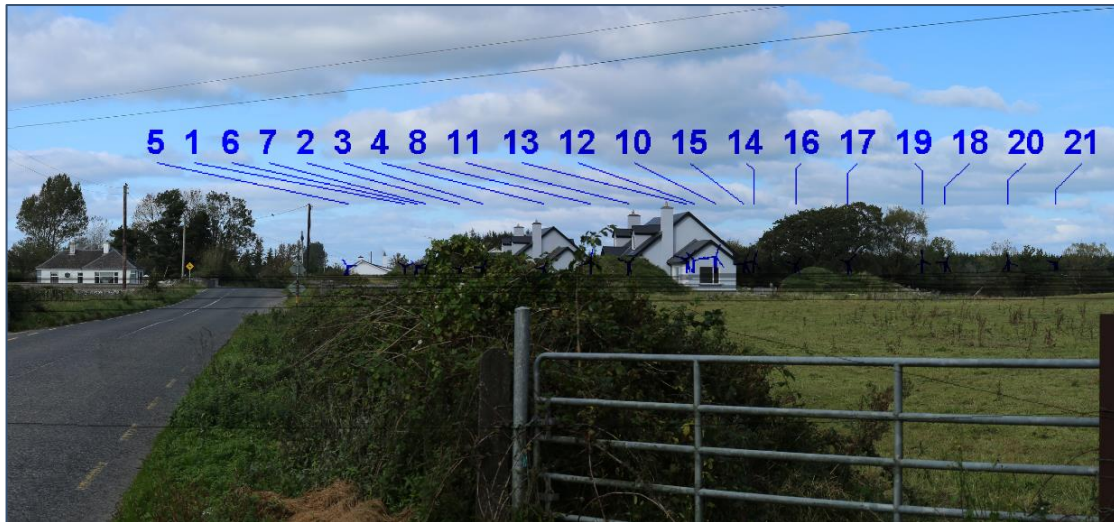


Plate 12-27 Draft Overlaid Wireframe from the 357 Regional Road, approximately 2 km north of Ballinasloe Town centre (AltVP-C in Figure 12-16)

There may be momentary visibility of the Proposed Development as a receptor driving on the R357 crosses the railway via an elevated bridge immediately behind this capture location (Plate 12-27). Due to the small width of the bridge and busy nature of this road, no photomontage could be safely captured from the bridge over the railway.

Other Receptors and Viewpoints

Viewpoint 17 – Castlegar East - Elevated perspective from the south west (Hymany Way)

As well as giving due consideration to sensitive visual and landscape receptors, selection of photomontages requires a variety of geographical perspectives and diversity of views. Viewpoint 17 was selected for inclusion in the booklet as it shows open and long ranging landscape views across the Suck Valley from the south-west and County Galway. From the elevated perspective at viewpoint 17 all of the proposed turbines are visible beyond the flat sparsely populated boglands that form the boundary between County Roscommon and County Galway. Visual effects were deemed to be of ‘Slight’ significance from this viewpoint.

There is likely to be very limited visibility from sensitive receptors to the west of viewpoint 17 such as Ahascragh or Mountbellew. The Hymany Way - Way Marked Walking Trail is located to the west, north and south-west of viewpoint 17. Visibility of the Proposed Development is most likely to occur on the Hymany Way from areas of elevated landform. The most elevated area of the Hymany Way is located approximately 5 km west of viewpoint 17 (5km further away from the Proposed Development than Viewpoint 17). Therefore, it is assumed that views and visual effects from viewpoint 17 would be greater than or similar to those that would occur along the Hymany Way.

M6 Motorway and Dublin-Galway Trainline

An early stage photomontage was produced from an elevated embankment adjacent to the M6 Motorway in proximity to where it crosses the Dublin-Galway trainline. The draft overlaid wireframe shown in Plate 12-28 below shows that there will be almost no visibility of the Proposed Development from this location.



Plate 12-28 Draft Overlaid Wireframe from the M6 Motorway and Dublin-Galway Trainline (AltVP-D in Figure 12-16)

Plate 12-28 illustrates how disproportionate screening can occur even when slight undulations occur within the landscape. The proposed turbines and the viewpoint are at similar elevations, the distant treeline will screen the turbines from view. Screening effects are accentuated as one travels further from the Proposed Development site where the intervening landscape is mostly flat (or slightly undulating).

12.7.3.4 Cumulative Visual Effects

There are many potential scenarios and interactions where cumulative visual effects may occur. These scenarios can include interactions between the Proposed Development, other energy developments (wind farms or grid infrastructure), as well as other man-made landscape features (quarries, transport networks, overhead telecommunication lines). 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, as well as the potential for cumulative impacts of the two proposed turbine clusters.

12.7.3.4.1 Cumulative Visual Effects - Other Wind Farms

There are only 2 existing turbines located within the surrounding landscape of the LVIA Study area, as well as two permitted and one proposed turbine. All existing, permitted and proposed turbines have a substantial set back distance (> 8.5 km) from the Proposed Development.

Combined Visibility (simultaneous and successional)

Combined visibility occurs where an observer is able to see two or more developments from one viewpoint. Successional visibility is when a receptor can view two developments from the same location but within differing arcs or fields of view.

As shown in the photomontage booklet, turbines of other wind farm developments are only likely to appear within the same field of view as the Proposed Development from few limited perspectives. The proposed turbines are viewed in the same 90 degree field of view from long-ranging views from locations of high elevation to the south west of the site such as Viewpoint 17 – Castlegar East. The proposed turbines are also visible in conjunction with other wind farms from elevated views to the far north of the LVIA Study Area such as Viewpoint 9 – Roscommon Town.

Combined visibility can also occur from locations where the Proposed Development and the existing Skrine turbines will be visible in opposing directions (successional views). From several isolated vantage points located north of the Proposed Development (e.g. From the elevated local road (L2110) north of Viewpoint 03), the existing Skrine turbines and proposed Kilcash turbines will be visible to the north and the Proposed Development will be visible to the south. In all instances there is a large degree of visual separation and difference in scale of the turbines. Cumulative visual effects with other wind farms are very minor and are not significant.

Sequential Impacts

Sequential impacts occur when an observer has to move to another viewpoint to see different developments. Sequential cumulative effects should be assessed for travel along regularly-used routes like major roads, railway lines, ferry routes, popular paths, etc. In a 'Journey Scenario' the magnitude of sequential effects will be affected by speed of travel and distance between viewpoints.

As established throughout this chapter there will be very limited visibility of the Proposed Development from major transport routes, or designated scenic routes. Potential cumulative visual effects with other wind farms are likely to occur from National Roads to the north (Viewpoint 09 - 17.9km) and east (Viewpoint 14 – 16.5 km), but at such great distances that significant cumulative visual effects will not occur, therefore an assessment of sequential impacts in a journey scenario is not required. Sequential impacts in a journey scenario will occur for the two turbine cluster of the Proposed Development, particularly from the two Regional Roads (R357 and R363) and is included in the following section.

12.7.3.4.2 Cumulative Visual Effects – Two Turbine Clusters (Northern and Southern Cluster)

A comprehensive assessment was conducted to determine the extent of cumulative visual effects arising from receptors located between the two turbine clusters. Photomontages were captured from local roads where there were open views of both turbine clusters in opposing directions.

As demonstrated by the photomontages in Figure 12-18 and Figure 12-19 below, there are instances where there are open views of turbines in opposing directions from receptors located between the two turbines.

**Please note: Photomontages shown in Figure 12-18 and Figure 12-19 were generated at an early stage in the design process and show a slightly differing turbine configuration and turbine numbering than that of the Proposed Development. – These differences are very minor and do not impact assessments or discussions made in this section of the report.*

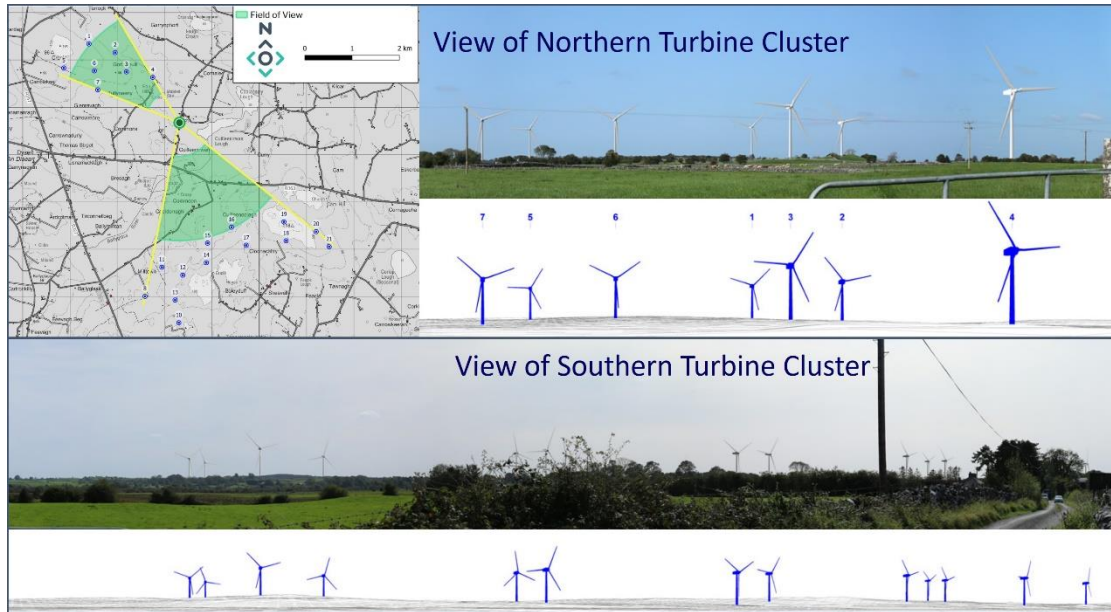


Figure 12-18 Photomontages of the proposed turbines in two opposing fields of view from a location proximate to the Northern Cluster (AltVP-H in Figure 12-15)

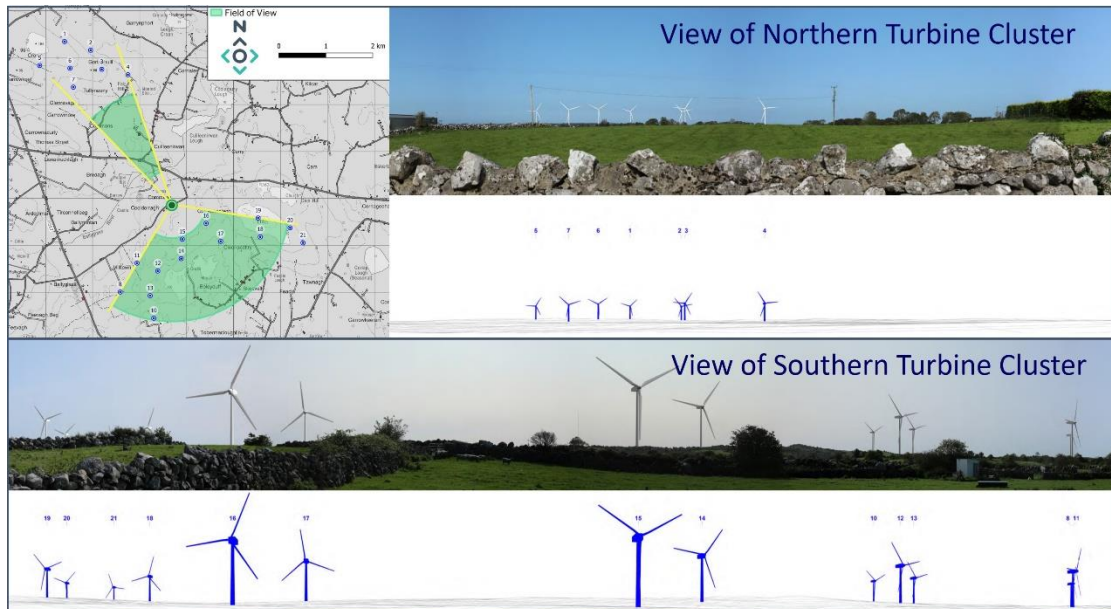


Figure 12-19 Photomontages of the proposed turbines in two opposing fields of view from a location proximate to the Southern Cluster. (AltVP-G in Figure 12-15)

From the capture location of photomontages presented in Figure 12-18, turbines of the Proposed Development comprise a total of 28% of possible landscape views (101° of 360°). From the capture location of photomontages presented in Figure 12-19, turbines of the Proposed Development comprise a total of 38% of possible landscape views (137° of 360°). In both instances it does not seem that the proposed turbines are visible in all directions, but two separate directions and they are not perceived to surround receptors in these areas.

As shown in both Figure 12-18 and Figure 12-19 visual effects from the furthest turbine cluster is always significantly mitigated by distance. This was highly evident in other early-stage photomontages and TrueView Visual outputs generated during the assessment and field surveys. The impact of viewing both the northern and Southern Cluster in opposite directions does cause some minor cumulative visual effects but does not cause a surrounding effect.

As shown in the Volume 2 photomontage booklet, the Northern Cluster is barely visible from locations south of the Southern Cluster (viewpoints 01, 05, 12 and 18) as it is screened from view by the intervening ridgeline where the Southern Cluster is sited. From the east and west of the Proposed Development cumulative visual effects are mitigated by the substantial visual separation between the two turbine clusters (see viewpoints 02, 07, 08 and 17).

Minor cumulative visual effects occur from elevated locations north of the Northern Cluster, such as viewpoint 03. In photomontage viewpoint 03 (Four Roads) the two turbine clusters are perceived to be of differing scale due to the differing set-back distances from this viewpoint. Turbines of the Northern Cluster are perceived as larger turbines, slightly incongruent with the smaller turbines of the Southern Cluster viewed beyond.

Minor cumulative visual effects occur from Dysart (Viewpoint 04A and 4B) where there is combined successional cumulative visibility of the Northern Cluster to the north-east and then the Southern Cluster to the south-east. Only five proposed turbines of the Southern Cluster are visible in the photomontage captured from Dysart, visual effects in this direction (south-east) are mitigated by screening in the landscape and a separation distance of approximately 3.5 km.

Sequential Cumulative Visual Effects (Two Proposed Turbine Clusters) – Journey Scenario on the R357 Regional Road

The R357 Regional Road heads north from Ballinasloe, through the village of Dysart to Athleague, it tracks alongside the western periphery of both the southern and Northern Clusters. In a journey scenario, a visual receptor will experience varying views of the Northern Cluster, the Southern Cluster or in some locations both clusters. Sequential visibility of the proposed turbines on the R357 is reported below in Table 12-22 using the photomontages captured along this route.

Table 12-22 Sequential cumulative visibility along the R357.

Viewpoint (North to South)	Visibility of: Northern Cluster, Southern Cluster, or both Turbine Clusters	Simultaneous View or Successional View	Other Wind Farms Visible?
VP3	Both turbine clusters – 19 No. Turbines	Simultaneous View – One Field of view to the south	No
VP11	All turbines of the Northern Cluster.	One Field of view to the south	No.
VP04	Both Turbine Clusters visible: ➤ 5 No. Ts Northern Cluster ➤ 6 No. Ts Northern Cluster	Successional View - Two fields of view. VP04A directed to the north-east. VP04B directed to the south-east	No.
VP12	All turbines of the Southern Cluster Only	Simultaneous View – One Field of view to the south	No.

Sequential cumulative visual effects of the two turbine clusters will occur in a journey scenario along the R357. Visibility of the Proposed Development is only likely to occur along an approximate 14km length of this of this route, from Four Roads (to the north of the Proposed Development) to the townland of Taughmaconnell (to the south of the proposed Development). It is noted that roadside screening and undulating topography will restrict open visibility of the Proposed Development for a substantial portion of the route (See Figure 12-20 below).

Considering the amount of intermittent screening along this route (particularly top the south of R357), visual effects will often be momentary as visibility of turbines are interrupted by roadside vegetation and local topography. A northbound receptor on this route will experience views of the two turbine clusters sequentially as they come in proximity to each turbine cluster between VP12 and VP1. A northbound receptor is not likely to view both turbine clusters simultaneously. Greater cumulative effects will occur for a southbound receptor who will see both turbine clusters for a longer period of time, from VP03 to VP12.

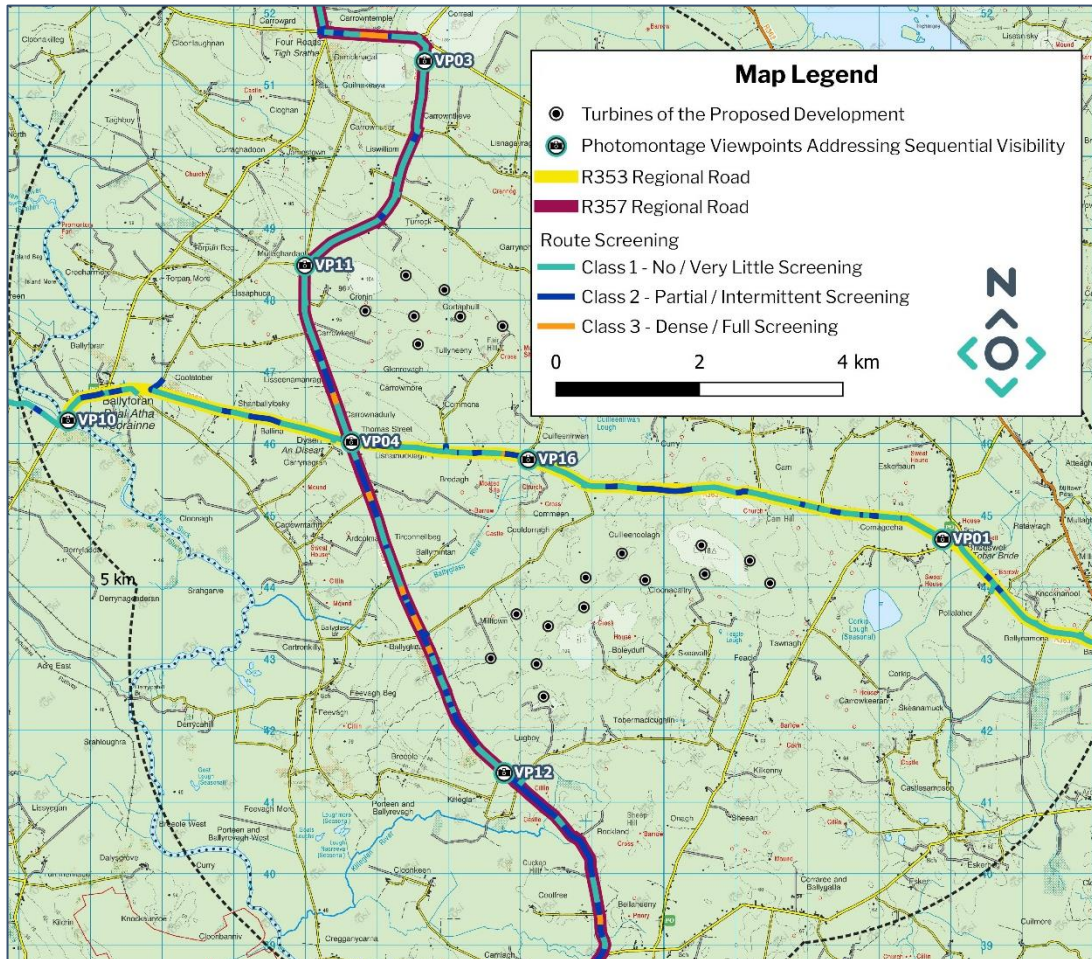


Figure 12-20 Sequential Cumulative Effects – Journey Scenario

Sequential Cumulative Visual Effects (Two Proposed Turbine Clusters) – Journey Scenario on the R363 Regional Road

The R353 Regional Road intersects the two proposed turbine clusters in an east-west orientation. In a journey scenario, a visual receptor will experience varying views of the Northern Cluster and the Southern Cluster. Due to the hummocky topography to the north of the R363 (particularly on the eastern portion of the route), combined visibility of both clusters will only occur at isolated locations between Viewpoint 04 and Viewpoint 16. Sequential visibility of the proposed turbines on the R363 is reported below in Table 12-23 using the photomontages captured along this route.

Table 12-23 Sequential cumulative visibility along the R353 Regional Road

Viewpoint (East to west)	Visibility of: Northern Cluster, Southern Cluster, or both Turbine Clusters	Simultaneous View or Successional View	Other Wind Farms Visible?
VP01	9 No. Turbines of the Southern Cluster Only	One Field of view to the west	No
VP16	All turbines of the Southern Cluster.	One Field of view to the south	No.
VP04	Both Turbine Clusters visible: ➤ 5 No. Ts Northern Cluster ➤ 6 No. Ts Northern Cluster	Successional View – Two fields of view. VP04A directed to the north-east. VP04B directed to the south-east	No.
VP10	7 No. turbines of the Southern Cluster Only	One Field of view to the south	No.

Open visibility of the Northern Cluster is limited along this route, therefore sequential cumulative effects are limited. An eastbound receptor is likely to experience the most cumulative sequential visual effects. It is noted that receptors on this route are primarily moving in an east-west direction, perpendicular to both turbine clusters, therefore reducing the capacity for likely combined visual effects of both turbine clusters to occur simultaneously.

12.7.3.4.3 Conclusion of Cumulative Visual Effects

Other wind energy developments are not likely to cause any significant cumulative visual effects. The greatest adverse cumulative visual effects will occur on account of the visual relationship between the two proposed turbine clusters. This is most notable from viewpoint 03 where combined, simultaneous visual effects will occur. From Viewpoint 03 the two turbine clusters are perceived to be of differing scale due to the differing set-back distances from this viewpoint. Turbines of the Northern Cluster are perceived as larger turbines, slightly incongruent with the perceived smaller turbines of the Southern Cluster viewed beyond. Combined successional visibility occurs from Viewpoint 04, however the turbines are viewed in a visually coherent layout and cumulative visual effects are not significant.

As seen throughout the photomontage booklet, in most instances where there is a high potential for significant visual effects (e.g. sensitive receptors in close proximity to the Proposed Development), only one turbine cluster is visible, particularly from receptors to the south of the Northern Cluster. Sequential cumulative effects will occur along the regional roads (R357 and R363) in close proximity to the site, however, these are not routes of high sensitivity and cumulative effects are not deemed to be significant.

12.7.3.5 Ancillary Project Elements - Landscape and Visual Effects

For the purposes of this LVIA, a number of individual elements of the Proposed Development, ancillary to the proposed wind turbines, have been grouped together for the assessment of effects, given the similar nature of the works required. These operational project elements that are part of the Proposed Development, include the proposed substation, access roads, turbine hardstand areas, overburden storage areas and Grid Connection components may all give rise to potentially similar landscape and visual effects. Details of these components of the Proposed Development and the required works to construct them are contained in Chapter 4 of this EIAR.

Due to the undulating, hummocky topography of the Proposed Development site and the influence of screening from hedgerows, treelines and existing stone walls, most visibility of the lower ancillary project elements will occur in their immediate surroundings; hence, visual effects will be localised and are predominantly confined to within the Proposed Development site.

Proposed Substation: The proposed substation and its compound is one of the larger and more visually prominent elements of the ancillary infrastructure. The proposed substation and its compound covers an area of approximately 0.8 hectares. The proposed control building is a solid feature approximately 25m X 18m and 6 metres tall. The proposed transformer infrastructure is approximately 6-8 metres tall. Several thin lightning masts are also proposed within the compound at a height of approximately 13 metres.

As noted previously in the landscape baseline, the proposed substation is located in the hollow of an isolated valley at the north-east of the ridgeline where the Southern Cluster is located. As shown in Plate 12-1Plate 12-29, the proposed substation is sited in a location enclosed by localised topography, reducing visibility from receptors in the surrounding landscape to the south, west and north. The substation is only likely to be partially visible within longer distance views from residential receptors to the south-east. Any landscape and visual effects are likely to be highly localised, long-term and will be of 'Slight' significance.



Plate 12-29 Panoramic view of the remote enclosed valley where the proposed substation will be located

Site Access Roads and Hardstand Areas: The proposed access roads and hardstand areas are flat features. Consequently, they will be most visible within their immediate surroundings, therefore any landscape and visual effects will be very localised.

Every use will be made of the existing farm and access tracks on site. Some tracks will be upgraded appropriately whilst several stretches of new internal roads will need to be constructed. Some vegetation clearance will occur as a result of this construction, however, there will be additional planting in order to mitigate for loss of landcover during the construction phase. Through an iterative design process, every effort has been made to avoid valuable habitats (Calcareous grasslands) and karst glacial features (limestone boulder fields) on the site. As well as ensuring infrastructure of the Proposed Development minimises impacts upon the dry-stone walls which demark field boundaries on the Proposed Development site, maintaining the visual aesthetic of the grassland landscape with dry stone walls that currently exists.

The impact of these flat and hard surfaces will be very localised. The landscape and visual effects arising from the access roads and hardstand areas are considered to be adverse, long-term effects of 'Slight' significance.

Meteorological (Met) Mast: One met mast is proposed as a part of the Proposed Development. This will be a slender structure, 100 metres in height, and in itself will not be an imposing structure in terms of visual impact. The landscape and visual effects of the proposed mast will be localised, considering that it will be significantly less visible than any turbine given its shorter and slender lattice form and will fade from view at a distance of anything more than a few kilometres (approx. 4km) where it will have

little to impact. Within the site and its immediate landscape setting, the landscape and visual effects arising from the met mast is considered to be of 'Slight' significance.

Overburden Storage Areas: When the construction phase is complete, all overburden storage areas will be filled and shaped to form smooth banks of earth, complementary to the existing landform of the local landscape and in some cases to dress the transition between infrastructure elements and natural land cover. It is likely that these will be visible from localised areas in the site where the earthworks will contrast visually with the natural landcover immediately surrounding the storage area.

Topsoil material will be temporarily stored on site during the construction phase. The natural seedbank within this topsoil should be used to dress the overburden storage areas to encourage natural re-vegetation. Once vegetation re-establishes over time, the storage areas will blend into the landscape and will only be noticeable at a very local level as a man-made embankments. Considering the restricted visibility, negligible magnitude of change over a short time period and lack of sensitive visual receptors, likely visual and landscape effects are deemed to be 'Not Significant'.

Proposed Grid Connection: As the proposed Grid Connection is located underground, landscape and visual effects of the proposed Grid Connection during the operational phase will be negligible. The landscape and visual effects occurring during the construction phase of the proposed underground Grid Connection are reported previously in Section 12.7.2.2. In general, the proposed ancillary infrastructure elements (discussed above) will cause landscape effects of 'Moderate' significance where the physical fabric of the landscape has been fundamentally altered, however, these landscape effects are very localised. The landscape character of the site will undergo a moderate degree of change, and long-term landscape effects of 'Slight' Significance will occur. As these ancillary features of the Proposed Development will remain largely unseen from outside the site, effects on the wider landscape setting will be 'Not Significant'. Visual effects arising from the proposed ancillary project elements will be 'Slight', localised and long-term where seen, but will remain largely unseen from outside the development site.

12.7.4 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 wind turbines. This will occur for a limited period of time and will predominantly involve cranes adjacent the turbines during the dismantling process.

Once dismantled, the turbine foundations would be covered by topsoil (See Chapter 4 of this EIAR) and landcover on the site would be naturalised. This naturalisation process would revert the landscape of the Proposed Development site to a condition similar to the current landscape baseline.

Removal of the turbines and ancillary infrastructure from the site will result in a Short-term, Slight, Negative visual effect. A Decommissioning Plan is included as Appendix 4-10 to this EIAR.

12.8 Conclusion

Siting of the Proposed Development on the subject lands was plan lead. Selection of the site considered landscape and visual designations in the previous and recently adopted Roscommon County Development Plan(s). In this regard, the Proposed Development is predominantly sited in a landscape 'Most Favoured' for wind energy potential in Co. Roscommon and within a Landscape Character Area (LCA 34 - Lough Funshinagh, Stone Wall Grasslands and Esker Ridges) of the lowest value rating in Co. Roscommon. Strategic siting of the turbines within LCA 34 ensured that the Proposed Development will not be the specific object or focus of any designated scenic routes or scenic views in Co. Roscommon. In terms of location, spatial extent, spacing and layout, the siting and design of the

Proposed Development adheres to the guidance for the siting of wind farms in Hilly and Flat Farmland Landscape Types, as set out in The Wind Energy Development Guidelines for Planning Authorities (DoEHLG, 2006), & (DoPHLG, 2019)

ZTV mapping indicates high visual exposure of the Wind Farm throughout the LVIA Study Area, excepting large areas to the north-east where the Proposed Development will be screened from view by elevated landform around the Skrine uplands. Visibility appraisals conducted during many field surveys in 2020 and 2021 determined that actual visibility in the LVIA Study Area is likely to be far less than is indicated by the ZTV mapping. On-site surveys found that visibility of the Proposed Development is predominantly concentrated to areas immediately surrounding the site to a distance of approximately 5 km. Beyond 5 km from the Proposed Development, visibility of the proposed turbines is likely to be very limited where disproportionate screening effect occurs within the flat vegetated landscapes surrounding the Suck and Shannon Valleys to the east, south and west of the Proposed Development. Beyond 5km, visibility of the Proposed Development will occur from elevated vantage points where there are open views across the landscape.

Visibility of the Proposed Development is most likely to occur within the rolling agricultural grasslands immediately surrounding both the northern and Southern Cluster. Field boundaries in the area are delineated by dry stone walls, low hedgerows and treelines which generally afford lesser screening than the denser mature vegetation existent in the low-lying landscape beyond 5km. No designated scenic amenity is located within this area of high visibility surrounding the site, however, it is a settled landscape and there are residential receptors and local population centres which will have open views of the Proposed Development.

The landscape of the development site is a modified agricultural landscape. The rolling green fields and dry-stone walls give the site and wider landscape setting a distinct visual aesthetic, which is of local importance and heritage value. The karst geology and calcareous grassland habitats are also valuable receptors existent on site. Considering the landscape designations in the Roscommon County Development Plan, the susceptibility of the landscape to wind farm development is low. On balance the Proposed Development site is a landscape deemed to be of medium sensitivity. The introduction of vertical man-made structures and ancillary infrastructure will substantially alter 29.3 hectares of the landscape comprising the proposed infrastructure footprint. The direct effects upon the landscape will be highly localised. The Proposed Development is likely to cause (reversible) long-term landscape effects of Moderate significance at the site of the Proposed Development. Strategic siting of the Proposed Development infrastructure serves to minimise and mitigate impacts upon valuable and sensitive landscape receptors on the site through avoidance of valuable habitats, karst glacial features and old stone walls and monuments of heritage value.

In terms of landscape character, only LCA 34 - *Lough Funshinagh, Stone Wall Grasslands and Esker Ridges*, in which the proposed turbines are located will experience direct effects on landscape character as a result of the Proposed Development. LCA 34 comprises a landscape of approximately 139 km², the footprint of turbines and associated infrastructure of the Proposed Development will only materially alter a very small portion (approximately 0.3 km²) of the landscape in this LCA (0.2%), therefore direct effects upon the landscape as a resource are very localised. The proposed turbines are likely to be most visible from most areas within this LCA and will cause a Moderate change the visual and perceptual aesthetic of the LCA due to the addition of new uncharacteristic features (turbines), but will not redefine the character of the LCA. A majority of the Proposed Development is sited in an area designated as 'Most Favoured' for wind energy potential and LCA 34 is a landscape designated as one of the lowest value in The Landscape Character Assessment of County Roscommon. In light of these designations, sensitivity of this landscape to this form of development was deemed to be Low. The effects on the character of this LCA are deemed to be of 'Slight' significance. Siting of the proposed turbines in this landscape therefore aligns with local planning of the area.

All other LCAs with potential visibility of the Proposed Development within 15km were comprehensively assessed in Appendix 12-2 accompanying this chapter. The Proposed Development is often visible from within these landscapes but located at some distance outside of them. Therefore,

effects on landscape character from these LCAs are of a perceptual and aesthetic nature and the proposed turbines will not materially alter these landscape receptors and likely effects upon landscape character were not deemed to be significant.

The visual assessment was conducted using 18 Photomontage viewpoints representative of prominent visual receptors surrounding the Proposed Development whilst demonstrating views of the proposed turbines from a variation of geographical perspectives and distances. The assessment concluded that 'Significant' residual visual effects occurred at two of the 18 viewpoint locations. These significant visual effects are attributed to substantial change occurring from residential receptors of high sensitivity that are located in relatively close proximity to the Proposed Development site. However, the siting of proposed turbines adheres to the minimum 500 metre set back distance in the current Wind Energy Development Guidelines (2006, DoEHLG) and also the 4 times tip height set-back distance explicitly set out for residential visual amenity prescribed by the Draft Revised Wind Energy Development Guidelines (2019, DoHPLG).

Residual visual effects of 'Moderate' significance occurred at five of the 18 No. viewpoints. All other viewpoints were assessed as resulting in 'Slight' significance (7) or 'Not Significant' (6). All residual visual effects of 'Moderate' significance occurred within close proximity (7km) to the Proposed Development where most visibility is likely to occur. Visual effects were also assessed from designated scenic amenity and highly sensitive receptors in Counties Roscommon, Longford, Galway, Offaly and Westmeath. Residual visual effects were deemed to be of 'Slight' significance when the turbines were seen within highly sensitive views (views across Lough Ree from Ballykeeran) and from highly sensitivity receptors (Clonmacnoise), in such instances, visual effects are significantly mitigated by distance.

All other existing, permitted and proposed turbines have a substantial set back distance (> 8.5 km) from the proposed turbines. Combined visibility (simultaneous and successional) visibility of the other turbines and the Proposed Development occurs from a few limited perspectives. In this regard, cumulative landscape and visual effects with other wind farms are not significant.

The greatest adverse cumulative visual effects are likely to occur on account of the visual relationship between the two proposed turbine clusters. Assessments conducted in this LVIA determined that the impact of viewing both the northern and Southern Cluster in opposite directions (combined successional cumulative effects) does cause some minor cumulative visual effects but does not cause a surrounding effect. As seen throughout the photomontage booklet, in most instances where there is a high potential for significant visual effects (e.g. sensitive receptors in close proximity to the Proposed Development), only one turbine cluster is visible, particularly from receptors to the south of the Northern Cluster. Sequential cumulative effects will occur along the regional roads (R357 and R363) in close proximity to the site, however, these are not routes of high sensitivity and cumulative effects are not deemed to be significant.