

## 12. LANDSCAPE AND VISUAL

### 12.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) addresses the potential landscape and visual impacts of the Glenard Wind Farm. The emphasis in this chapter is on the likely significant effects of the proposed development, including the grid connection. 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 Counties Donegal and Derry (as part of the study areas, see Section 12.3.1 extends into Northern Ireland) with specific reference to wind energy and the study area in which the proposed development site is located.

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

A full description of the proposed development is provided in Chapter 4 of this EIAR.

### 12.2 Statement of Authority

This chapter was prepared by Joanna Mole, a Landscape and Visual Impact Assessment Specialist and Chartered Landscape Architect with MKO with over 20 years of experience in both private practice and public bodies. Joanna holds a BSc (Hons) in Landscape Design & Plant Science from Sheffield University, a Postgraduate Diploma in Landscape Architecture from Leeds Beckett University and an MSc in Renewable Energy Systems Technology from Loughborough University. Joanna is a Chartered Landscape Architect with specialist knowledge in Landscape and Visual Impact assessments for projects ranging from individual houses to large wind farms, solar farms, cycle route design and landscape contract management. Joanna holds chartered membership of the British Landscape Institute since 1998 and has been an examiner for the British Landscape Institute professional practice exam.

#### 12.2.1 Scoping Replies/Pre-Planning Meetings

A scoping and consultation exercise has been carried out by MKO, as detailed in Chapter 2 of this EIAR. Pre-planning consultation was sought with Donegal County Council and An Bord Pleanála. The responses submitted are detailed below and were taken into account in this assessment.

##### 12.2.1.1 An Bord Pleanála

A pre-planning consultation meeting was held on the 12<sup>th</sup> of December 2019 as part of the previous Strategic Infrastructure Development proceedings for this site (ABP-305388-19).

In relation to the landscape and visual assessment, it was requested that *'views/photomontages should be submitted from the local community/townland near Bunrana and from relevant roads and locations marked as "high scenic amenity"'* and also advised *'to incorporate the viewpoints that Donegal County council would have regard to in any such application'*.

##### 12.2.1.2 Donegal County Council

In an email received from the planning department of Donegal County Council received by MKO on 9<sup>th</sup> of September 2015, regarding the proposed development site, it was stated that the *'proposal was considered worthy in principal'* due to amongst other things the *'robust nature of the landscape'*. It also

noted that ‘*in terms of visuals, no particular visual concerns arise*’ but recommended that ‘*visuals are taken on the National Primary Road on approach to the village of Bridgend from Letterkenny*’ and that ‘*in addition comprehensive visuals should be presented from local roads L-1731-2, 1721-3, 1381-5, 1781-4, 1781-5 and 1871-3*’.

MKO submitted a pre-planning enquiry to Donegal County Council in October 2019 in respect to the proposed development. Correspondence from the Council dated the 25th of November 2019 advised that ‘having regard to the extent of the lacuna in policy in relation to this matter, proposals that may be brought forward to the Planning Authority would be considered premature pending the completion of the variation process’. As such the project team was unable to carry out further pre-application consultations with Donegal County Council.

## 12.3 Brief Methodology and Assessment Criteria

This section broadly outlines the methodology used to undertake the landscape and visual impact assessment of the proposed development, a more detailed description of the methodology is outlined in detail in Appendix 12-1, and the guidance used in the preparation of each section. There are four main sections to this assessment:

- Landscape Policy Context
- 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 and transboundary effects

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

For the purposes of this EIAR, where the ‘proposed development site’ or ‘the site’ is referred to, this relates to the primary study area for the proposed development, as delineated by the green EIAR site boundary on the LVIA figures (maps). The proposed development site is discussed in detail in terms of its landscape character in Section 12.5.2 of this chapter.

However, the landscape and visual baseline mapping and viewpoint selection are based on wider study areas. The geographical parameters for this LVIA study area was determined by desktop study, survey work undertaken, the professional judgement of the assessment team, experience from other relevant projects and best practice policy guidance or standards (Appendix 3, DoEHLG Wind Energy Development Guidelines’ 2006 and GLVIA 2013). The study area has been chosen as 20 kilometres for visual effects and effects on landscape designations. This is referred to as the ‘study area’ or the ‘LVIA study area’ for which the baseline maps are produced and viewpoint locations selected. As landscape character is primarily reflected by the elements within a certain area rather than those outside it and due to the nature of landscape character areas covering large areas of land within County Donegal, all landscape character areas, or parts thereof, falling within 15 kilometres from the proposed wind turbines are included in this assessment. This is referred to as the ‘LCA study area.’ Furthermore, on the basis of desk studies and survey work undertaken, the professional judgement of the assessment team, experience from other relevant projects and policy guidance or standards, the following topic areas have been scoped out of the assessment:

- Effects on landscape and visual receptors that have minimal or no theoretical visibility (as predicted by the Zone of Theoretical or ZTV mapping; see Section 12.4.1 of this chapter for further details) and/or very distant visibility, and are therefore unlikely to be subject to significant effects.

- Effects on designated landscapes beyond a 20km radius from the proposed development, from where it is judged that potential significant effects on key characteristics and/or special qualities, or views are judged unlikely to occur.
- Effects on landscape character beyond a 15km radius from the proposed development, where it is judged that potential significant effects on landscape character are unlikely to occur.
- Effects on visual receptors beyond a 20km radius from the proposed development, where it is judged that potential significant effects are unlikely to occur.
- Cumulative effects in relation to single turbines (except where otherwise stated).
- Cumulative visual effects beyond a 20km radius from the proposed development.
- Cumulative effects on landscape character beyond a 15km radius from the proposed development, where it is judged that potential significant effects on landscape character are unlikely to occur.
- All potential effects occurring during decommissioning of the proposed development.
- All potential transboundary effects on landscape and visual receptors in Northern Ireland.

### 12.3.2 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 was guided and informed by guidance documentation specifically pertaining to Landscape and Visual Impact Assessment, details of the guidelines used to produce this assessment are outlined in the Methodology Appendix - Appendix 12-1.

### 12.3.3 Baseline Landscape and Visual Information

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

#### Landscape Baseline

- Policies and objectives contained in the relevant county development and area plans pertaining to landscape and wind energy;
- Landscape designations in the LVIA study area;
- Landscape character of the LVIA study area;
- Landscape character of the Proposed Development site based on:
  - Site Surveys undertaken in October 2019;
  - 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).

#### Visual Baseline

- Identification of Visual Receptors within the LVIA study area.

### 12.3.4 Assessment of Potential Impacts

After landscape and visual receptors have been identified a pre-assessment is carried out to screen out the landscape and visual receptors that are shown to have no or very minor theoretical visibility, where views in the case of designated scenic views are not directed towards the proposed development or where insufficient visibility of the proposed development was established on site. The remaining set of receptors are put forward for assessment using the methodology presented in Appendix 12-1. These clearly documented methods based on the GLVIA guidelines include consideration of landscape and visual sensitivity balanced with the magnitude of the effect to determine the significance of effects. Mitigating factors are then taken into consideration to arrive at residual landscape and visual effects.

## 12.4 Visibility of the Proposed Development

### 12.4.1 Zone of Theoretical Visibility (ZTV)

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).

ZTV mapping is an important step in the LVIA process, in that it clearly shows which areas will have theoretical visibility of the proposed turbines and which areas will have no visibility. The ZTV for the proposed wind farm is shown in Figure 12-1. The preparation of the Zone of Theoretical Visibility of a proposed wind farm development is guided by Chapter 2: Section 46 of the Scottish Natural Heritage’s (SNH) 2017 document, *Visual Representation of Wind Farms* which recommends that for turbines with a proposed height in excess of 150m (the proposed maximum tip height in this case is 173m) a ZTV distance of 45km from the outermost turbines is used. However, as stated in the SNH guidance document, the final distance of the ZTV “*should extend far enough to include all areas where significant visual impacts of a wind farm are likely to occur*”. As the visibility (and potential for significant visual impact) of turbines decreases with distance (as shown in Figure 1-1 of Appendix 12-3), it was determined, based on the terrain surrounding the site of the proposed development and the professional judgement and wind farm project experience of the LVIA team, that a ZTV distance of 20km was fully sufficient for the purposes of the LVIA assessment (or in the case of landscape character, 15 kilometres). (

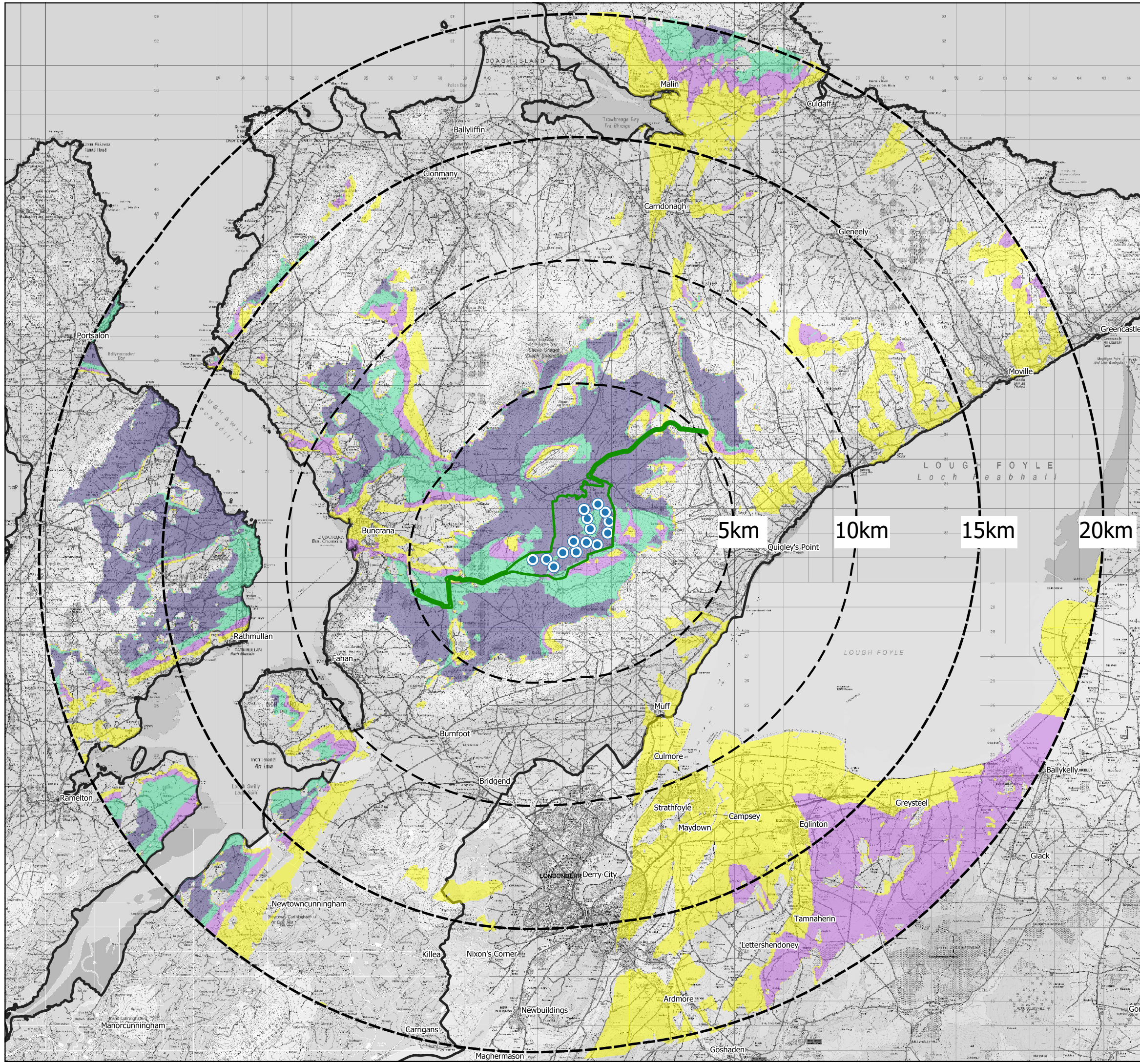
Generally, the assessment of overall visual effects is strongly guided by ZTV mapping (based purely on topography, in this case 10-metre contour data) as an indication of areas that will have no visibility of proposed turbines and areas that will have theoretical visibility. The level of certainty for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

The ZTV map for the proposed Glenard turbines shows theoretical visibility is mainly confined within five kilometres of the proposed turbines. Here, there is a large area of full theoretical visibility particularly to the north and north-west of the site, but also towards the south-west. Screening by topography means that there are many areas of partial or no visibility within five kilometres such as north of Illies Hill and Damph Hill, west of Meenaharnish Hill and south and south-west of the long ridgeline extending from Asdevlin Hill north-eastwards to Leamacrossan Hill. The screening provided by the upland areas surrounding the proposed development site cannot be overstated as this screening limits theoretical visibility to the vast majority of the study area.

The topographical screening effected by the Asdevlin to Leamacrossan ridgeline extends all the way to the south to the full 20-kilometre extent of the study area including nearly all of Derry City. In the south-east and east nearly all of the areas to the Lough Foyle coastline are screened and it partially screens all the areas of County Derry within the study area.

The screening provided by the Slieve Snaght mountain range approximately 6 kilometres to the north of the site extends all the way to 20 kilometres north of the proposed turbines with the exception of an area of mainly partial and small area of full theoretical visibility around Malin Village.

Areas to the north-east of the proposed turbines show predominantly no visibility with small patches of intermittent partial visibility.



### Map Legend

- EIAR Site Boundary
  - Proposed Turbine Locations
  - LVIA Study Area
  - County Boundary/ROI/NI Border
- Zone of Theoretical Visibility**
- 1 to 4 Turbines
  - 5 to 8 Turbines
  - 9 to 12 Turbines
  - 13 to 15 Turbines



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Drawing Title		Figure 12-1 Half Blade ZTV	
Project Title		190114 - Glenard Wind Farm EIAR	
Drawn By	SD	Checked By	EM
Project No.	190114	Drawing No.	12-1
Scale	1:150000	Date	2022.01.18



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To the west parts of the area of full theoretical visibility seen within five kilometres of the site stretches west and north-westwards to approximately 12 kilometres (including an area of full theoretical visibility on the northern outskirts of Buncrana), this however is interspersed with areas of partial theoretical visibility and no visibility.

Across Lough Swilly there are areas of full theoretical visibility particularly along the Lough Swilly shoreline. However, the Knockalla Mountains and other upland areas to the south fully screen nearly all areas from 17 kilometres westwards of the proposed turbines.

The Lough Swilly shoreline south of Buncrana will have no visibility as much as 3 kilometres inland. Inch Island will have two patches of partial theoretical visibility with narrow bands of partial theoretical visibility extending approximately one to 4 kilometres inland parallel to the coastline to the south of Inch Island.

## 12.5 Landscape Baseline

This section of the LVIA focusses on identifying the key landscape receptors that form part of the assessment. For this purpose, the Donegal County Development Plan and, as the study area extends into Northern Ireland, Derry Area Plan were consulted.

Baseline Landscape Receptors:

- Landscape designations based on:
  - County Donegal Development Plan 2018-2024 (CDP)
  - Derry Area Plan 2011
  - Northern Area Plan 2016
- Landscape character of the proposed development site and its immediate environment based on:
  - Landscape Type identified using DoEHLG Guidelines 2006
  - Site Visit carried out during October 2019
- Landscape character of the study area based on:
  - Landscape Character Assessment of County Donegal 2016
  - Northern Ireland Landscape Character Assessment 2000

### 12.5.1 Landscape Designations and Policy

#### 12.5.1.1 Donegal County Development Plan 2018-2024

##### 12.5.1.1.1 County Donegal Landscape Designations

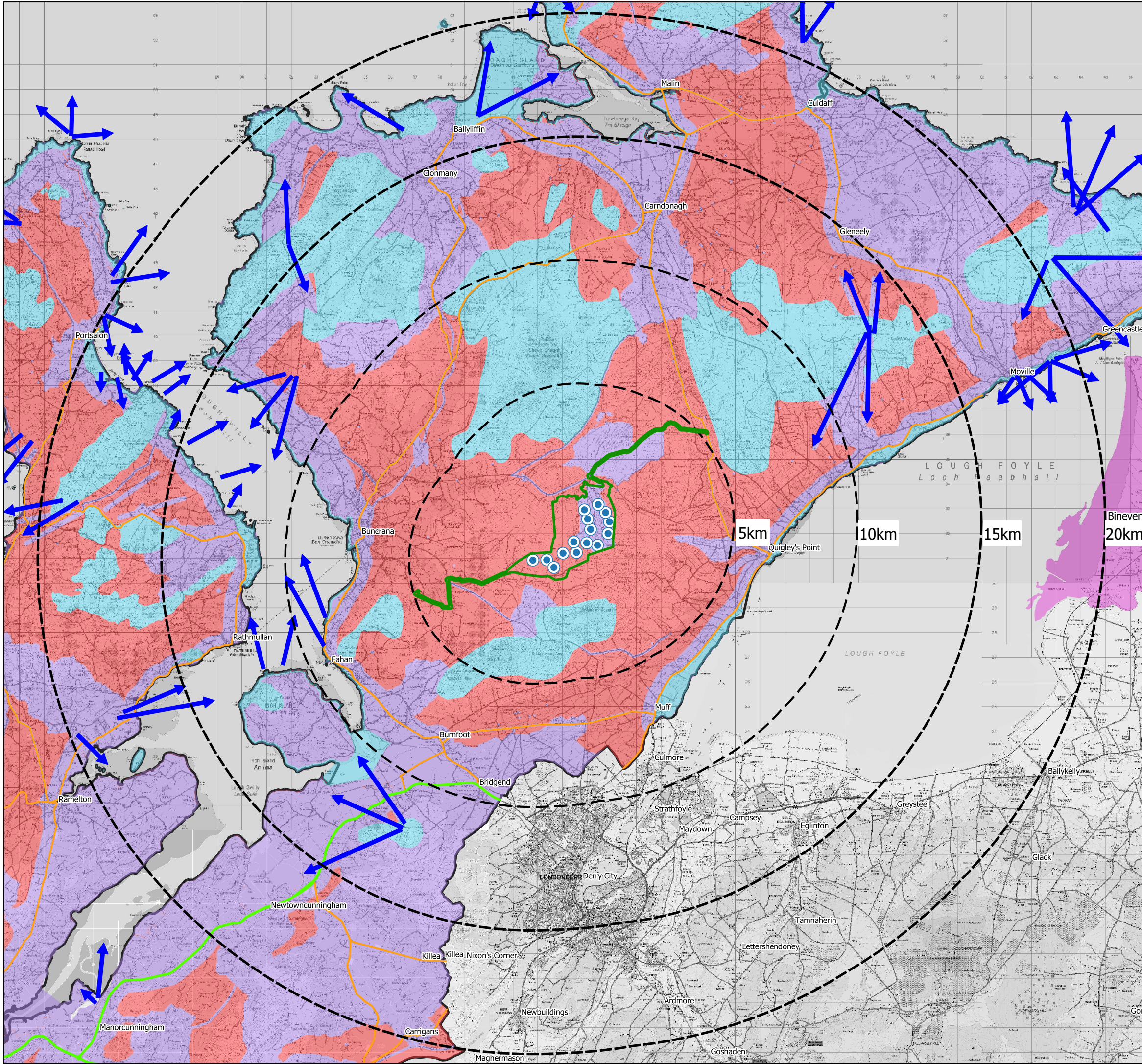
The landscape of County Donegal has been categorised into three layers of value and are illustrated on Map 7.1.1 of the CDP. These are as follows:

***Areas of Especially High Scenic Amenity (EHSA)***

*Areas of Especially High Scenic Amenity are sublime natural landscapes of the highest quality that are synonymous with the identity of County Donegal. These areas have extremely limited capacity to assimilate additional development.*

***Areas of High Scenic Amenity (HSA)***

*Areas of High Scenic Amenity are landscapes of significant aesthetic, cultural, heritage and environmental quality that are unique to their locality and are a fundamental element of the landscape and identity of County Donegal. These areas have the capacity to absorb sensitively located development of scale, design and use that will enable assimilation into the receiving landscape and which does not detract from the quality of the landscape, subject to compliance with all other objectives and policies of the plan.*



### Map Legend

- EIAR Site Boundary
- ⊙ Proposed Turbine Layout
- LVIA Study Area
- County Boundary
- National Roads
- Regional Roads
- Scenic Views

### Landscape Designations

- Northern Ireland - Areas of Outstanding Natural Beauty (AONB)
- Areas of Especially High Scenic Amenity (EHSA)
- Areas of High Scenic Amenity (HSA)
- Areas of Moderate Scenic Amenity (MSA)

### Co. Donegal Scenic Amenity Areas

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Drawing Title  
**Figure 12-2 Landscape Designations**

Project Title  
**190114 - Glenard Wind Farm EIAR**

Drawn By	Checked By
SD	EM
Project No.	Drawing No.
190114	12-2
Scale	Date
1:150000	2022.01.06

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***Areas of Moderate Scenic Amenity (MSA)***

*Areas of Moderate Scenic Amenity are primarily landscapes outside Local Area Plan Boundaries and Settlement framework boundaries, that have a unique, rural and generally agricultural quality. These areas have the capacity to absorb additional development that is suitably located, sited and designed subject to compliance with all other objectives and policies of the Plan.*

It should be noted that the CDP does not consider any part of County Donegal to be of low scenic amenity.

Furthermore, the CDP states:

*“Within each of the landscape classifications detailed above (EHSA, HSA and MSA) and along the interface between the designations there may be areas that do not fully meet the definition of the designation. Such anomalies in landscape designation shall be considered individually and in the context of all other objectives and policies contained within this Plan, should an application for development be submitted in these areas (excluding wind energy proposals or ancillary works). The onus shall be on the applicant to demonstrate that the site within which it is situated does not meet the characteristics of the landscape within which it is situated and that any development applied for shall not adversely affect the classification and value of the wider landscape.”*

As illustrated in the Map 7.1.1 in the CDP and shown in Figure 12-2 below, of the proposed 16 No. turbines eight will be located in an area of MSA and seven in an HSA with one turbine (T6) on the boundary between the two. The vast majority of the area within the EIAR study boundary designated as ‘Highly Scenic Amenity’ is covered with non-native commercial coniferous plantation. This type of landcover would not usually be considered of scenic amenity as the colour, shape and uniform texture of this landscape element appears as incongruous to the existing landscape.

The CDP contains the following objectives and policies relating to these scenic amenity areas:

***NH-O-7:*** *To protect the areas of Especially High Scenic Amenity from intrusive and/or unsympathetic developments.*

***NH-P-6:*** *It is a policy of the Council to protect areas identified as Especially High Scenic Amenity on Map 7.1.1: ‘Scenic Amenity’. Within these areas, only developments assessed to be of strategic importance or developments that are provided for by policy elsewhere in this Plan shall be considered.*

***NH-P-7:*** *Within areas of ‘High Scenic Amenity’ (HSC) and ‘Moderate Scenic Amenity’ (MSC) as identified on Map 7.1.1: ‘Scenic Amenity’, and subject to the other objectives and policies of this Plan, it is the policy of the Council to facilitate development of a nature, location and scale that allows the development to integrate within and reflect the character and amenity designation of the landscape.*



### 12.5.1.1.2 Views and Prospects

While the policy on designated views and prospects is outlined below, the list of scenic views within the study area are mapped in Figure 12-2 and listed in Table 12-7 in Section 12.6 *Visual Baseline*, as they are in their nature a visual designation. They will then also go on to be assessed as visual rather than landscape receptors.

Donegal CDP has set out the following policies and objectives on designated views and prospects:

***NH-P-13:** It is a policy of the Council to protect, conserve and manage landscapes having regard to the nature of the proposed development and the degree to which it can be accommodated into the receiving landscape. In this regard the proposal must be considered in the context of the landscape classifications, and views and prospects contained within this Plan and as illustrated on Map 7.1.1: ‘Scenic Amenity’.*

***NH-P-17:** It is a policy of the Council to seek to preserve the views and prospects of special amenity value and interest, in particular, views between public roads and the sea, lakes and rivers. In this regard, development proposals situate on lands between the road and the sea, lakes or rivers shall be considered on the basis of the following criteria:*

- *Importance value of the view in question*
- *Whether the integrity of the view has been affected to date by existing development.*
- *Whether the development would intrude significantly on the view.*
- *Whether the development would materially alter the view.*

*In operating the policy, a reasonable and balanced approach shall be implemented to ensure that the policy does not act as a blanket ban on developments between the road and the sea, lakes and rivers.*

### 12.5.1.1.3 Other Landscape Policies

Chapter 7 of the Donegal County Development Plan 2018-2024 sets out policies and objectives relating to natural and built heritage. The plan acknowledges the European Landscape Convention in objective NH-O-4. It also refers to the Draft Guidelines on Landscape and Landscape Assessment and the ongoing preparation of the National Landscape Strategy for Ireland. The Strategic Environmental Assessment (SEA) accompanying the CDP recommended the preparation of a Landscape Character Assessment for County Donegal. This Landscape Character Assessment was published in May 2016.

The Donegal County Development Plan 2018-2024 sets out policies and objectives for landscape conservation as follows:

***NH-O-4:** To ensure the protection and management of the landscape in accordance with current legislation, ministerial and regional guidelines and having regard to the European Landscape Convention 2000.*

***NH-O-5:** To protect, manage and conserve the character, quality and value of the landscape having regard to the proper planning and development of the area, including consideration of the scenic amenity designations of this plan, the preservation of views and prospects and the amenities of places and features of natural, cultural, social or historic interest.*

***NH-O-8:** To ensure where appropriate the protection and conservation of hedgerows, stone walls and traditional field boundaries as natural heritage corridors and migration routes for wildlife where they are shown to play a significant heritage role.*

**NH-P-8:** *It is the policy of the Council to safeguard the scenic context, cultural landscape significance, and recreational and environmental amenities of the County’s coastline from inappropriate development.*

**NH-P-9:** *It is the policy of the Council to manage the local landscape and natural environment, including the seascape, by ensuring any new developments do not detrimentally impact on the character, integrity, distinctiveness or scenic value of the area.*

**NH-P-10:** *It is a policy of the Council to retain and protect significant stands of existing trees/hedgerows/woodlands and seek increased planting of native trees where appropriate in new developments.*

**NH-P-11:** *It is a policy of the Council to seek the protection of stone wall boundaries where they are shown to play a significant heritage role. Where the demolition of such stone walls is unavoidable, the reinstatement of stone walls at revised location/set back within the site using agreed local materials and techniques, will be required.*

**NH-P-15:** *It is a policy of the Council to safeguard prominent skylines and ridgelines from inappropriate development.*

The tourism chapter of the CDP contains the following policy relating to landscape:

**TOU-0-2:** *To protect and enhance Donegal’s landscape and natural environment as a fundamental resource which underpins the country’s tourism product*

#### 12.5.1.1.4 **Landscape Policy pertaining to Wind Energy**

Chapter 8 of the CDP outlines policies and objectives relating to wind energy developments. As detailed above, when the Donegal County Development Plan came into effect in June of 2018 it included a Wind Energy Map (Map 8.2.1). Map 8.2.1 identified three policy/zone areas for the development of wind farms within the county. A judicial review of the Donegal County Development Plan in November 2018 resulted in the High Court omitting Map 8.2.1 from the plan. At the time of writing, a revised Wind Energy Map has yet to be published by Donegal County Council. It should be noted that Map 8.2.1 identifies areas which are considered suitable for wind energy development in the county and was based on information such as potential for wind energy, existing and proposed grid connection, natural heritage designations and landscape sensitivity. The strategy identified three types of area and these are defined as follows:

**‘Open to Consideration’** – *Within these locations, wind farm developments are open to consideration, subject to compliance with other objectives and policies of the Plan. These areas are open to consideration for appropriate wind energy proposals. They have been identified having regard to a range of factors, including wind energy potential (through the wind speed atlas [www.seai.ie](http://www.seai.ie)), existing grid connections, proposed grid connections, natural heritage designations and landscape sensitivity, road infrastructure and where potential conflict with natural heritage designations may be managed effectively.*

**‘Acceptable for augmentation of/improvements to existing windfarms’** – *Within these locations, wind farm development would be unacceptable save as augmentation of, or improvements to, existing wind farm development subject to compliance with all other objectives and policies of the Plan.*

*The Council recognises the opportunities arising from the use of more efficient turbines on established windfarms, as they generate much higher energy yields per turbine, thereby reducing the need for additional turbines. In most cases the infrastructure, roads, hardstand, turbines, substation and fences have already been established, so there should be limited*

*additional impact. Wind energy developments within these areas will be considered subject to compliance with all other objectives and policies of the Plan.*

***‘Not acceptable’: Locations where Wind Farm Development would be unacceptable’*** - Areas where wind energy proposals would be unacceptable have been identified having regard to their significant environmental, heritage and landscape constraints. These include; Special Areas of Conservation (SAC's) and Special Protection Areas (Natura 2000) sites, Natural Heritage Areas, areas identified as high and medium landscape sensitivity, areas of Fresh Water Pearl Mussel including the catchments identified in the Sub-Basin Management Plans for Clady, Eske, Glaskeelin, Leannan, Owencarrow and Owenea (as listed in S.I. 296 of 2009), important views and prospects, among others. It is considered that these areas have no capacity for wind energy development.

Although it is fully acknowledged that Map 8.2.1 has been set aside and is no longer part of the CDP<sup>1</sup>, it should be noted that all the proposed turbines lie in an area that was zoned as ‘Open to Consideration’ on this map. And it should be noted that this designation process included considerations of the landscape sensitivities of the area.

Section 8.2.3 of the Donegal County Development Plan 2018 - 2024 includes the following requirement for wind energy developments:

***E-O-5:*** *To ensure that wind energy developments meet the requirements and standards set out in the DEHLG Wind Energy Development Guidelines 2006, or any subsequent related Guidelines (or as may be amended).*

***E-O-6:*** *To ensure that wind energy developments do not adversely impact upon the existing residential amenities of residential properties, and other centres of human habitation (as defined at Para. 6.6, 'Wind Energy', Appendix 3, Development Guidelines and Technical Standards, Part B, Objectives and Policies of the Plan).*

***E-P-10:*** *It is a policy of the Council that development proposals for wind energy shall be in accordance with the requirements of the Wind Energy Development Guidelines: Guidelines for Planning Authorities, 2006 (or as may be amended).*

***E-P-20:*** *It is the policy of the Council that all proposals for renewable energy development will have regard to the cumulative effect of the development on the environment when considered in conjunction with other existing and permitted developments in the area.*

## 12.5.1.2 County Derry

Areas of Outstanding Natural Beauty (AONBs) are the most important landscapes designated by Department of the Environment (DOE) in Northern Ireland for their high landscape quality, wildlife importance and rich cultural and architectural heritage under the Nature Conservation and Amenity Lands (NI) Order 1985 (NCALO). There are eight AONBs in Northern Ireland and two fully or partially within County Derry, but only a fraction of one AONB, Binevenagh, falls within 20 kilometres of the proposed turbines. Balls Point within Binevenagh AONB at a distance of 19.5 kilometres from

<sup>1</sup> The Wind Energy Map (Map 8.2.1) of the County Development Plan was included in the CDP and identified three policy/zone areas for the development of wind farms within the county. In November 2018, a judicial review of the plan resulted in the High Court omitting Map 8.2.1 from the County Development Plan. The following note was listed within the County Development Plan which references the above:

“By Order made on the 5th day of November, 2018, in proceedings bearing Record Number 2018/533JR between Planree Limited, Applicant and Donegal County Council, Respondent, certain provisions of the County Donegal Development Plan 2018-2024, being Section 6.5(c) and (f) of the Wind Energy standards at Part B: Appendix 3, Development Guidelines and Technical Standards and Map 8.2.1 as contained in the County Donegal Development Plan 2018-2024 as published were ordered to be deleted and/or removed from the County Donegal Development Plan 2018-2024. The Development Plan should be read in light of the Order in question pending any possible future variation of same.”

the nearest turbine, however, the ZTV indicates that there will be no visibility in the very small area of this AONB within the study area.

There are two Northern Irish Districts within the study area, Derry City and Strabane District and Causeway Coast and Glens Borough.

Derry City and Strabane District Council has published the Draft Local Development Plan (LDP) 2032, however, at present the Derry Area Plan 2011 remains in force. While the Derry Area Plan 2011 has designated Areas of High Scenic Value (AoHSV) on both banks of the Foyle north and south of the Derry City, policy relating to this designation provides guidance only on development within not outside this landscape designation.

Although the Draft Local Development Plan (LDP) 2032, is yet to come into force it is worth noting that it will introduce new landscape designations, namely Areas of High Landscape Importance (AHLIs). These will cover key coastal, river valley and settlement settings in the district (relates to Draft Policy NE 7)

Causeway Coast and Glens Borough Council are yet to publish their Draft Local Development Plan 2035. The currently valid development plan is the Northern Area Plan 2016. The Northern Area Plan 2016 does not contain any landscape designations other than Local Landscape Policy Areas, which relate to development zoning around settlements and are not pertinent to the proposed development.

## 12.5.2 Landscape Character of the Proposed Development Site

### 12.5.2.1 DoEHLG 'Wind Energy Development Guidelines' (2006)

While the 2006 DoEHLG *Wind Energy Development Guidelines for Planning Authorities* remain in effect, in 2019 the DoHPLG *Draft Revised Wind Energy Development Guidelines* were published. However, in terms of guidance on landscape and visual impact assessment there is no difference between these two publications.

The Wind Energy Development Guidelines set out 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. It is noted that it represents the 'best fit' solutions to likely situations.

However, regarding these six landscape character types, the guidelines also note that it is common for a wind energy development to be located in one landscape but visible from another and recommends that the entire visual unit should be taken into consideration.

The proposed development site is located within an area predominantly consisting of peatland or areas of peatland now planted with coniferous plantation. In terms of elevation the proposed development site stretches from the bottom of a valley southwards to the higher slopes of Crocknacaddy and the lower slopes of Eskaheen Mountain. There is ribbon development with associated agricultural land along the L-1731-2 local road north of the proposed site, off which the site will be accessed, and along the western extremities of the proposed grid connection route. There is next to no settlement in other areas surrounding the site. While the landcover and settlement pattern are more in keeping with the key characteristics set out for 'mountain moorland', the topography of the site would suggest that it is not compatible with this landscape type. As the 'transitional marginal' landscape type 'comprises something both of mountain moorland and farmland' this landscape type was deemed to be the most appropriate designation for the site and its immediate surrounds. Therefore, the best practice siting and design strategies prescribed for Transitional Marginal landscape (DoEHLG, 2006) were implemented for the proposed development.

## Transitional Marginal

The key characteristics of the transitional marginal landscape type are:

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

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

### Location

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

### Spatial extent

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

### Spacing

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

### Layout

*“The likely location of wind energy developments on ridges suggests a linear or staggered linear layout whereas on broader hilltops they could be linear or clustered. Grid layouts are less likely to succeed aesthetically unless there is an open continuity of similar landcover.”*

### Height

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

## Cumulative Effect

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

With reference to the DoEHLG guidelines’ references to location, spatial extent and scale, spacing, layout, height and cumulative effect, the following comments are relevant to the site.

In terms of **location**, the site is located on eastern sloping ground within Transitional Marginal landscape in an area that is designated as ‘*Open to Consideration*’ for wind energy development in Map 8.2.1 that has been omitted from the Donegal County Development Plan following judicial review.

In terms of **spatial extent**, the site and surrounding areas are large in scale as a landscape, while simultaneously being relatively enclosed owing to the local landscape features and topographical undulations in the immediately surrounding areas.

In terms of **spacing**, the regular spacing but slightly varied rhythm of the proposed turbines is suitable and desirable for a transitional marginal site such as this.

In terms of **layout**, the proposed development is appropriately designed on north-eastern sweeping slopes within the transitional marginal landscape type.

In terms of **height**, the topography surrounding the site lends itself to the use of taller turbines, which is in keeping with the landscape scale and the spatial separation from visual receptors of significance.

In terms of **cumulative effect** and acknowledging the other operational wind farms in the wider area, the large and expansive scale of the wider landscape is considered to have the capacity to absorb the proposed development. The cumulative effects are evaluated in more depth separately in Section 12.8.3.

## 12.5.2.2 Landscape of the Site

### 12.5.2.2.1 Topography

Levels within the site range from 360 m O.D. (ordnance datum) in the most south-eastern part of the site where the site boundary extends almost to the summit of Crocknacraaddy Hill and 110 m O.D. in the most north western part of the site, adjacent to the Crana River.

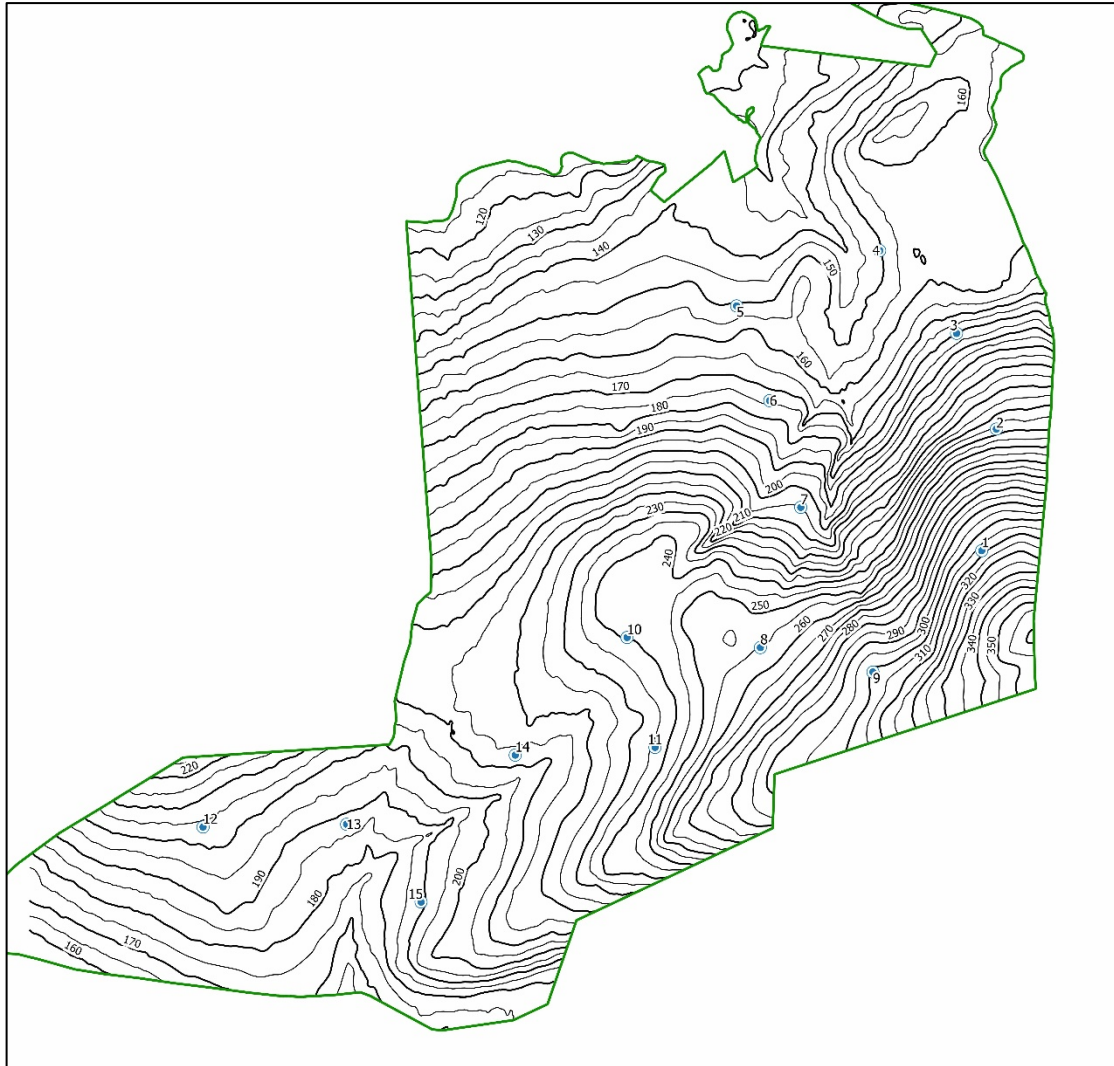


Figure 12-3 Topography within 5 kilometres of the proposed turbines

There is also an intermediate hill, Cloghadoo whose peak is 245 m OD and the ridgeline formed by it, Crocknacradly and Some Hill, to the west of the site, form a watershed<sup>2</sup>.

Most of the northern part of the site slopes from south to north with the steepest slopes reaching a gradient of 1 in 4 or 25 %. The most southern and western parts of the site slope downwards first in a westerly direction, then towards the south with the lowest part in this section of the site in the most south-western part of the site at approximately 150 m O.D. Pollandoo Burn forms a minor gully in the southern part of the site.

Beyond this south-western area of the site, the land generally slopes down to the sea to the west, with the exception of Mouldy Hill just to the south of Buncrana.

To the west of the site, Cocknacradly Hill is part of an extended upland including Glackmore Hill, Clockglass and Leamacrossan Hill.

North of the site the land first rises from the Crana River to Illies Hill (481 m O.D.) then dips down again to the Glashagh River before rising to first Damp (420 m O.D.) and then Slieve Snaght at 615 m O.D. To the south of the site is an extended ridgeline, which includes Asdevlin Hill (384 m O.D.),

<sup>2</sup> An area or ridge of land that separates waters flowing to different rivers or catchments

Scalp Mountain (481 m O.D.) and Nadaphreaghane (374 m O.D.) as well as the adjacent Eskaheen Mountain (416 m O.D.) separated by Grania’s Gap.



*Plate 12-1 Image illustrating the steep topography on some parts of the site*



## Drainage

The northern half of the proposed development site is drained mainly by the Glenard River, which emerges from within the windfarm site itself. The Glenard River comprises two main streams that converge before flowing into the Crana River, seen in Plate 12-2 below, at the northern site boundary of the wind farm.



*Plate 12-2 Most of the run-off water feeds into the Crana River to the north of the proposed development*

The southern half of the wind farm site is drained mainly by the Pollandoo Burn, which then discharges into the Owenkillew River approximately 500m to the south of the wind farm site.

Within the Proposed development site there are also numerous manmade drains that are in place predominately to drain the forestry plantations. The current internal forestry drainage pattern is influenced by the topography, peat subsoils, layout of the forest plantation and by the existing road network.

12.5.2.2.3

**Landcover**

The landcover within the EIAR study area boundary is dominated by conifer plantation as shown in Plate 12-3, below.



*Plate 12-3 Existing forestry track with areas of Japanese Knotweed*

Small areas of wet heath, shown in Plate 12-4, cutover bog, wet grassland, and scrub can also be found on site.



*Plate 12-4 View of wet heath in the north-western part of the site*

Remains of derelict farmstead can be found in the northern part of the site as shown in Plate 12-5, below.



*Plate 12-5 View along track in the north of the proposed development site showing derelict buildings at the end of rows of deciduous trees*

The surrounding landscape adjacent to the roads is predominantly agriculturally based, but peatland interspersed by conifer plantation is the dominant landcover overall.

#### 12.5.2.2.4 **Land Use**

As described in Section 12.5.2.2.3 above, most of the site is currently used for commercial forestry with some areas of peatland which has been partially cut-over. Land-use in the wider landscape comprises of agriculture, wind energy developments and other areas of commercial forestry as well as scattered low-density residential properties alongside farmland.



Plate 12-6 Image showing a recently planted area of the conifer plantation

### 12.5.2.3 Landscape Value and Sensitivity of the Proposed Development Site

The findings above are summarised in Table 12-1 in order to determine the landscape sensitivity which is informed by landscape value for the proposed development site.

Landscape value includes designations such as scenic views and sensitivity designations found in development plans, as well as values which are attached to undesignated landscapes.

Table 12-1 Indicators of Landscape Value and Sensitivity

Indicator	Description
Landscape Designations	<p>The majority of the proposed development site is designated as an area of Moderate Scenic Amenity (MSA) with a large area to the west of the site having been assigned an area of High Scenic Amenity (HSA) status. However, the HSA area is covered with non-native commercial coniferous plantation. This type of landcover would not usually be considered of scenic amenity as the colour, shape and uniform texture of this landscape element appears as incongruous to the existing landscape.</p> <p>Although there are many designated Co. Donegal scenic views within the 20 km study area, there are none within 5 kilometres and only two within 10 kilometres of the proposed turbines (both are directed away from the site). The vast majority of the designated views focus on Lough Foyle and Lough Swilly and where their direction coincides with that of the turbines the turbines may appear in the distant background of the view.</p>

Indicator	Description
	The main landscape designations within County Derry are Areas of Outstanding Natural Beauty (AONBs), the nearest AONB is just within 20 kilometres of the proposed turbines and landscape and visual effects there will be imperceptible, as discussed in Section 12.8 below.
Landscape Quality/Condition	This refers to the physical state of the landscape and the condition of individual elements. While there are areas of peatland within the site boundary the majority of the site is dedicated to commercial coniferous forestry, which has resulted in the degradation in the landscape quality of the site.
Aesthetic Qualities	Most of the proposed development site is covered in commercial coniferous forestry, which although now a ubiquitous modern landscape element is alien to the traditional Irish landscape and has very few aesthetic qualities. However, there are areas of peatland that have a rugged aesthetic quality and permit medium to long distance views. The intimate and more natural landscape immediately adjacent to the Crana River in the north of the site is of aesthetic value.
Wildness/naturalness	While a sense of wildness or naturalness remains in the parts of the site that have not been planted by coniferous commercial forestry, the majority of the site is mainly afforded this quality by virtue of the remoteness of the site.
Rarity/ Conservation Interests	While there are some designated nature conservation areas in the vicinity of the proposed development none apply to the proposed development site. The majority of the site comprises commercial forestry which is common in the wider area and, therefore, reduces any sense of rarity. See Chapter 6 Biodiversity for further details.
Cultural Meaning/Associations	There are no recorded monuments with the proposed site boundary and there are no known cultural associations with the site. See Chapter 13 Cultural Heritage and Archaeology for further details.
Recreation Value	The terrain is primarily moorland and forestry surrounded by agricultural land use. While the existing forestry tracks may be used locally for unofficial recreation, there are no known recreational or amenity value associated with the site.

In consideration of the factors detailed in Table 12-1 above, the landscape value of the proposed development site is deemed to be Low to Moderate and the landscape sensitivity to wind farm development is deemed to be Low.

## 12.5.3 Landscape Character of the Study Area

Landscape character refers to the distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and how people perceive this. It reflects combinations of geology, landform, soils, vegetation, land use and human settlement, and creates the sense of place found in different areas. While the appropriate radius for landscape effects on landscape character in the relevant guidelines varies, in the authors view, landscape character is primarily reflected by the elements within a certain area rather than those outside it and due to the nature of landscape character areas covering large areas of land within County Donegal, all landscape character areas or parts thereof falling within 15 kilometres from the proposed wind turbines are included in landscape character assessment (LCA Study Area).

### 12.5.3.1 County Donegal Landscape Character Areas

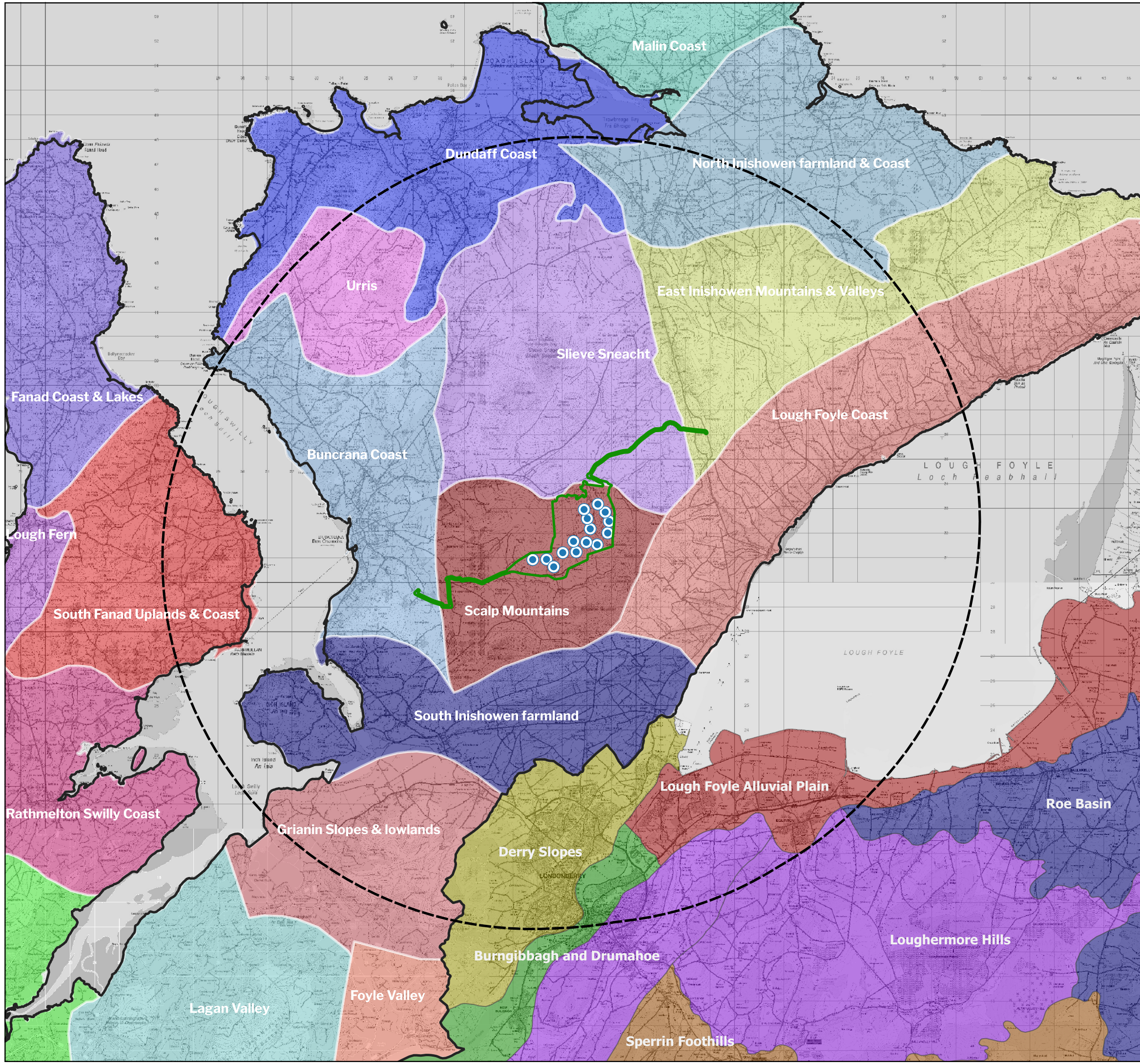
In May 2016 Donegal County Council published its *Landscape Character Assessment of County Donegal* including a Landscape Character Area (LCA) map showing the 44 LCAs. The purpose of the Landscape Character Assessment is to classify and describe the landscape.

All the proposed turbines are to be located in LCA 9 *Scalp Mountain* and LCAs 2, 3, 4, 5, 6, 7, 8, 10, 11, 13 and 12 also fall within the landscape character 15-kilometre study area. These are listed in





Table 12-2 below and shown on Figure 12-4 overleaf.

Table 12-2 County Donegal Landscape Character Areas within 15 kilometres

Landscape Character Areas	Theoretical visibility (ZTV)
<b>Up to 5 km</b>	
5 Slieve Sneacht	Partial
6 East Inishowen Mountains & Valleys	Partial
7 Lough Foyle Coast	Partial
8 Buncrana Coast	Partial
9 Scalp Mountain	Partial
10 South Inishowen Farmland	Partial
<b>5 to 10 km</b>	
4 Urris	Partial
11 Grianian Slopes & Lowlands	Partial
<b>10 to 15 km</b>	
2 Dundaff Coast	None
3 North Inishowen farmland & Coast	Partial
13 Foyle Valley	None



### Map Legend

-  EIAR Site Boundary
-  Proposed Turbine Layout
-  15km LCA Study Area
-  County Boundary



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Drawing Title  
**Figure 12-4 Landscape Character Areas**

Project Title  
**190114 - Glenard Wind Farm EIAR**

Drawn By	SD	Checked By	EM
Project No.	190114	Drawing No.	12-4
Scale	1:150000	Date	2022.01.06



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Landscape Character Areas	Theoretical visibility (ZTV)
20 South Fanad Uplands & Coast	Partial

### 12.5.3.2 County Derry Landscape Character Areas

A Landscape Character Assessment was carried out for Northern Ireland in 2000 and divides the country into 130 Landscape Character Areas (LCA's). Each LCA is described in terms of key characteristics, condition of the landscape and its sensitivity to change. The LCAs falling within the 15-kilometre landscape character study area are listed in

Table 12-3 below and shown in Figure 12-3 above.

Table 12-3 County Derry Landscape Character Areas within 15 kilometres

Landscape Character Areas	Theoretical visibility (ZTV)
<b>5 to 10 km</b>	
32 Derry Slopes	None
33 Lough Foyle Alluvial Plain	Partial
<b>10 to 15 km</b>	
27 Foyle Valley	None
31 Burngibbagh and Drumahoe	Partial
34 Loughermore Hills	Partial

### 12.5.4 Landscape Receptor Preliminary Assessment

After identifying the landscape receptors in the study area based on landscape designations derived from the respective CDPs and Landscape Character Areas (LCAs) taken from the Landscape Character Assessment of County Donegal and the Northern Ireland Landscape Character Assessment, a preliminary assessment has been carried out to screen out landscape receptors that will not be impacted by the proposed development.

Using the Zone of Theoretical Visibility mapping the visual receptors that will have no theoretical visibility were screened out as shown in

Table 12-4 below.

Table 12-4 Landscape Receptors Screened Out -no visibility indicated by ZTV map

Landscape Receptor Category	County	Landscape Receptor with no visibility shown on ZTV
Landscape Character Areas	Donegal	LCA 2 and LCA 13
	Derry	LCA 27 and LCA 32



For the remaining landscape receptors visibility was additionally assessed during the site visit assisted by the TrueViewVisuals (TVV) software during the October 2019 site visit. TVV is an iPad-based tool to help establish visibility of a project live on the ground before it is built.

In the case of the landscape receptors shown in Table 12-5, below, views towards the turbines were either entirely screened or substantially screened from the majority of locations indicated as having theoretical visibility in the ZTV mapping. This along with, in some cases, distance to the proposed development site precluded the landscape character areas listed in Table 12-5 being selected as landscape receptors to go forward for full assessment.

Table 12-5 Visual Receptors Screened Out -no visibility found on site

Visual Receptor Category	County	Visual Receptor with no significant visibility found on site
Landscape Character Areas	Donegal	LCA 3, LCA 4, LCA 6, LCA 7, LCA 10 and LCA 11
	Derry	LCA 34

Following the pre-assessment exercise the landscape receptors shown in

Table 12-6 have been selected for full assessment in Appendix 12-2, due to the potential landscape effects they may experience as a consequence of the proposed wind energy development.

Table 12-6 Landscape receptors screened in for full assessment

Landscape Receptor Category	County	Landscape Receptor
Landscape of Proposed Development Site	Donegal	Landscape of Proposed Development Site
Landscape Character Areas	Donegal	LCA 5 Slieve Sneacht
		LCA 8 Bunrana Coast
		LCA 9 Scalp Mountain
		LCA 20 South Fanad Uplands & Coast
	Derry	LCA 31 Burngibbagh and Drumahoe
		LCA 33 Lough Foyle Alluvial Plain

## 12.6 Visual Baseline

### 12.6.1 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). 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
- > Settlements
- > Recreational and Tourist Destinations
- > Viewing Areas (e.g. marked on OSi Maps)
- > Transport Routes
- > Recreational Routes
  - Waymarked Walking Routes
  - Cycle Routes
  - Scenic Drives
  - Tourist Routes (e.g. Wild Atlantic Way)

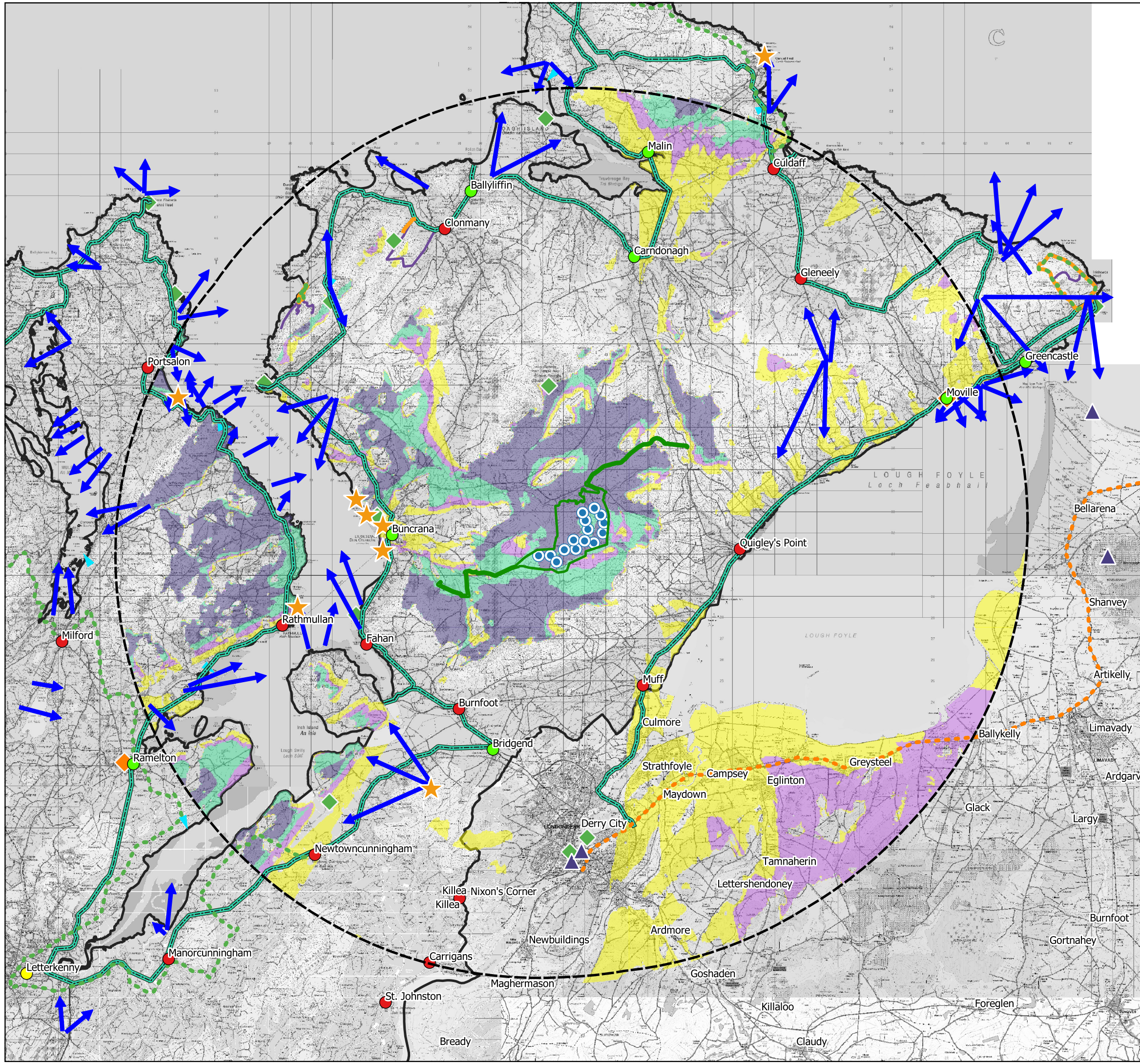
These visual receptors are identified in the visual baseline map (Figure 12-5 below) and listed in tables in the following sections along with theoretical visibility at those locations.

#### 12.6.1.1 Designated Scenic Views

Views and prospects designated within Co. Donegal are shown on Map 7.1.1 in the Donegal CDP, however, there are no accompanying descriptions or stated focus of these views. As can be seen in Figure 12-5 below, there are a high number of views within the study area and hence only those that are generally directed towards the proposed development will be listed in Table 12-7 below with a description of their location, and whether there will be theoretical visibility of the proposed turbines.

Table 12-7 Relevant Views and Prospects within 20 kilometres (Co. Donegal)

Location	Description	Theoretical Visibility
<b>10 to 15 km</b>		
View from the R268 in the townland of Anny Far and Near	Stretch of road	Full
<b>15 to 20 km</b>		
Views from the R247 in the townland of Drumherrive	Stretch of road	None
Views from the R247 in the townland of Gortcally	Stretch of road	Full
View from the R268 in the townland of Bunnaton	Layby	Full
View from the R268 in the townland of Magherawardan	Stretch of road	Full



### Map Legend

- EIAR Site Boundary
  - Proposed Turbine Layout
  - 20km LVIA Study Area
  - County Boundary
- Settlements**
- Primary town
  - Strategic Town
  - Rural Towns & Open Countryside
- Walking Routes & Destinations**
- Recreational and Tourist Destinations
  - Bundoran to Tullaghan Shore Walk
  - Donegal Walking Trails
  - WM Trails - SportIreland
- Scenic Views and Designations**
- OSI Scenic Views
  - Scenic Views DL CDP
  - Heritage Designations
  - ★ Tourism Designations
  - ▲ Northern Ireland Place Of Interest
- Recreational Routes**
- Run Trails - SportIreland
  - The Wild Atlantic Way - Tourist Route
  - Causeway Coastal Route
- Zone of Theoretical Visibility**
- 1 to 4 Turbines
  - 5 to 8 Turbines
  - 9 to 12 Turbines
  - 13 to 15 Turbines



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Drawing Title  
**Figure 12-5 Half Blade ZTV & Visual Baseline**

Project Title  
**190114 - Glenard Wind Farm EIAR**

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Project No.	190114	Drawing No.	12-5
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Location	Description	Theoretical Visibility
Views from the L1072 in the townland of Croaghross	Stretch of road	Partial
Gap of Mamore	Layby on north side, below summit with views to the north only	None

### 12.6.1.2 Settlements

In order to identify which settlements within the study area should be considered for viewpoint selection the Settlement Hierarchies of Donegal and Derry were consulted. The settlements within the study area are shown in Figure 2.3 ‘The Settlement Structure’ of the Donegal County Development Plan 2018-2024. This yielded the list of settlements listed in Table 12-8 below.

Table 12-8 Significant Settlements within the Study Area

Settlement	County	Settlement Hierarchy	Theoretical Visibility
<b>5 to 10 km</b>			
Muff	Donegal	Rural Town	None
Buncrana	Donegal	Strategic Town	Partial
Quigley’s Point	Donegal	Rural Town	None
Burnfoot	Donegal	Rural Town	None
Bridge End	Donegal	Strategic Town	None
Fahan	Donegal	Rural Town	None
<b>10 to 15 km</b>			
Rathmullan	Donegal	Rural Town	Partial
Clonmany	Donegal	Rural Town	None
Carndonagh	Donegal	Strategic Town	None to Partial
Gleneely	Donegal	Rural Town	None
Lisfannon	Donegal	Rural Town	None
Derry City	Derry	City	None to Partial
Eglington	Derry	Town	Partial
Greysteel	Derry	Village	Partial
<b>15 to 20 km</b>			
Ballyliffen	Donegal	Strategic Town	None

Settlement	County	Settlement Hierarchy	Theoretical Visibility
Moville	Donegal	Strategic Town	Partial
Culdaff	Donegal	Rural Town	None
Malin	Donegal	Strategic Town	Partial
Newtowncunningham	Donegal	Rural Town	None
Carrigans	Donegal	Rural Town	None
Killea	Donegal	Rural Town	None
New Buildings	Derry	Town	None

### 12.6.1.3 Recreational and Tourist Destinations

Recreation and tourist destinations for County Donegal were identified from the Donegal CDP and Donegal County Council map portal. For destinations in County Derry the Derry Area Plan 2011 and Northern Area Plan 2016 were consulted. All are shown in Figure 12-5 and listed in Table 12-9 below, however, none are located within 5 kilometres of the proposed development.

Table 12-9 Recreational and Tourist Destinations in the Study Area

Destination	Description	Theoretical Visibility
<b>5 to 10 km</b>		
O' Doherty's Keep (Donegal)	Historical landmark near Buncrana Castle.	Partial
Swan Park (Donegal)	A public amenity area which includes walks along Crana River and the Seafront	None
Father Hegarty's Rock (Donegal)	A Rock shrine dedicated to the Priest who was beheaded for serving mass during the Penal Laws in the 17th century	None
Amazing Grace Walk and Viewing Platform (Donegal)	1.1 km walk along footpaths, which follows the shorefront in Buncrana between The Amazing Grace Park and The Amazing Grace Viewing Platform	Partial
Lady's Bay (Donegal)	Sheltered cove five minutes' walk Buncrana Town Centre. Activities at Lady's Bay beach include swimming, boating, power boating, jet skiing and other land-based activities on the beach	Partial
<b>10 to 15 km</b>		
Grianan Of Aileach (Donegal)	Cashel hilltop ringfort of Bronze Age/Iron Age date is a National Monument in State Care	None

Destination	Description	Theoretical Visibility
Kerr’s Bay (Donegal)	Popular destination for locals and tourists in Rathmullen on the western shore of Lough Swilly	None
Inch Island Wildfowl Reserve – Looped Walk Car Park (Discovery Point)	Popular looped walk within a site of extensive feeding areas and safe resting and roosting sites which makes this site one of the most important wetlands in the country for wintering waterfowl.	Partial
<b>15 to 20 km</b>		
Portsalon Beach (Donegal)	Popular and famous Blue Flag Beach with nearby restaurants, golf club and viewing points	None

### 12.6.1.4 Recreational Routes

- > Waymarked Walking Routes
- > Cycle Routes
- > Scenic Drives & Tourist Routes

There are numerous known driving and cycle routes within the the LVIA study area that are popular for recreational activity amongst tourists and locals alike.

Table 12-10 Recreational Routes in the Study Area

Route Name	Description	County	Theoretical Visibility
<b>5 to 10 km</b>			
Wild Atlantic Way	Scenic Drive/Tourist Route including ‘Discovery Points’	Donegal	Predominantly no visibility around the Inishowen Peninsula, with small pockets of partial theoretical visibility. Partial and full theoretical visibility on the western shore of Lough Swilly
Donegal Cycle Route	Cycling Route	Donegal	Predominantly no visibility around the Inishowen Peninsula, with small pockets of partial theoretical visibility.
<b>10 to 15 km</b>			
Causeway Coastal Route	Scenic Drive/Tourist Route	Derry	Partial theoretical visibility

### 12.6.1.5 Viewing Points

There are six viewing points marked on the Ordnance Survey maps within the study area. None are located within 10km of the proposed development. These along with a brief description, the direction of the scenic view and whether there is theoretical visibility are listed in

Table 12-11 below.

Table 12-11 Viewing points marked on Ordnance Survey maps

Location	Description	Direction	Theoretical Visibility
<b>10 to 15 km</b>			
Grianan of Aileach (Donegal)	Ring fort and adjacent car park	Towards proposed development	None
<b>15 to 20 km</b>			
Ray (Donegal)	Layby off the R247 regional road	Perpendicular to proposed development	None
Carrickhue (Derry)	Layby and picnic spot on A2	Towards proposed development	Partial
Bunnaton (Donegal)	Layby and picnic spot on R268 regional road	Towards proposed development	Full
Saldanha Head (Donegal)	On R268 regional road	Perpendicular to proposed development	Full
Binnadreen (Donegal)	Layby and picnic spot on R268 regional road	Perpendicular to proposed development	None
Urrismenagh	Car park	Opposite to proposed development	None

### 12.6.1.6 Transport Routes

For the purpose of viewpoint selection, major routes including national primary and secondary roads in County Donegal and A-class roads in County Derry were assessed in detail. Preference was given to viewpoint selection on regional routes in cases where they passed through settlement areas or coincided with scenic routes to increase the number of visual receptors. There are no national primary and secondary routes or A-class roads within 7.5km of the proposed development. Transport routes, regional and local, within 5 kilometres of the site were assessed as part of the route screening analysis, where the amount of roadside screening was surveyed and mapped to give a thorough understanding of the actual visibility within 5 kilometres of the proposed turbines from the public roads. Further details in relation to the route screening analysis are outlined in Section 12.8.3.3.3.

Table 12-12 Significant Settlements within the Study Area

Transport Route	Theoretical Visibility
<b>5 to 10 km</b>	
N13	No visibility apart from one short section of partial visibility beyond 18 kilometres from the proposed turbines.
A2	Partial visibility along the length of this road within the study area
<b>15 to 20 km</b>	
A5	No visibility

Transport Route	Theoretical Visibility
A6	No visibility apart from two short sections of partial visibility

## 12.6.2 Visual Receptor Preliminary Assessment

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

Using the Zone of Theoretical Visibility mapping shown on Figure 12-5 the visual receptors that will have no theoretical visibility are screened out as shown in

Table 12-13 below.

Table 12-13 Visual Receptors Screened Out -no visibility indicated by ZTV map

Visual Receptor Category	County	Visual Receptor
Designated Scenic Views	Donegal	Drumherville, Gap of Mamore
Settlements	Donegal	Muff, Quigley's Point, Burnfoot, Bridge End, Fahan, Clonmany, Gleneely, Lisfannon, Ballyliffen, Culdaff, Newtowncunningham, Carrigans, Killea,
	Derry	New Buildings
Recreational and Tourist Destinations	Donegal	Swan Park, Father Hegarty's Rock, Grianan Of Aileach, Kerr's Bay, Portsalon Beach
OSi Viewing Points	Donegal	Grianan of Aileach, Ray, Binnadreen
Transport Routes	Donegal	N13
	Derry	A5, A6

For the remaining visual receptors visibility was assessed on site. In the case of the visual receptors shown in Table 12-14, below, views towards the turbines were either entirely screened or substantially screened. This along with in some cases distance to the proposed development site precluded these locations being selected as viewpoints.

Table 12-14 Visual Receptors Screened Out -no visibility found on site

Visual Receptor Category	County	Visual Receptor
Designated Scenic Views	Donegal	Magherawardan*, Croaghross
Settlements	Donegal	Carndonagh, Rathmullan, Moville
	Derry	Eglinton, Ballykelly
Recreational and Tourist Destinations	Donegal	O' Doherty's Keep, Amazing Grace Walk and Viewing Platform, Lady's Bay



Visual Receptor Category	County	Visual Receptor
Recreational Routes	Donegal	Donegal Cycle Route
OSi Viewing Points	Donegal	Saldanha Head

*\*Due to the close proximity of another designated County Donegal Scenic View less than 1 kilometre to the south-west in the townland of Bunnaton, the view at Bunnaton will be used to assess both of these designated scenic views as any potential effects are considered similar due to the short distance between the views.*

Following the pre-assessment exercise the visual receptors shown in

Table 12-15 have been selected as viewpoints due to their significance within the study area and the potential visual effects they may experience due to the proposed wind energy development.

*Table 12-15 Visual receptors screened in and selected as viewpoints*

Visual Receptor Category		Description	Viewpoint
Designated Scenic Views	Donegal	Bunnaton (Magherawardan)	VP 05
		Anny Far and Near	VP 04
		Gortcally	VP 11
Settlements	Donegal	Buncrana	VP 08
		Malin	VP 13
	Derry	Derry City	VP 10
		Greysteel	VP 06
Recreational and Tourist Destinations	Donegal	Inch Island Wildfowl Reserve – Looped Walk Car Park (Discovery Point)	VP 02
Recreational Routes	Donegal	Wild Atlantic Way	VP 04, VP 05
	Derry	Causeway Coastal Route	VP 06, VP 07
OSi Viewing Points	Donegal	Bunnaton	VP 05
	Derry	Carrickhue	VP 07
Transport Routes	Derry	A2	VP 06, VP 07

Furthermore, four viewpoints within 5 kilometres (Viewpoints 01, 03, 09 and 12) were also included to assess the visual effects at locations closer to the proposed development.

## Cumulative Baseline

Other wind energy developments, within 20km of the proposed development, were identified by searching past planning applications lodged through the various Planning Authorities (Donegal County Council, Derry and Strabane District Council and An Bord Pleanála) online planning portals in December 2021 (Refer to Chapter 2, Section 2.3 of the EIAR). The information identified in the initial planning search was then used to verify, by means of a desk-based study and ground-truthing, whether the permitted wind energy developments had been constructed. The list of existing and permitted wind turbines present within the study area are listed in Table 12-16 listed below:

Table 12-16 Existing and Permitted Wind Farms within 20 kilometres

Wind Farm	Status	No of Turbines	Tip Height (m)
<b>Within 5 km</b>			
Aught	Permitted	14	100.5
Carrowglen	Permitted	6	124.9
Colpey Rock	Permitted	1	125
Crockahenny	Existing	10	60
Flughland	Existing	4	99
Glackmore I	Existing	1	100.5
Glackmore II	Permitted	1	119
J. McCarron Wind Turbine	Permitted	1	125
Malkell	Permitted	2	119
Meenkeeragh I	Existing	2	99
Meenkeeragh II	Existing	1	77
Meenkeeragh III	Existing	1	126
Some Hill I	Existing	16	99
Some Hill II	Existing	3	99.5
Three Trees	Permitted	2	119
<b>5 km to 10 km</b>			
Beam Hill	Existing	8	93
Meenaward	Existing	3	107
<b>10 km to 15 km</b>			
Drumlough Hill I	Existing	8	73.5

Wind Farm	Status	No of Turbines	Tip Height (m)
Drumlough Hill Extension	Existing	12	81
Sladran	Existing	2	119.5
<b>15 km to 20 km</b>			
Clondermot	Existing	3	90/46.5/45
Lurganboy I	Existing	6	77

The proposed Glenard turbines will be assessed in Section 12.8.3 of this chapter alongside the turbines listed above to determine the cumulative landscape and visual effects.

## 12.8 Likely Significant Landscape and Visual Effects

### 12.8.1 ‘Do-Nothing’ Scenario’

The Do-Nothing option to developing a renewable energy development at the proposed development site would be to leave the site as it is, with no changes made to the current land-use practices of commercial forestry and low intensity agriculture. Should this occur the impact would be neutral in the context of this EIAR.

The opportunity to capture a significant part of County Donegal’s renewable energy resource would be lost if this ‘Do-Nothing’ scenario is implemented, as would the opportunity to contribute to meeting Irish Government and EU targets for the production and consumption of electricity from renewable resources, consequently reducing greenhouse gas emissions.

### 12.8.2 Construction Phase Effects

#### 12.8.2.1 Landscape Effects

During the 18 to 24 months construction phase the landscape effects will be only experienced near the construction areas associated with the ground works within the proposed development site (including works along the underground grid connection cabling route and turbine delivery route (TDR)) as these works will not be visible from the wider study area. It will only be towards the end of the construction phase when the turbines are erected that there will be landscape effects experienced in the wider LVIA study area because the proposed development will then become visible in the wider area at this poi. Therefore, it is considered that overall, there will be a Short-term, Imperceptible, Negative landscape effects on the whole study area.

#### 12.8.2.2 Visual Effects

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 may induce minor, short-term negative visual effects.

A detailed description of other construction activities are included in Chapter 4 of this EIAR, Description of the Subject Development and the Construction and Environmental Management Plan

that forms an Appendix of Chapter 4.. For more details on the visual effects of the ancillary project elements see ‘Ancillary Project Elements’ in Section 12.8.3.3.2 under Operational Phase Effects, below.

Hence, during the construction phase, the proposed development will give rise to a Short-term, Not Significant, Negative visual effect.

## 12.8.3 Operational Phase Effects

### 12.8.3.1 Landscape Effects

#### 12.8.3.1.1 Landscape Character of the Proposed Development Site

The introduction of vertical structures in the proposed development site will result in a change to its landscape character from its present condition. However, as summarised in Table 12-1 the landscape of the site has been previously modified in character due to the coniferous commercial forestry occupying most of the lands within the site boundary. Furthermore, due to Coillte’s open access policy the tracks may be used by the public, but don’t appear to be used for regular recreational uses, hence, the landscape of the proposed development site is predominantly seen by forestry workers or from outside the proposed site boundary. There will also be a minor localised change around the the other permanent infrastructural elements and felling areas (site roads, substation compound, TDR road widening works, borrow pit) of the proposed development which is outlined in more detail in Section 12.8.3.3.3.

Furthermore, the introduction of turbines into the landscape of the proposed site is not a novel prospect or occurrence given that the proposed development is proximate to operational wind energy developments to the east and west. Hence, there is a precedent to introducing vertical structures at this site.

#### 12.8.3.1.2 Landscape Character in the Study Area

An assessment of the effects on landscape character was undertaken for the six LCAs within the study area that were identified as having at least partial theoretical visibility in the Landscape Receptor Preliminary Assessment in Section 12.5.4 above and listed in

Table 12-6 of the same section. As outlined in Appendix 12-1, each LCA was assigned a value for ‘magnitude of change’ and ‘landscape sensitivity to wind farm development’. These values were then entered into the ‘Landscape Effects Assessment Matrix’, which produced the ‘Significance of Landscape Effects’. The individual assessments for each LCA are presented in Appendix 12-2 and summarised in

Table 12-17 below.

Table 12-17 Landscape effects on landscape character assessment summary

Landscape Character Areas	LCA Sensitivity to Wind Farm Development	Magnitude of Change	Significance of Landscape Character Effect
LCA 5 Slieve Sneacht	Low to Medium	Low	<b>Slight</b>
LCA 8 Buncrana Coast	Negligible to Low	Low	<b>Not Significant</b>
LCA 9 Scalp Mountain	Low	Medium	<b>Slight</b>
LCA 20 South Fanad Uplands & Coast	Medium	Low	<b>Slight</b>

Landscape Character Areas	LCA Sensitivity to Wind Farm Development	Magnitude of Change	Significance of Landscape Character Effect
LCA 31 Burngibbagh and Drumahoe	Negligible	Negligible	<b>Imperceptible</b>
LCA 33 Lough Foyle Alluvial Plain	Negligible	Negligible to Low	<b>Not Significant</b>

The greatest magnitude of change (medium) will be experienced in the Co. Donegal’s LCA 9 Scalp Mountain, in which the proposed development is to be located. In all other LCAs the magnitude of change is considered Negligible to Low.

When the landscape sensitivities to wind farm development are taken into consideration for all these LCAs the significance of effects on landscape character is deemed ‘Slight’ in the case of three LCAs, ‘Not Significant’ for two and in one LCA ‘Imperceptible’.

### 12.8.3.2 Cumulative Landscape Effects

After identifying the cumulative baseline, the cumulative status for each LCA was identified in Appendix 12-2. It was then assessed whether the proposed turbines would change the status of the individual LCAs.

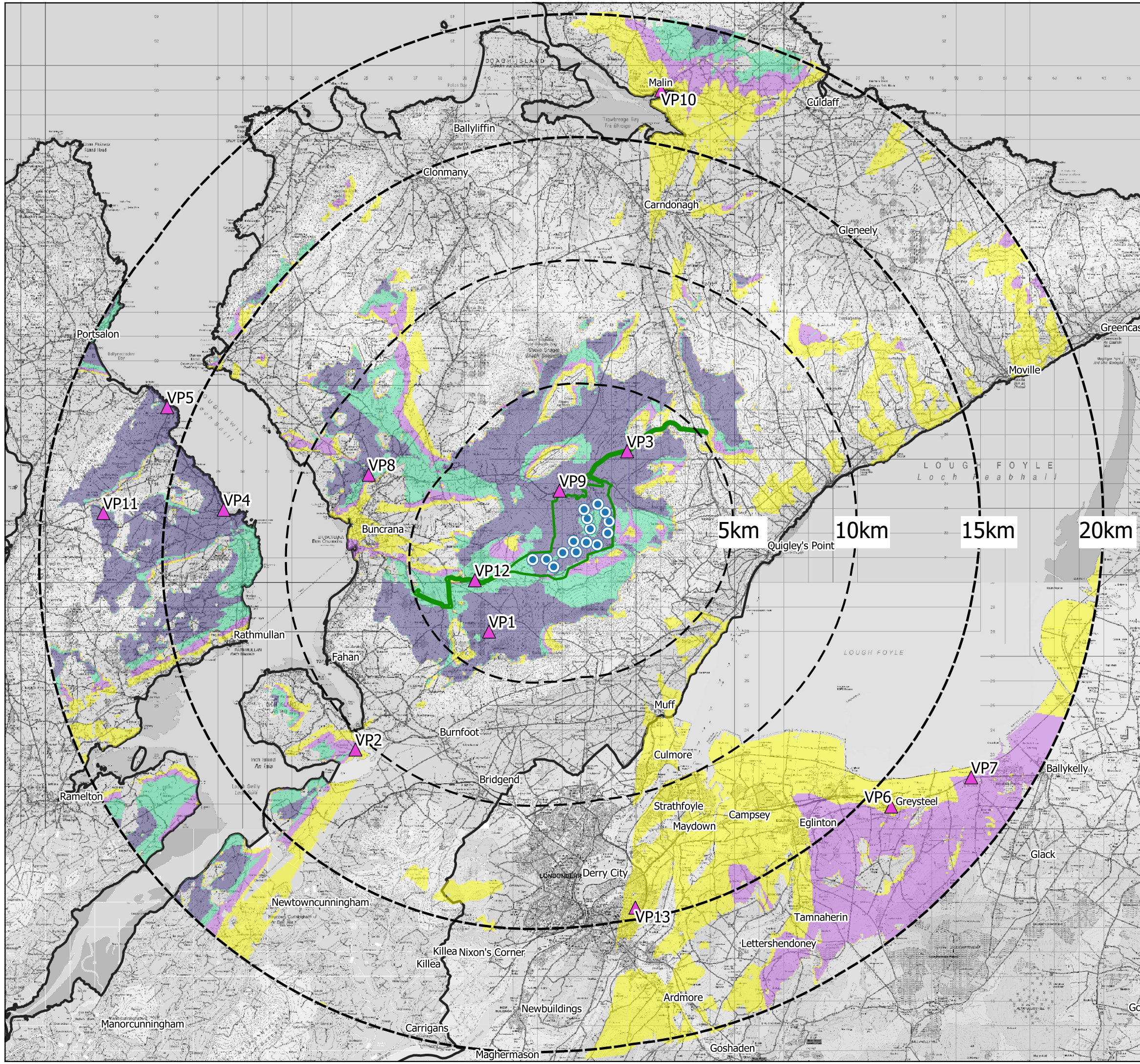
In all the LCAs that will have theoretical visibility of the proposed wind turbines and were assessed in Appendix 12-2 it was found that the status of the landscape character area will not change as a result of the addition of the proposed turbines. Therefore, the cumulative landscape effects are deemed to be ‘Low’ throughout.

### 12.8.3.3 Visual Effects

#### 12.8.3.3.1 Summary of Viewpoint Assessment

An assessment of the visual effects of the proposed turbines was undertaken from the 13 viewpoint locations, identified in Section 12.6.2 above and shown in Figure 12-6 below, in using the assessment methodology described in Appendix 12-1. The individual assessments from the 13 viewpoints are presented in Appendix 12-3 and summarised in Table 12-18 below. Appendix 12-3 and Table 12-18 should be read in conjunction with the photomontage booklet forming Volume 2 of the EIAR.

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



### Map Legend

- EIAR Site Boundary
  - Proposed Turbine Locations
  - Viewpoint Locations
  - LVIA Study Area
  - County Boundary
- Zone of Theoretical Visibility**
- 1 to 4 Turbines
  - 5 to 8 Turbines
  - 9 to 12 Turbines
  - 13 to 15 Turbines



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Drawing Title  
**Figure 12-6 Viewpoints & Half Blade ZTV**

Project Title  
**190114 - Glenard Wind Farm EIAR**

Drawn By	SD	Checked By	EM
Project No.	190114	Drawing No.	12-6
Scale	1:150000	Date	2022.01.06



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Table 12-18 Viewpoint assessment summary

VP No	Description	Grid Ref.	Approx. distance & direction to nearest turbine	Visual Sensitivity of Receptor(s) (at viewpoint)	Magnitude of Change	Residual Significance of Visual Effect
01	View from the L-1871-3 local road in the townland of Gortnaskea.	E 240,018 N 428,004	3.42 km SW	Negligible	Medium	Not Significant
06	View from the Inch Island Car Park adjacent to the L-7531-4 local road in the townland of Inch Level.	E 234,586 N 423,209	10.56 km SW	Medium	Negligible	Imperceptible
13	View from the L-1731-3 local road in the townland of Carrowmore or Glentogher.	E 245,630 N 435,330	2.45 km NE	Negligible	High	Not Significant
14	View from R268 regional road at a Co. Donegal scenic view in the townland of Lehardan.	E 229,228 N 432,954	12.73 km W	Medium	Low	Slight
15	View from R268 regional road at a layby and Co. Donegal scenic view in the townland of Bunnaton.	E 226,932 N 437,121	16.1 km NW	Medium	Low	Slight
16	View from the A2 in the townland of Gresteel Beg.	E 256,367 N 420,892	168 km SE	Low	Negligible	Imperceptible
17	View from a layby and Carrickhue viewing point on the A2 in the townland of Carrickhugh.	E 259,619 N 422,078	17.8 km SE	Low	Negligible	Imperceptible
19	View from the L-1641-5 local road in the townland of Tullyarvan.	E 235,125 N 434,379	7.51 km W	Medium	Low	Slight
20	View from the L-1731-2 local road in the townland of Illies.	E 242,883 N 433,730	1.26 km NW	Medium	High	Moderate
21	View from R242 regional road in the townland of Carrowmore.	E 247,017 N 449,996	17 km N	Medium	Negligible	Imperceptible

VP No	Description	Grid Ref.	Approx. distance & direction to nearest turbine	Visual Sensitivity of Receptor(s) (at viewpoint)	Magnitude of Change	Residual Significance of Visual Effect
22	View from R247 regional road at a Co. Donegal scenic view in the townland of Gortcally.	E 224,333 N 432,819	17.56 km W	Medium	Low	Slight
23	View from the L-7241-2 local road in the townland of Tullydush Upper.	E 239,442 N 430,090	2.5 km W	Low	Medium	Slight
25	View from Erosmore Drive in Derry City in the townland of Kilfinnan.	E 245,966 N 416,786	14.24 km S	Medium	Negligible	Imperceptible



The assessment of visual effects determined the residual significance of the visual effects to range from ‘imperceptible’ to ‘moderate’, with the number at findings at each level of significance listed in

Table 12-19.

Table 12-19 Summary of Viewpoint Impact Assessment Results

Significance of Residual Visual Effect	Description	No. of Viewpoints
Profound	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment	0
Very significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment	0
Significant	An effect, which by its character, magnitude, duration or intensity alters a sensitive aspect of the environment	0
Moderate	An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends	1
Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities	5
Not Significant	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities	2
Imperceptible	An effect capable of measurement but without significant consequences	5

The significance of the residual visual effect was not considered to be “Profound”, “Very Significant” or “Significant” at any of the 13 viewpoint locations. A residual visual effect of “Moderate” was deemed to arise at one of the 15 viewpoint locations, the nearest to the proposed turbines. All other viewpoints were assessed as resulting in Slight (5), Not Significant (2) or Imperceptible (5) residual visual effects.

The individual viewpoints will be discussed in more detail in the following sections.

### 12.8.3.3.2 **Visual Effects in the overall study area**

The ZTV map for the proposed Glenard turbines shows theoretical visibility is mainly confined to within five kilometres of the proposed turbines, which will be discussed in Section 12.8.3.3.3 *Visual effects within five kilometres of the site*, below.

The Asdevlin to Leamacrossan ridgeline provides topographical screening all the way to the south of the full 20-kilometre extent of the study area including nearly all of Derry City. In the south-east and east nearly all of the areas to the Lough Foyle coastline are screened and it partially screens all the areas of County Derry within the study area.

The screening provided by the Slieve Snaght mountain range approximately 6 kilometres to the north of the site extends all the way to 20 kilometres north of the proposed turbines with the exception of an area of mainly partial theoretical visibility and a small area of full theoretical visibility around Malin Village (approximately 17km to the north of the proposed turbines).

Areas to the north-east of the proposed turbines show predominantly no visibility with small patches of intermittent partial visibility.

The area of full theoretical visibility within five kilometres west of the site stretches west and north-west to approximately 12 kilometres (including an area of full theoretical visibility on the northern outskirts of Buncrana, 5.9km west of the site), this however is interspersed with areas of partial theoretical visibility and no visibility.

Across Lough Swilly there are areas of full theoretical visibility particularly along the Lough Swilly shoreline. However, the Knockalla Mountains and other upland areas to the south fully screen nearly all areas from 17 kilometres westwards of the proposed turbines.

The Lough Swilly shoreline south of Buncrana will have no visibility as much as 3 kilometres inland. Inch Island (approximately 10km to the south) has two patches of partial theoretical visibility with narrow bands of partial theoretical visibility extending approximately one to 4 kilometres inland parallel to the coastline to the south of Inch Island.

### 12.8.3.3.3 **Visual effects within five kilometres of the site**

While many of the turbines are on elevated ground there are many nearby areas that are at greater elevations which provides topographical screening, as illustrated in Figure 12-3 in Section 12.5.2.2.1 Topography. Therefore, where visibility occurs within 5km of the proposed development it is often only partial or only of the upper parts of the turbines. This is one of the key reasons why this site and scale of project is considered appropriate at this location.

Within 5 kilometres of the proposed turbines there is a large area of full theoretical visibility particularly to the north and north-west of the site, but also towards the south-west. Screening by topography means that there are many areas of partial or no visibility within five kilometres such as north of Illies Hill and Damp Hill, west of Meenaharnish Hill and south and south-west of the long ridgeline extending from Asdevlin Hill north-eastwards to Leamacrossan Hill. The screening provided by the upland areas surrounding the proposed development site cannot be overstated as this screening limits theoretical visibility to the vast majority of the study area.

#### Other Proposed Infrastructural Elements

For the purposes of this LVIA, a number of individual elements of the proposed development other than the proposed turbines have been grouped together for the assessment of effects, given the similar nature of the works required. The proposed turbine hardstand areas, new roads, turbine delivery route accommodation works, meteorological mast, , amenity walkways, electricity substation compound (and ancillary elements thereto), peat repository and borrow pit will all require the felling of forestry and in some cases its replacement with hard surface areas, giving rise to potentially similar landscape and visual effects. All these elements are shown in Figure 4-1 in Chapter 4 and in the detailed site layout drawings included as Appendix 4-1 to this EIAR

The SNH 2017 Siting and Designing Wind Farms in the Landscape guidelines advise that *'it is important that these elements do not confuse the simplicity of the wind farm design, or act as a scale indicator for the turbines themselves'* and that *'wind turbines can create an over-complex visual image in association with transmission lines and other infrastructure'*. To this end the visibility of the other infrastructural elements in the wider landscape is addressed as well as whether they will be seen together with the turbines.

#### **Road Construction, Turbine Hardstands**

Where possible, every use will be made of the existing roads on site, which are currently used for the on-site forestry operations. It is proposed to construct approximately 9.7 kilometres of new wind farm site roads. Some localised vegetation clearance will occur as a result of the widening of approximately

6.6 kilometres of existing and in the construction of new roadway as part of the proposed development, which will also involve some tree felling. Details of the required works are contained in Chapter 4 of this EIAR: Description of the Proposed Development. The visual impact of the roads and turbine hardstands will be long-term, slight and negative but very localised and not seen from outside the site due to the forestry setting and additional intervening screening. The visual effect of the road widening and construction of new roads is considered long-term but not significant as they will be localised.

#### **Meteorological Mast**

The mast will be a slender structure with a proposed maximum height of 100m in height and will not be an imposing structure in terms of visual impact. Due to its design it will be much less noticeable at greater distances. Therefore, the visual effect of the proposed meteorological mast is considered to be long-term but slight, in that it will be significantly less visible than any turbine given its slender lattice form and will fade from view at a distance of anything more than a few kilometres.

#### **Electricity Substation**

The proposed electricity substation is to be located in the southern part of the proposed development site in an area of forestry. Its construction will involve felling of an existing forestry area approximately equivalent to its footprint, however, adjacent forestry will screen the substation compound, control buildings and electrical components from all areas except those immediately adjacent. Hence, the landscape and visual impact of the proposed electricity substation will be localised, long-term and slight in significance.

#### **Borrow Pit, Peat Repository Area and Temporary Construction Compounds**

There are two proposed temporary construction compounds, one in the north and the other towards the centre of the site. Both are in forested areas and therefore will not be visible beyond their immediate surroundings.

The proposed peat repository area will also be located in forested areas and therefore will not be visible beyond its immediate surroundings.

There is one borrow pit proposed as part of the development. There will be no visibility of the borrow pit beyond its immediate surroundings. A retaining berm of up to 8m in height will be constructed at the front edge of the borrow pit in order to retain peat and spoil, excavated during the construction phase, placed in the borrow pit. The borrow pit is also located within a forested area and will not be visible beyond its immediate surroundings.

Post-construction, the temporary southernmost construction compound will be reinstated to previous contours using previously excavated material and allowed to revegetate. The reinstated borrow pit area and the peat repository will be allowed to naturally revegetate.

Therefore, these project elements will have localised, long-term and imperceptible visual impact.

### **Route Screening Analysis**

In order to comprehensively demonstrate the varying characteristics of the roads and to record the actual visibility in comparison to the theoretical visibility, a methodology was developed by MKO's LVIA team and termed Route Screening Analysis. This analysis was undertaken from all roads within a five-kilometre radius of the proposed turbines. The full methodology is outlined in Appendix 12-1 and the categories recorded were as follows:

- Little/no screening – mainly open and with some very light vegetation (see Plate 12-7)
- Intermittent/Partial Screening – light deciduous roadside vegetation and vegetation with short gaps which would allow intermittent or partial views (see Plate 12-8)
- Dense Screening – vegetation which is dense enough to block views (e.g. coniferous forestry) (see Plate 12-9)



Plate 12-7 Example of 'little/no screening' Route Screening Category



Plate 12-8 Example of 'intermittent/partial screening' Route Screening Category



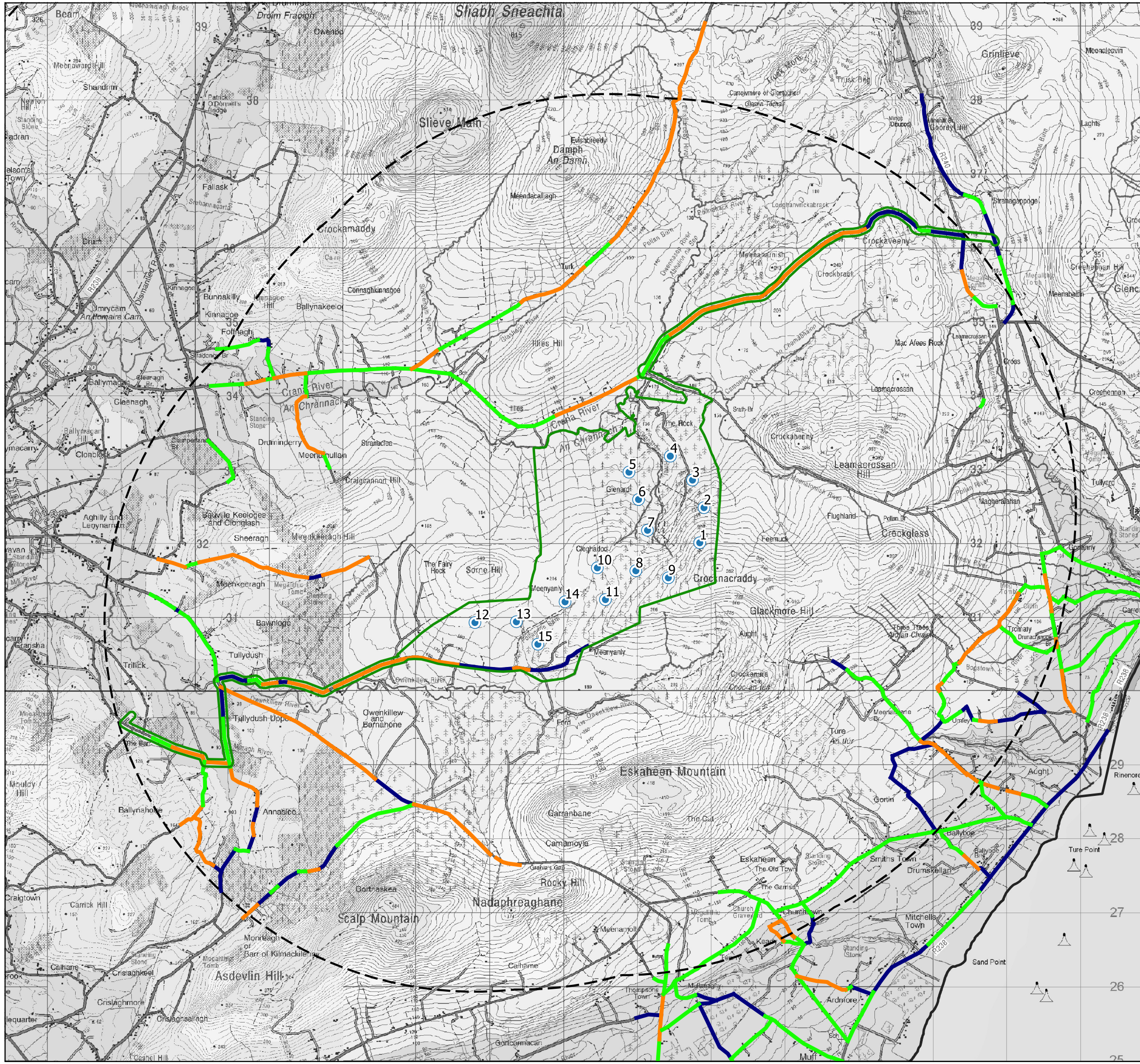
Plate 12-9 Example of 'dense screening' Route Screening Category

Figure 12-7 above outlines the roadside screening within a five-kilometre radius of the proposed turbines. This figure indicates that many of the roads within 5 kilometres of the site have intermittent/partial screening. This shows that these roads, for which the ZTV shows full or partial theoretical visibility, will have more screening and therefore reduced views, rather than the full or partial visibility that the ZTV suggests. The presence of roadside screening is particularly important in contexts such as the proposed development site, where the site is at a slightly higher elevation to the surrounding roads, and the presence of screening, particularly higher levels of screening that includes mature trees, will contribute to reducing views of the turbines. It should be noted that the majority of the proposed turbines are within an extensive area of forestry, which will also screen turbine bases and in some cases parts of the towers.

Roads within 1 kilometre of the proposed development, are mainly local roads, north and south of the site. Screening here is a mixture of 'intermittent/partial screening', 'dense screening' and 'little/no screening', however, 'intermittent/partial screening' is the most frequent screening category.

Within 1-3 kilometres of the site, 'intermittent/partial' screening and 'little/no screening' become the dominant categories with few areas of dense screening along the mainly small local roads. The L-1381 Turk Road to the north has a majority of intermittent/partial screening and open screening. A local road runs west to east from Churchtown to the R238 and the screening along this road is categorised as 'intermittent/partial' for most of its length. Roads around Owenkillew have predominantly 'little/no' screening.

Between 3 and 5 kilometres, the pattern of screening changes, with the dominant categories being 'intermittent/partial' screening and 'dense' screening to the southeast of the site. The R238 regional road between Muff and Quigley's Point has mainly been categorised as having 'intermittent/partial' and 'dense' screening. Plate 12-10 illustrates the effect of screening by vegetation and landscape and along the R238. North of the site screening there is predominantly 'little/no' screening with a short stretch of 'dense' screening on the R240 which is illustrated by Plate 12-11.



### Map Legend

- EIA Site Boundary
- Proposed Turbine Layout
- 5km Core Site Boundary Buffer
- Little/No Screening
- Intermittent Screening
- Dense Screening



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Drawing Title  
**Figure 12-7 Route Screening Assessment**

Project Title  
**190114 - Glenard Wind Farm EIA**

Drawn By	SD	Checked By	EM
Project No.	190114	Drawing No.	12-7
Scale	1:50000	Date	2022.01.06



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Plate 12-10 Example of dense screening along the R238



Plate 12-11 Along the R240 leaving Quigley’s Point where views toward the site are blocked by landscape and vegetation

### Viewpoints within 5 kilometres

Despite ZTV mapping showing widespread theoretical visibility, viewpoint selection within 5 kilometres of the proposed turbines was made difficult by a lack of roads and the vegetative screening illustrated by the route screening analysis. However, four representative viewpoints displayed sufficient visibility for selection, these are Viewpoints (VP) 01, 03, 09 and 12, as shown on Figure 12-6.

Both VPs 01 and 03 are on infrequently travelled roads with no nearby visual receptors, therefore the visual receptor sensitivity was deemed ‘Negligible’ and despite the magnitude of change being considered ‘Medium’ and ‘High’, respectively, the resulting residual visual effects are both ‘Not Significant’.

VP 09 is the nearest viewpoint, just over one kilometre from the nearest turbine. Here the magnitude of change was judged ‘High’ and, as the VP is located in front of a row of houses, the visual receptor sensitivity of ‘Medium’ resulted in a residual visual effect of ‘Moderate’

VP 12 from the L-7241-2 local road, approximately 2.5 km west was assigned a ‘Medium’ magnitude of change and a ‘Low’ visual receptor sensitivity. Resulting in ‘Slight’ residual visual effects.

The selection of VPs was also considered from other local roads, such as the L-1721-3 and L-1381-3. It was attempted to locate a suitable viewpoint along the L-1721-3, but roadside screening blocked views towards the proposed development. Illies Hill is located between the L-1381-3 and the proposed turbines and will substantially screen the proposed turbines. Most of the L-1781-4 and 1781-5 are screened by adjacent forestry plantation. While there are short stretches with visibility, here the only visual receptors will be infrequent traffic, where the view will be perpendicular to the direction of travel. For this reason, the view from the L1871-3 was chosen in preference as the view of the turbines coincided with the direction of travel.

#### 12.8.3.3.4 **Visual effects on specific visual receptors**

##### Designated Scenic Views and OSi Viewing Points

There are many County Donegal designated scenic views within the 20-kilometre study area, however, the majority are directed away from the proposed development site or are shown to have no visibility of the proposed development by ZTV mapping. All of the designated scenic views that are directed towards the proposed turbines are in excess of 13 kilometres away. Only four had sufficient theoretical and actual visibility to merit viewpoint selection (two being so close together that one viewpoint was selected to represent both of them). Visual receptor sensitivity at each was deemed ‘Medium’.

Viewpoint (VP) 14 was located at the designated view at Anny Far and Near. VP 05 is also marked on the OSi map as a viewing point and was chosen for Bunnaton to also represent Magherawardan and VP 11 was located on the R247 in the townland of Gortcally. At all these designated views the magnitude of change was considered ‘Low’ due the significant distance from the proposed development, meaning that at each of these views the residual visual effects will be ‘Slight’.

VP 07 is located at another viewing point at Carrikhue marked on the Ordnance Survey map in County Derry on the A2 road. Here due to a distance of nearly 18 kilometres and substantial screening the residual visual effects will be ‘Imperceptible’.

##### Settlements

All settlements listed in the settlement hierarchy of the Donegal CDP were considered for viewpoint selection. Only two showed sufficient theoretical or actual visibility and were selected as viewpoints, Buncrana and Malin.

Although the ZTV mapping showed widespread partial and full theoretical visibility in the town of Buncrana, screening by buildings greatly reduced the locations from which there would be actual visibility. Only in the northern outskirts of the town could clear actual visibility be established, which was selected as VP 08. At this location the residual visual effects were both considered ‘Slight’.

VP 10 is located in Malin looking southwards across the bridge connecting the southern and northern parts of the village, a location, that most residents will pass regularly. Here the residual visual effects



were considered 'Imperceptible', due to great distance (approximately 17km from the nearest turbine) and substantial screening by landform

Despite the ZTV mapping showing that the vast majority of Derry City will have no visibility with a small patch of visibility of 1 to 4 turbines one viewpoint was found in a residential area in the east of the city. At this location, VP 13, the residual visual effects were considered 'Imperceptible', due to distance from the proposed development (>14km) and substantial screening by landform. The same assessment was concluded at VP 07, which covered the village of Greysteel as well as the A2 road.

### Recreational Routes and Transport Routes

There is one national primary road within the study area, the N13. There will be no visibility of the proposed turbines apart from a short stretch of partial theoretical visibility south-west of Newton Cunningham, over 18 kilometres from the proposed turbines. Due to roadside screening by vegetation and buildings insufficient visibility could be established to merit viewpoint selection.

In County Derry there are three A-class roads within the study area, only one will have theoretical visibility of the proposed turbines, the A2, which is also promoted as a recreational route as the Causeway Coastal Route. Two viewpoints were selected on this road, VP 06 and VP 07, at distances of 15.98 and 17.76 kilometres from the proposed Glenard turbines, respectively. At these two viewpoints the residual visual effects were both considered 'Imperceptible', due to distance and substantial screening of the turbines by intervening landform.

The Wild Atlantic Way also passes through a large part of the study area, and for the vast majority of its length will have no visibility of the proposed turbines, particularly on the Inishowen Peninsula. Furthermore, the focus of the Wild Atlantic Way will be towards the sea, not towards the proposed development site. Two viewpoints with clear visibility of the proposed development were selected on the western coastal road along Lough Swilly, VP 14 and VP 15. These two viewpoints are also located at County Donegal designated views and were discussed above. At both these viewpoints the residual visual effects will be 'Not Significant'.

### 12.8.3.4 Assessment of Other Turbine Configurations

Given that this application proposes a limited range comprising maximum and minimum turbine tip heights, hub heights and blade lengths. Various turbine dimension configurations, within this range, have been considered in relation to the likely landscape and visual effects resulting from the proposed development. The dimensions presented below are the maximum and minimum turbine parameters assessed:

- Turbine Tip Height - Maximum height 173 metres, Minimum height 162 metres
- Hub Height - Maximum height 107 metres, Minimum height 96 metres
- Blade Length - Maximum length 70 metres, Minimum length 66 metres.

A blade length of 66m and a hub height of 107m was considered throughout this assessment as a representative visual illustration of the proposed development on the basis of the professional judgement of MKO's LVIA team and on consideration of the range of turbines which could be installed. This combination of blade length and hub height (providing a 173m tip height) has been identified as a worst-case scenario for likely visual effects and is most representative for assessment, on the basis that the greatest extent of the entire turbine structure (blades and tower) would potentially be visible from the viewpoints assessed in the EIAR. This turbine configuration of the reasonably limited range is termed as the 'Highest Hub and Shortest Blade' and is presented for all 13 No. photomontage viewpoints. The photomontage booklet accompanying the EIAR (Volume 2) presents visualisations of the limited range of alternative turbine configurations at key viewpoint locations. These configurations (hub height, blade length and tip height) are reported below, as well as viewpoints within the photomontage booklet from which they are shown.

- **Highest Hub and Shortest Blade** - Upper Bound Configuration of the proposed range
  - All 17 No. Photomontage Viewpoints.
    - Maximum Tip Height – 173 metres
    - Maximum Hub Height – 107 metres
    - Minimum Blade Length – 66 metres

Irrespective of which combination of hub height and blade length, within the proposed range outlined in this application, is installed on site, the significance of residual visual effects will not be altered (Refer to Viewpoint (VP) Assessment in Appendix 12-3 of the EIAR). However, for the avoidance of doubt, two alternative turbine configurations, listed below, are presented for five selected viewpoints included in the photomontage booklet. These configurations were deemed appropriate alternative visual representations of the proposed development within the proposed range. The viewpoints selected are representative of short-range views (VP 01, VP 03, VP 09 and VP12 <3.5 km from the nearest proposed turbine) and a longer-range view (VP 08, 7.5km from the nearest proposed turbine). The following configurations were also considered

- **Lowest Hub and Shortest Blade - Lower Bound** Configuration of the ‘Limited Range’
  - 4 No. Photomontage Viewpoints (VP 01 Gortnaskea; VP 03 Carrowmore or Glentogher; VP 08 Tullyarvan; VP 09 Illies; VP 12 Tullydish Upper)
    - Minimum Tip Height – 162 metres
    - Minimum Hub Height – 96 metres
    - Minimum Blade Length – 66 metres
- **Lowest Hub and Longest Blade - Median** Configuration of the ‘Limited Range’ – 4 No. Photomontage Viewpoints (VP 01 Gortnaskea; VP 13 Carrowmore or Glentogher; VP 19 Tullyarvan; VP 20 Illies; VP 23 Tullydish Upper)
  - Tip Height – 166 metres
  - Minimum Hub Height – 96 metres
  - Blade Length – 70 metres

These configurations are presented as photomontages within both 90 degree and 53.5 degree fields of view with accompanying wireframes.. **Irrespective of which turbine model** (within the ranges for which planning permission is being sought) **is procured for the proposed development, the significance of residual landscape and visual effects will not be altered.**

### 12.8.3.5 Cumulative Visual Effects

Within five kilometres of the proposed turbines there are 65 existing and permitted wind turbines of varying design and a further 42 turbines in the rest of the LVIA study area (20km). It is alongside these turbines that the proposed turbines are assessed for cumulative visual effects.

The cumulative visual effects were considered in the assessment of the photomontages (permitted turbines that were not yet constructed were rendered into the photomontage imagery) and can be found in Appendix 12-3. As outlined in the methodology in Appendix 12-1 the assessment was based on three main categories:

- Whether the proposed turbines increase the spatial extent of turbines in the view
- Whether there is visual contrast in different size and design between different wind developments
- If there is visual contrast then, whether there is visual separation between the proposed turbines and other wind developments in the landscape

The latter two are due to the SNH 2017 publication *Siting and Designing Wind Farms in the Landscape* stating that ‘a key factor determining the cumulative impact of wind farms is the distinct identity of each group. This relates to their degree of separation and similarity of design. This applies whether they are part of a single development, a wind farm extension, or a separate wind farm in a wider group. A wind

*farm, if located close to another of similar design, may appear as an extension; however, if it appears at least slightly separate and of different design, it may conflict with the other development. In these cases, if a landscape is unable to accommodate the scale of a combined development, wind farm groups should appear clearly separate.'*

In other words, cumulative visual effects are reduced if two or more wind farms either read as one continuous development due to similarity in design and scale or if this is not the case visual separation should ensure that they appear as two separate entities.

Additionally, undesirable effects such as 'visual stacking' (overlapping of turbine rotors) were also taken into consideration.

No cumulative visual effects occurred in one viewpoint, VP 02 .

In all other views, the proposed development will in most cases not extend the spatial extent of turbines in these views, or will do so only slightly. In the cases where the spatial extent is increased this is mainly due to the fact that the proposed turbines bridge a gap between two permitted or existing wind farms rather than extending the spatial extent of turbines overall.

Contrast with regard to scale and design does occur between the existing and permitted turbines and the proposed Glenard turbines, however, from seven viewpoints (04, 05, 06, 07, 10, 11 and 13) due to distances greater than 12 kilometres these differences are not greatly discernible. It is only below ten kilometres that design and scale comes into play. In VP 08, approx. 7.5 kilometres from the proposed turbines the majority of turbines are screened by landform making it difficult to recognise the differences between the turbines.

In the four viewpoints (01, 03, 09 and 12) within 5 kilometres VPs, visual incongruity does occur where nearby windfarms overlap or are seen alongside the proposed turbines. However, there are instances where existing turbines, such as the Sorne Hill turbines in Viewpoints 03 and 20, appear visually similar to the proposed turbines. It should also be noted that the residual visual effects at these viewpoints was 'Not Significant' at VPs 01 and 03, 'Slight' at VP 12 and 'Moderate' at VP09. The increased residual effect at VP 09 was due visual receptors of 'Medium' sensitivity (including residential dwellings).

Therefore, within five kilometres the proposed turbines give rise to noticeable cumulative visual effects, but for the study area as a whole, in terms of increase in spatial extent, visual separation and difference in scale the cumulative visual effects are less pronounced.

A comparative ZTV (Figure 12-8 below) shows that the visibility of all existing and permitted turbines will only increase (~0.3%) in a small number of tiny pockets due to the addition of the proposed Glenard turbines, which adds to the conclusion that the proposed turbines will not have a significant impact on the extent of cumulative visibility within the overall study area.

## 12.9

# Transboundary Effects

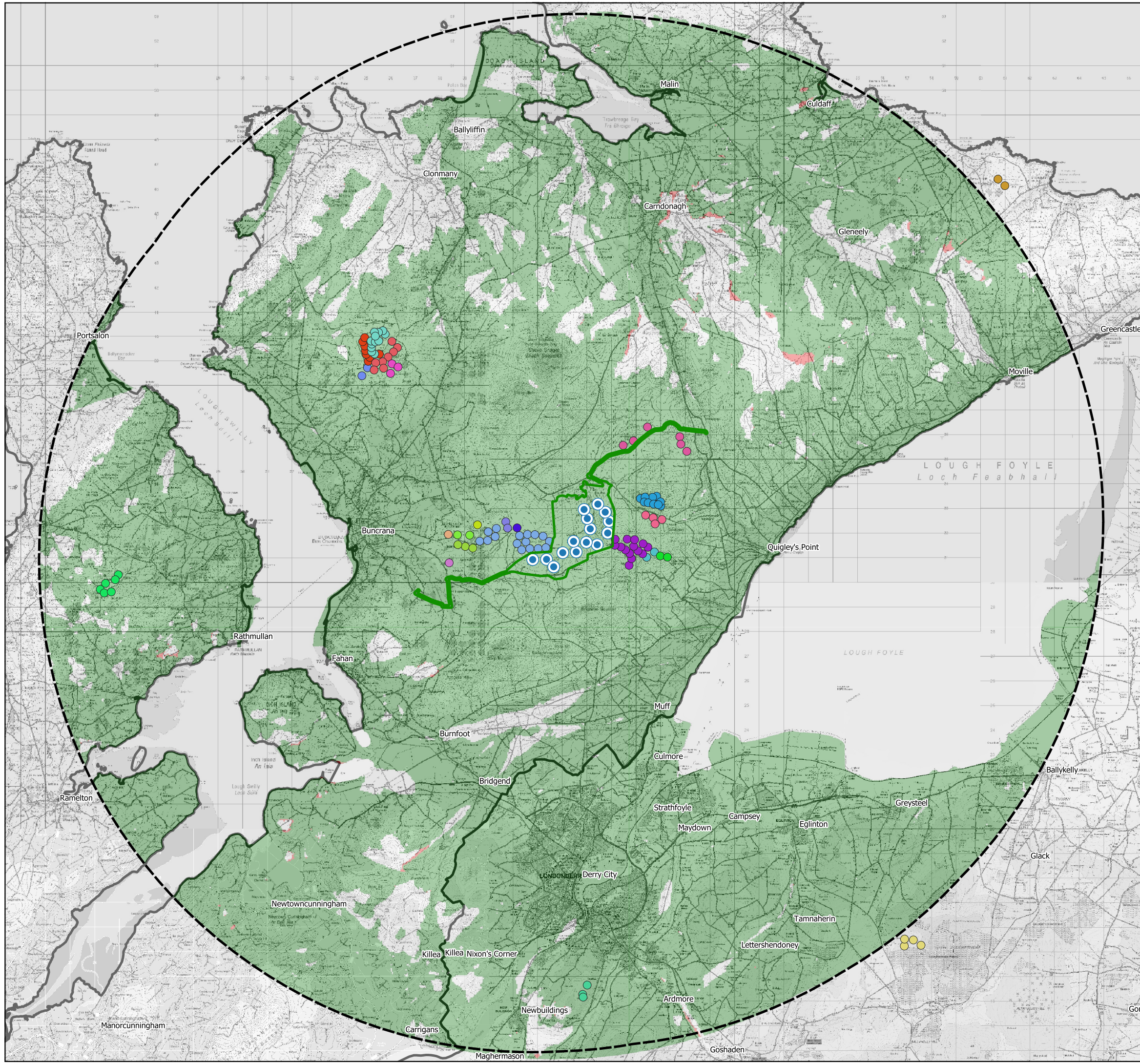
Given that the site of the proposed development is located approximately 7km northwest of the land border with Northern Ireland at its closest point, the potential exists for transboundary landscape and visual effects. Furthermore, the LVIA and LCA study areas both extend eastwards into Northern Ireland and so landscape and visual receptors within Northern Ireland are included in this assessment.

During the construction phase, all of the works will be confined to the proposed development site and, therefore, there is no potential for transboundary effects on landscape or visual receptors located in Northern Ireland.

However, during the operational phase, as shown in Figure 12-1, the proposed turbines will be visible from Northern Ireland. The Landscape Character Assessment (Appendix 12-2) includes the assessment

of LCA 31: *Burngibbagh and Drumahoe* and LCA 33 – *Lough Foyle Alluvial Plain* (refer to Figure 12-4), both located in Co. Derry. There will be partial visibility of the proposed development within these landscape character areas. The LCA concluded that the effects of the proposed development on these LCA's will be Imperceptible and Not Significant, respectively.

As part of the visual impact assessment, Viewpoints 06, 07 and 13 are located within Northern Ireland. All three viewpoints are located between 14km and 18km from the closest proposed turbine. The Viewpoint Assessment (Appendix 12-3) concludes that the residual effect of the proposed development on visual receptors, at all three of these locations, is Imperceptible. This is due to limited spatial extent of the proposed development when viewed from these locations, the level of screening and the intervening distances between the visual receptors and the proposed turbines.



### Map Legend

- EIAR Site Boundary
- Proposed Turbine Layout
- Theoretical Visibility for all Existing and Permitted Turbines
- Additional Theoretical Visibility for Proposed Glenard Turbines
- 20km LVIA Study Area
- County Boundary
- Other WFs Within 20km**
- Aught
- Beam Hill
- Carrowglen
- Clondermot
- Colpey Rock
- Cooly
- Crockahenny
- Drumlough Hill Extension
- Drumlough Hill I
- Flugland
- Glackmore
- J. McCarron Wind Turbine
- Lurganboy I
- Malkell
- Meenaward
- Meenkeeragh I
- Meenkeeragh II
- Meenkeeragh III
- Monnaboy
- Sladran
- Sorne Hill I
- Sorne Hill II
- Three Trees



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Drawing Title

**Figure 12-8 Comparative ZTV**

Project Title

**190114 - Glenard Wind Farm EIAR**

Drawn By	Checked By
SD	EM

Project No.	Drawing No.
190114	12-8

Scale	Date
1:150000	2022.01.06



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