Drumlins Park Wind Farm

Chapter 9: Landscape

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Contents

9.1 Introduction

This chapter describes the landscape context of the proposed development and assesses the likely significant landscape and visual impacts of the scheme on the receiving environment.

Although closely linked, landscape and visual impacts are assessed separately. Landscape Impact Assessment (LIA) relates to changes in the physical landscape brought about by the proposed development, which may alter its character, and how the landscape is experienced. This requires a detailed analysis of the individual elements and characteristics of a landscape that go together to make up the overall landscape character of that area. By understanding the aspects that contribute to landscape character, it is possible to make judgements in relation to its quality (integrity) and to identify key sensitivities. This, in turn, provides a measure of the ability of the landscape in question to accommodate the type and scale of change associated with the proposed development, without causing unacceptable adverse changes to its character.

Visual Impact Assessment (VIA) relates to assessing effects on specific views and on the general visual amenity experienced by people. This deals with how the surroundings of individuals or groups of people may be specifically affected by changes in the content and character of views as a result of the change or loss of existing elements of the landscape and/or introduction of new elements. Visual impacts may occur from; visual obstruction (blocking of a view, be it full, partial or intermittent) or; visual intrusion (interruption of a view without blocking).

Cumulative landscape and visual impact assessment is concerned with additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other developments (associated or separate to it), or actions that occurred in the past, present or are likely to occur in the foreseeable future. While this assessment predominately focuses on the likely impacts of the proposed wind turbines due to their scale, detailed appraisal of all elements of the overall project have been assessed including ancillary infrastructure (access tracks and site entrances), grid connection options and associated substations and haul route upgrade works.

This assessment uses methodology as prescribed in the following guidance documents:-

- Environmental Protection Agency (EPA) publication 'Guidelines on the Information to be contained in Environmental Impact Statements (Draft 2017) and the accompanying Advice Notes on Current Practice in the Preparation of Environmental Impact Statements (Draft 2015);
- Landscape Institute and the Institute of Environmental Management and Assessment publication entitled Guidelines for Landscape and Visual Impact Assessment – Third Addition (2013);
- Scottish Natural Heritage (SNH) Guidance Note: Cumulative Effect of Wind Farms (2012);
- Department of the Environment, Heritage and Local Government Wind Energy Development Guidelines (2006); and
- Scottish Natural Heritage (SNH) Visual representation of wind farms: Best Practice Guidelines (version 2.2 - 2017).

9.1.1 Statement of Authority

This landscape and visual assessment (LVIA) was prepared by Richard Barker (MLA MILI) and Cian Doughan (BSLA) of Macro Works Ltd, a specialist LVIA company with

over 20-years of experience in the appraisal of effects from a variety of energy, infrastructure and commercial developments. Relevant experience includes LVIA work on over 140 on-shore wind farm proposals throughout Ireland, including six Strategic Infrastructure Development (SID) wind farms. Macro Works and its senior staff members are affiliated with the Irish Landscape Institute.

9.1.2 Description of Proposed Development

It is proposed to construct 8 no. wind turbines with a maximum tip height of up to 180m and all associated ancillary infrastructure including foundations and crane hardstanding areas; underground electrical and communications cabling; provision of new internal wind farm site access tracks and associated site entrances; 1 no. temporary construction compound and 1 no. meteorological mast of up to 101m height. Each of the 3 no. grid connection and substation options will also be assessed as part of this LVIA.

9.1.3 Definition of Study Area

The Wind Energy Development Guidelines for Planning Authorities (2006) published by the Department of the Environment, Heritage and Local Government specify different radii for examining the zone of theoretical visibility of proposed wind farm projects (ZTV). The extent of this search area is influenced by turbine height, as follows:

- 15 km radius for blade tips up to 100m;
- 20 km radius for blade tips greater than 100m and;
- 25 km radius where landscapes of national and international importance exist.

In the case of this project, the blade tips are up to 180m high and, thus, the minimum ZTV radius recommended is 20 km from the outermost turbines of the scheme. There are not considered to be any landscapes of national or international importance between 20 – 25km and thus, the radius of the study area will remain at 20km. Notwithstanding the full 20km extent of the LVIA study area, there will be a particular focus on receptors and effects within the central study where there is higher potential for significant impacts to occur. When referenced within this assessment, the 'central study area' is the landscape within 5km of the site.

9.1.4 Candidate Wind Turbine

As outlined in **Chapter 3**, a specific wind turbine model has not yet been selected and will only be confirmed following a pre-construction tendering process. The primary dimension of the wind turbines to be installed will be 180m (up to) and this will not be altered by the turbine model ultimately erected and as such, it is considered that either candidate turbine outlined at **Chapter 3** could be used in this assessment. However, due to the longer blades (moving parts) of the General Electric GE 5.5-158 wind turbine, it has been selected as the basis for this LVIA. It should also be noted that the erection of any wind turbine model within the overall tip height envelope of 180m will not affect the substantive conclusions of this assessment.

9.2 Methodology

The production of this LVIA involved desktop studies to understand the existing baseline environment; fieldwork recording the elements and characteristics of the landscape and the selection and capture of images to allow the preparation of photomontages; and the professional evaluation of the baseline environment and the effects which may occur as a result of the proposed development based on the photomontages prepared.

9.2.1 Desk Study

The desk study involved:-

- Establishing an appropriate study area from which to study the landscape and visual impacts of the proposed development;
- Review of a Zone of Theoretical Visibility (ZTV) map, which indicates areas from which the development is potentially visible in relation to terrain within the study area;
- Review of relevant legislation and guidance, including County Development Plans, particularly with regard to sensitive landscape and scenic view/route designations; and
- Selection of potential Viewshed Reference Points (VRPs/VPs) from key visual receptors to be investigated during fieldwork for actual visibility and sensitivity.

9.2.2 Fieldwork

The fieldwork undertaken to inform this assessment included:-

- Recording a description of the landscape elements and characteristics within the study area;
- Selection of a refined set of VRP's for assessment. This includes the capture of reference images and grid reference coordinates for each VRP location for the visualisation specialist to prepare photomontages;
- Following the selection of VRPs, photo-realistic images (photomontages) of the proposed development were prepared by GES.

9.2.3 Appraisal

This assessment, undertaken following the completion of fieldwork and the preparation of photomontages has included:-

- Consideration of the receiving landscape with regard to overall landscape character as well as the salient features of the study area including landform, drainage, vegetation, land use and landscape designations;
- Consideration of the visual environment including receptor locations such as centres of population and houses; transport routes; public amenities and facilities and; designated and recognised views of scenic value;
- Consideration of design guidance and planning policies;
- Consideration of potentially significant effects and the mitigation measures that could be employed to reduce such effects;
- Estimation of the significance of residual landscape impacts;
- Estimation of the significance of residual visual impacts aided by photomontages prepared at all of the selected VRP locations; and
- Estimation of cumulative landscape and visual effects in combination with other surrounding developments that are either existing or permitted.

9.2.3.1 Assessment Criteria for Landscape Impact

The classification system used by Macro Works to determine the significance of landscape and visual impacts is based on the IEMA Guidelines for Landscape and Visual Impact Assessment (2013). When assessing the potential impacts on the landscape resulting from a wind farm development, the following criteria are considered:

- Landscape character, value and sensitivity;
- Magnitude of likely impacts; and
- Significance of landscape effects

The sensitivity of the landscape to change is the degree to which a particular landscape receptor (Landscape Character Area (LCA) or feature) can accommodate changes or new features without unacceptable detrimental effects to its essential characteristics. The value and sensitivity of landscapes is classified using the following criteria.

Sensitivity	Description
Very High	Areas where the landscape character exhibits a very low capacity for change in the form of development. Examples of which are high value landscapes, protected at an international or national level (World Heritage Site/National Park), where the principal management objectives are likely to be protection of the existing character.
High	Areas where the landscape character exhibits a low capacity for change in the form of development. Examples of which are high value landscapes, protected at a national or regional level (Area of Outstanding Natural Beauty), where the principal management objectives are likely to be considered conservation of the existing character.
Medium	Areas where the landscape character exhibits some capacity and scope for development. Examples of which are landscapes which have a designation of protection at a county level or at non-designated local level where there is evidence of local value and use.
Low	Areas where the landscape character exhibits a higher capacity for change from development. Typically this would include lower value, non-designated landscapes that may also have some elements or features of recognisable quality, where landscape management objectives include, enhancement, repair and restoration.
Negligible	Areas of landscape character that include derelict, mining, industrial land or are part of the urban fringe where there would be a reasonable capacity to embrace change or the capacity to include the development proposals. Management objectives in such areas could be focused on change, creation of landscape improvements and/or restoration to realise a higher landscape value.

Table 9.1: Landscape Value and Sensitivity

The magnitude of a predicted landscape impact is a product of the scale, extent or degree of change that is likely to be experienced as a result of the proposed development. The magnitude takes into account whether there is a direct physical impact resulting from the loss of landscape components and/or a change that extends beyond the proposed site boundary that may have an effect on the landscape character of the area.

Magnitude of Impact	Description
Very High	Change that would be large in extent and scale with the loss of critically important landscape elements and features, that may also involve the introduction of new uncharacteristic elements or features that contribute to an overall change of the landscape in terms of character, value and quality.
High	Change that would be more limited in extent and scale with the loss of important landscape elements and features, that may also involve the introduction of new uncharacteristic elements or features that contribute to an overall change of the landscape in terms of character, value and quality.
Medium	Changes that are modest in extent and scale involving the loss of landscape characteristics or elements that may also involve the introduction of new uncharacteristic elements or features that would lead to changes in landscape character, and quality.
Low	Changes affecting small areas of landscape character and quality,

	together with the loss of some less characteristic landscape elements or the addition of new features or elements.
Negligible	Changes affecting small or very restricted areas of landscape character. This may include the limited loss of some elements or the addition of some new features or elements that are characteristic of the existing landscape or are hardly perceivable.

Table 9.2: Magnitude of Landscape Impacts

The significance of a landscape impact is based on a balance between the sensitivity of the landscape receptor and the magnitude of the impact. The significance of landscape impacts is arrived at using the following matrix:

Scale/ Magnitude	Sensitivity of Receptor				
	Very High	High	Medium	Low	Negligible
Very High	Profound	Profound-substantial	Substantial	Moderate	Slight
High	Profound-substantial	Substantial	Substantial - moderate	Moderate-slight	Slight-imperceptible
Medium	Substantial	Substantial - moderate	Moderate	Slight	Imperceptible
Low	Moderate	Moderate-slight	Slight	Slight-imperceptible	Imperceptible
Negligible	Slight	Slight-imperceptible	Imperceptible	Imperceptible	Imperceptible

Table 9.3: Landscape Impact Significance Matrix

*Categories with orange shading are considered to equate with 'significant' impacts in EIA terms

**The significance matrix provides an indicative framework from which the significance of impact is derived. The significance judgement is ultimately determined by the assessor using professional judgement. Due to nuances within the constituent sensitivity and magnitude judgements, this may be up to one category higher or lower than indicated by the matrix.

It should also be noted that potential beneficial landscape impacts are not accounted for in the tables and matrix above. This is on the basis that commercial scale wind energy projects are very unlikely to generate beneficial landscape impacts. In the rare instances that this might occur, perhaps by facilitating the rehabilitation of a degraded landscape, the benefits will be discussed in the assessment and the significance of impact would default to the lowest end of the range (Imperceptible).

9.2.3.2 Assessment Criteria for Visual Impact

As with the landscape impact, the visual impact of the proposed development will be assessed as a function of receptor sensitivity versus magnitude. In this instance, the sensitivity of visual receptors will be weighed against the magnitude of visual effects.

Visual sensitivity

Unlike landscape sensitivity, visual sensitivity has an anthropocentric basis. Visual sensitivity is a two-sided analysis of receptor susceptibility (people or groups of people) versus the value of the view on offer at a particular location.

To assess the susceptibility of viewers and the amenity value of views, the assessors use a range of criteria and provide a four-point weighting scale to indicate how strongly the viewer/view is associated with each of the criterion. Susceptibility criteria is extracted directly from the *IEMA Guidelines for Landscape and Visual Assessment (2013)*, whilst the value criteria relate to various aspects of a view that might typically be related to high amenity including, but not limited to, scenic designations. The susceptibility criteria are set out below.

Susceptibility of receptor group to changes in view

This is one of the most important criteria to consider in determining overall visual sensitivity because it is the single category dealing with viewer susceptibility. In accordance with the *IEMA Guidelines for Landscape and Visual Assessment* visual receptors most susceptible to changes in views and visual amenity are:-

- Residents at home;
- People, whether residents or visitors, who are engaged in outdoor recreation, including use of public rights of way, whose attention or interest is likely to be focussed on the landscape and on particular views;
- Visitors to heritage assets, or to other attractions, where views of the surroundings are an important contributor to the experience;
- Communities where views contribute to the landscape setting enjoyed by residents in the area; and
- Users of road, rail or other transport routes where such travel involves recognised scenic routes and awareness of views is likely to be heightened.

Visual receptors that are less susceptible to changes in views and visual amenity include:-

- People engaged in outdoor sport or recreation, which does not involve or depend upon appreciation of views of the landscape; and
- People at their place of work whose attention may be focussed on their work or activity, not their surroundings and where the setting is not important to the quality of working life.

Recognised scenic value of the view (County Development Plan designations, guidebooks, touring maps, postcards etc)

These represent a consensus in terms of which scenic views and routes within an area are strongly valued by the population because in the case of County Development Plans, at least, a public consultation process is required.

Views from within highly sensitive landscape areas

Again, highly sensitive landscape designations are usually part of a Landscape Character Assessment, which is then incorporated into the County Development Plan and is therefore subject to the public consultation process. Viewers within such areas are likely to be highly attuned to the landscape around them.

Intensity of use, popularity

Whilst not reflective of the amenity value of a view, this criterion relates to the number of viewers likely to experience a view on a regular basis and whether this is significant at county or regional scale.

Connection with the landscape

This considers whether or not receptors are likely to be highly attuned to views of the landscape i.e. commuters hurriedly driving on busy national route versus hill walkers directly engaged with the landscape enjoying changing sequential views over it;

Provision of elevated panoramic views

This relates to the extent of the view on offer and the tendency for receptors to become more attuned to the surrounding landscape at locations that afford broad vistas.

Sense of remoteness and/or tranquillity

Remote and tranquil viewing locations are more likely to heighten the amenity value of a view and have a lower intensity of development in comparison to dynamic viewing locations such as a busy street scene, for example.

Degree of perceived naturalness

Where a view is valued for the sense of naturalness of the surrounding landscape, it is likely to be highly sensitive to visual intrusion by obvious human interventions.

Presence of striking or noteworthy features

A view might be strongly valued because it contains a distinctive and memorable landscape feature such as a promontory headland, lough or castle.

Historical, cultural or spiritual value

Such attributes may be evident or sensed at certain viewing locations that attract visitors for the purposes of contemplation or reflection heightening the sense of their surroundings;

Rarity or uniqueness of the view

This might include the noteworthy representativeness of a certain landscape type and considers whether other similar views might be afforded in the local or the national context;

Integrity of the landscape character in view

This criterion considers the condition and intactness of the landscape in view and whether the landscape pattern is a regular one of few strongly related components or an irregular one containing a variety of disparate components;

Sense of place

This criterion considers whether there is special sense of wholeness and harmony at the viewing location; and

Sense of awe

This criterion considers whether the view inspires an overwhelming sense of scale or the power of nature.

Those locations where highly susceptible receptors or receptor groups are present and which are deemed to satisfy many of the view value criteria above are likely to be judged to have a high visual sensitivity and vice versa.

Visual Impact Magnitude

The magnitude of visual effects is determined on the basis of two factors; the visual presence of the proposal and its effect on visual amenity.

Visual presence is a somewhat quantitative measure relating to how noticeable or visually dominant the proposal is within a particular view. This is based on a number

of aspects beyond simply scale in relation to distance. Some of these include the extent of the view as well as its complexity and the degree of existing contextual movement experienced such as might occur where turbines are viewed as part of / beyond a busy street scene. The backdrop against which the development is presented and its relationship with other focal points or prominent features within the view is also considered. Visual presence is essentially a measure of the relative visual dominance of the proposal within the available vista and is expressed as such i.e. minimal, sub-dominant, co-dominant, dominant or highly dominant.

For wind energy developments, a strong visual presence is not necessarily synonymous with adverse impact. Instead, the 2012 Fáilte Ireland survey entitled '*Visitor Attitudes On The Environment – Wind Farms*' found that:- "*Compared with other types of development in the Irish landscape, wind farms elicited a positive response when compared to telecommunication masts and steel electricity pylons*"…. and that "*most* (tourists) *felt that their presence did not detract from the quality of their sightseeing, with the largest proportion (45%) saying that the presence of the wind farm had a positive impact on their enjoyment of sightseeing…*".

The purpose here is not to suggest that turbines are either inherently liked or disliked, but rather to highlight that the assessment of visual impact magnitude for wind turbines is more complex than just the degree to which turbines occupy a view. Furthermore, a clear and comprehensive view of a wind farm might be preferable in many instances to a partial, cluttered view of turbine components that are not so noticeable within a view. On the basis of these reasons, the visual amenity aspect of assessing impact magnitude is qualitative and considers such factors as the spatial arrangement of turbines both within the scheme and in relation to surrounding terrain and land cover. It also examines whether the development contributes positively to the existing qualities of the vista or results in distracting visual effects and disharmony.

It should be noted that as a result of this two-sided analysis, a high order visual presence can be moderated by a low level of effect on visual amenity and vice versa. Given that wind turbines do not represent significant bulk, visual impacts result almost entirely from visual 'intrusion' rather than visual 'obstruction' (the blocking of a view). The magnitude of visual impacts is classified in the following table:

Criteria	Description
Very High	The proposal intrudes into a large proportion or critical part of the available vista and is without question the most noticeable element. A high degree of visual disorder or disharmony is also generated, strongly reducing the visual amenity of the scene.
High	The proposal intrudes into a significant proportion or important part of the available vista and is one of the most noticeable elements. A considerable degree of visual disorder or disharmony is also likely to be generated, appreciably reducing the visual amenity of the scene.
Medium	The proposal represents a moderate intrusion into the available vista, is a readily noticeable element and/or it may generate a degree of visual disorder or disharmony, thereby reducing the visual amenity of the scene. Alternatively, it may represent a balance of higher and lower order estimates in relation to visual presence and visual amenity.
Low	The proposal intrudes to a minor extent into the available vista and may not be noticed by a casual observer and/or the proposal would not have a marked effect on the visual amenity of the scene.
Negligible	The proposal would be barely discernible within the available vista and/or it would not detract from, and may even enhance, the visual amenity of the

	scene.

Table 9.4: Magnitude of Visual Impact

9.2.3.3 Visual Impact Significance

As stated above, the significance of visual impacts is a function of visual receptor sensitivity and visual impact magnitude. This relationship is expressed in the same significance matrix included for Landscape Impact Significance at **Table 9.3**.

9.3 Description of Existing Environment

9.3.1 Landscape Baseline

The landscape baseline represents the existing landscape context and is the scenario against which any changes to the landscape brought about by the proposed development will be assessed. This also includes reference to any relevant landscape character appraisals and the current landscape policy context (both are generally contained within County Development Plans).

A description of the landscape context of the proposed development site and wider study area is provided below under the headings of 'landform and drainage', 'vegetation and land use', 'centres of population', 'transport route's and 'public amenities and facilities' as well as the immediate site context. Additional descriptions of the landscape, as viewed from each of the selected viewpoints, are provided under the detailed assessments later using a similar structure. Although this description forms part of the landscape baseline, many of the landscape elements identified also relate to visual receptors i.e. places and transport routes from which viewers can potentially see the proposed development. The visual resource will be described in greater detail in **Section 9.3.3** below.

Figure 9.1: Aerial photograph showing the landscape context of the site and its immediate surrounds.

9.3.1.1 Landform and Drainage

A relatively consistent landform occurs throughout the study area comprising rolling drumlin hills and ridges formed during periods of glaciation. Whist many of these roiling drumlin hills are at similar elevations, the site and its immediate surrounds, especially to the northwest, are slightly more elevated rising between a maximum height of 140m-180m AOD. A relatively large number of streams and small loughs are also contained in the central and wider study area. The Bunnoe River is the nearest river to the proposed development, passing just over 1km south of the southernmost turbine. The Finn River flows in a general south-westerly direction through much of the northern and western extents of the study area and passes just under 3.5km north of proposed development at its nearest point. The Clones 38kV grid connection option crosses the Finn River c. 3km north of the proposed development site. The Finn River merges with the River Erne and Upper Lough Erne in the western half of the study area. The Annalee River is also located c. 7.5km south of the proposed development with the Shankill 38kV grid connection option crossing the river. The course of the old Ulster Canal also passes to the south of Clones in the northern portions of the study area. An area of elevated upland terrain also exists in the northern periphery of the study area and forms part of the southern foothills of Slieve Beagh.

9.3.1.2 Vegetation and Land Use

Vegetation within the central study area is relatively uniform comprising of rolling agricultural farmland mainly consisting of good quality pasture. The modest sized fields are often bound by a mix dense tree lined hedgerows and low-clipped hedgerows. Small blocks of commercial conifer forest are also found throughout the study area, the nearest of which to the site, occurs north of Annaghmakerug Lough to the east of the proposed development. Small patches of mature deciduous woodland are also found throughout the study area and often occur in the immediate surrounds of historic designed landscapes. Clones, Monaghan Town and Cavan Town account for the most notable urban land cover within the study areas and its wider surrounds. Other notable land uses within the central study area include Hilton Park & Demesne and Clones Golf Club to the west of the proposed development.

Figure 9.2: Aerial photograph showing the landscape context of the wider study area – a sea of drumlins.

9.3.2 Landscape Policy Context and Designations

9.3.2.1 Wind Energy Development Guidelines for Planning Authorities 2006

The Wind Energy Development Guidelines for Planning Authorities (2006) provide guidance on wind farm siting and design criteria for a number of different landscapes types. The site of the proposed development is considered to be

located within a landscape that is consistent with the 'Hilly and Flat Farmland' landscape type. In such instances, the Guidelines recommend consideration of the advice for each landscape type including:-

Location	*"Although hilly and flat farmland type is usually not sensitive in terms of scenery, due regard must be given to houses, farmsteads and centres of population."*
	"Location on ridges and plateaux is preferred…"
	"Elevated locations are also more likely to achieve optimum aesthetic effect."
Spatial extent	*"This can be expected to be quite limited in response to the scale of fields and such topographic features as hills and knolls"*
Spacing	*"The optimum spacing pattern is likely to be regular, responding to field pattern…However … a balance will have to be struck between adequate spacing to achieve operability and a correspondence to field pattern."*
Layout	*"The optimum layout is linear, and staggered linear on ridges and hilltops but a clustered layout would also be appropriate on a hilltop"*
Height	*"Turbines should relate in terms of scale to landscape elements and will therefore tend not to be tall. However, an exception to this would be where they are on a high ridge or hilltop of relatively large scale."*
Cumulative	*"It is important that wind energy development is never perceived to visually dominate. However, given that these landscapes comprise hedgerows and often hills, and that views across the landscape will likely be intermittent and partially obscured, visibility of two or more wind energy developments is usually acceptable."*

It is considered that the siting and design of the proposed development is consistent with the guidance noted above for the 'Hilly and Flat Farmland' landscape type. Whilst there may be a question of turbine height, this is a locally elevated spine within the wider sea of drumlins and thus, it is considered that the 'exception' relating to a high ridge or hilltop applies.

9.3.2.2 Monaghan County Development Plan 2019-2025 – Landscape Character

Section 6.3 of the Monaghan County Development Plan 2019-2025 addresses the landscape in County Monaghan. It states that the "*landscape of Monaghan is different to the more open landscapes encountered elsewhere in the country due to the deposition of drumlins at the end of the last glaciations. The landscape vegetation has evolved over centuries due to changes in agricultural practices, settlement patterns and infrastructural development*". A number of policies are listed within the development plan relating to Heritage, Conservation and Landscape, some of which relate to the proposed development and are included below:

HLP 8	To ensure the preservation of the County's landscapes, by having regard to the character, value and sensitivity of the landscape as identified in the County Monaghan Landscape Character Assessment (2008) or any subsequent versions when considering planning applications.
HLP 9	To protect the landscapes and natural environments of the County by ensuring that any new developments in designated sensitive rural

landscapes do not detrimentally impact on the character, integrity, distinctiveness or scenic value of the area. Any development which could unduly impact upon such landscapes shall be resisted.

HLP 10 To co-operate with adjoining local authorities north and south of the border, to ensure that the natural environment is maintained in a sustainable manner and to encourage a collaborative and consistent policy approach with adjoining areas on matters of environmental and landscape protection and to identify threats to the integrity of such sites through a transboundary approach.

HLP 11 To contribute towards the protection of County and local level landscape designations from incompatible developments. Proposals for development that have the potential to significantly adversely impact upon these designations shall be accompanied by an assessment of the potential landscape and visual impacts of the proposed development. This shall demonstrate that landscape impacts have been anticipated and avoided to a level consistent with the sensitivity of the landscape and the nature of the designation.

HLP 12 Support, as appropriate, any relevant recommendations contained in the National Landscape Strategy for Ireland.

The County Development Plan also identifies *'Areas of Primary Amenity Value'* and *'Areas of Secondary Amenity Value'* (**Figure 9.3** refers). Whilst there are no *'Areas of Primary Amenity Value'* located within the central or wider study area, one *'Area of Secondary Amenity'* occurs within the central study area and that is 'SA 9 – Annaghmakerring Lake, Woodlands & Environs'. Other 'Areas of Secondary Amenity Value' situated within the wider study area include 'SA 5 – Ulster Canal & Environs, 'SA 6 – Rossmore Park and Environs', 'SA 10 – Dartrey Demesne & Environs' and 'SA 11 – Dromore River & Lake Systems'.

A Landscape Character Assessment was produced for County Monaghan in 2008 and has been included within the current Monaghan County Development Plan 2019-2025. Within the landscape character assessment, 14 no. different Landscape Character Types (LCT's) and 9 no. Landscape Character Areas (LCA's) are identified. The assessment defines a landscape character types and landscape character areas as;

> *"Landscape Character Types are distinct types of landscape that are relatively homogenous in character. They are generic in nature in that they may occur in different localities throughout any defined area. Nonetheless, where they do occur, they commonly share similar combinations of geology, topography, land cover and historical land use. For example, blanket bog uplands are distinct landscape character types and are recognisable as such whether they occur in Monaghan or other counties."*

> *"Landscape Character Areas are the unique individual geographical areas in which landscape types occur. They share generic characteristics with other areas of the same type but also have their own particular identity."*

The proposed development is wholly situated within *'LCT 4 – Farmed Foothills'* west of the settlement of Newbliss (**Figure 9.4** refers). This part of LCT 4 *"presents as a series of closely spaced low hills in which pasture is the main land use. Fields are bounded by hedgerows, many of which are cut of managed to facilitate farming activities. Generally the field pattern is of a small scale….Occasional small crops of commercial forestry are located in this landscape and contrast strongly with clumps*

of deciduous woodland (beech and oak) and scrub vegetation is also present here. This landscape type contains few permanent loughs although streams and smaller watercourses are present and lower lying areas contain marshy wetland grasses." A number of forces for change for this landscape type are also identified within the landscape character assessment, however none of these relate to wind energy developments. Other LCTs within the central study area include 'LCT 3 – Drumlin Farmland', 'LCT 5 – Farmed Lakelands', 'LCT 7 – River Valley Farmland', 'LCT 8 – Undulating Farmland' and 'LCT 10 – Upland Drumlin Farmland'.

With regard to the identified LCAs, the proposed development is situated between two; 'LCA 5 – Monaghan Drumlin Uplands' and 'LCA 7 – Ballybay Castleblaney Lakelands' (**Figure 9.4** refers). A summary of both LCAs is included in **Table 9.6** below.

LCA	Description	Condition & Sensitivity
LCA 5 – Monaghan Drumlin Uplands	• *"a farmed upland landscape which is relatively remote, being distant and elevated topographically from major and minor towns or settlements."* • *"landscape pattern is relatively strong and takes the form of cut or managed hedgerows mostly with some hedge trees abounding pastoral fields"* • *"Small watercourses and streams are present albeit flow is very slow and sometimes stagnant."*	• *"Most of this landscape is in good condition. The summit or highest point along the ridgeline is likely to be highly sensitive to development because it is visually exposed for many kilometres."* • *"In general, this landscape would not be regarded as highly scenic and hence, the capacity to accommodate development without undue compromise to the farmed landscape pattern is good."*
LCA 7 – Ballybay Castleblaney Lakelands	• *"a low lying pastoral landscape which is present as an east west channel located or enclosed between two upland landscapes located to the north and the south. The landscape contains widely spaced drumlin hills…"* • *"This character area contains numerous loughs, the majority of which present as highly scenic landscapes."* • *"Rivers and smaller watercourses extend through this landscape in an east west orientation, the most important of these being the Dromore River which links many of the loughs. Traditional stone bridge crossings feature occasionally on these rivers."* • *"The pastoral landscape pattern comprises small to medium sized fields bounded by hedgerows which vary in form."*	• *This is a highly scenic landscape. The farmland is generally in very good condition and the variable drumlin topography and inter drumlin hollows is a key contributing factor to character and high scenic quality.* • *The Lough and lough shore landscape settings comprising reeds and riparian vegetation are highly scenic and ecologically valuable. These would be highly sensitive to any form of development.*

Table 9.1: Summary of landscape character areas (LCAs) relevant to the proposed development

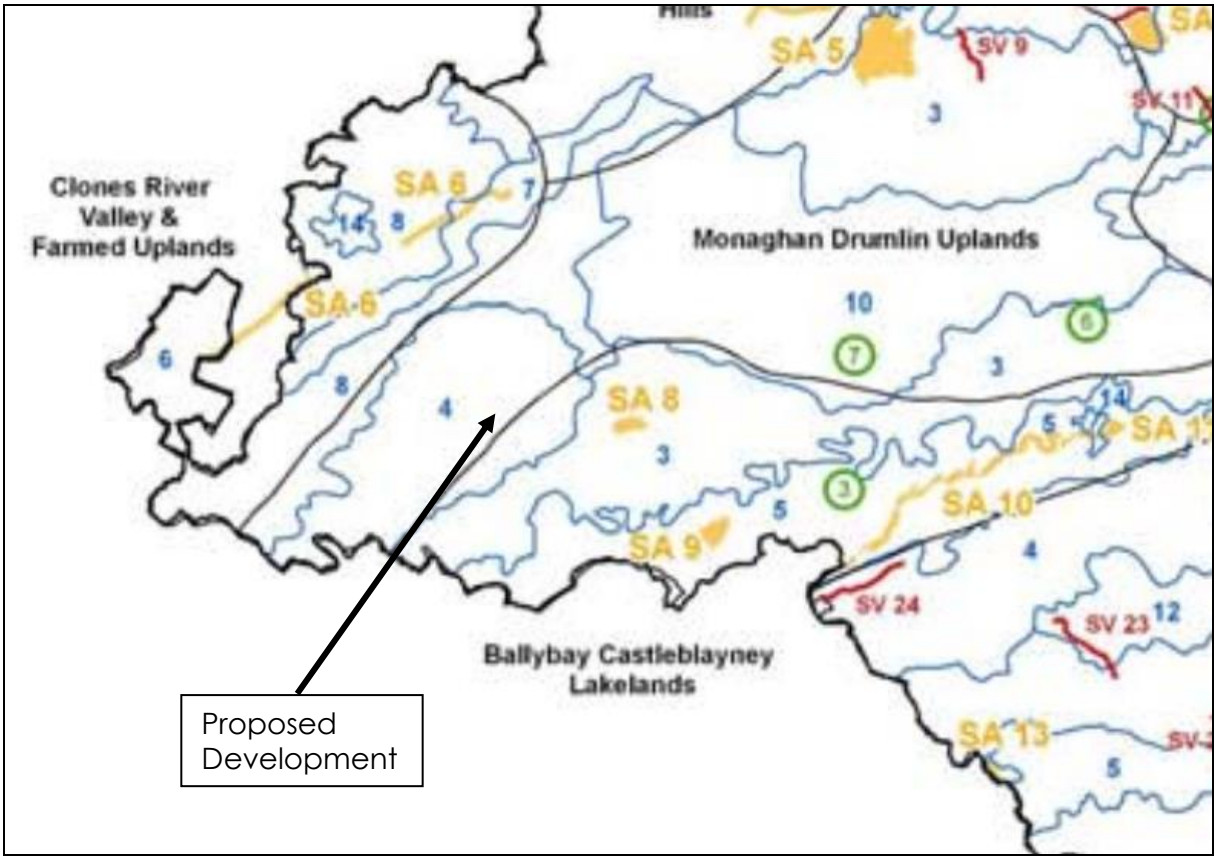

Figure 9.3: Landscape Character Assessment: Figure 5b Landscape Designations showing approximate location of site in relation to Areas of Primary & Secondary Amenity.

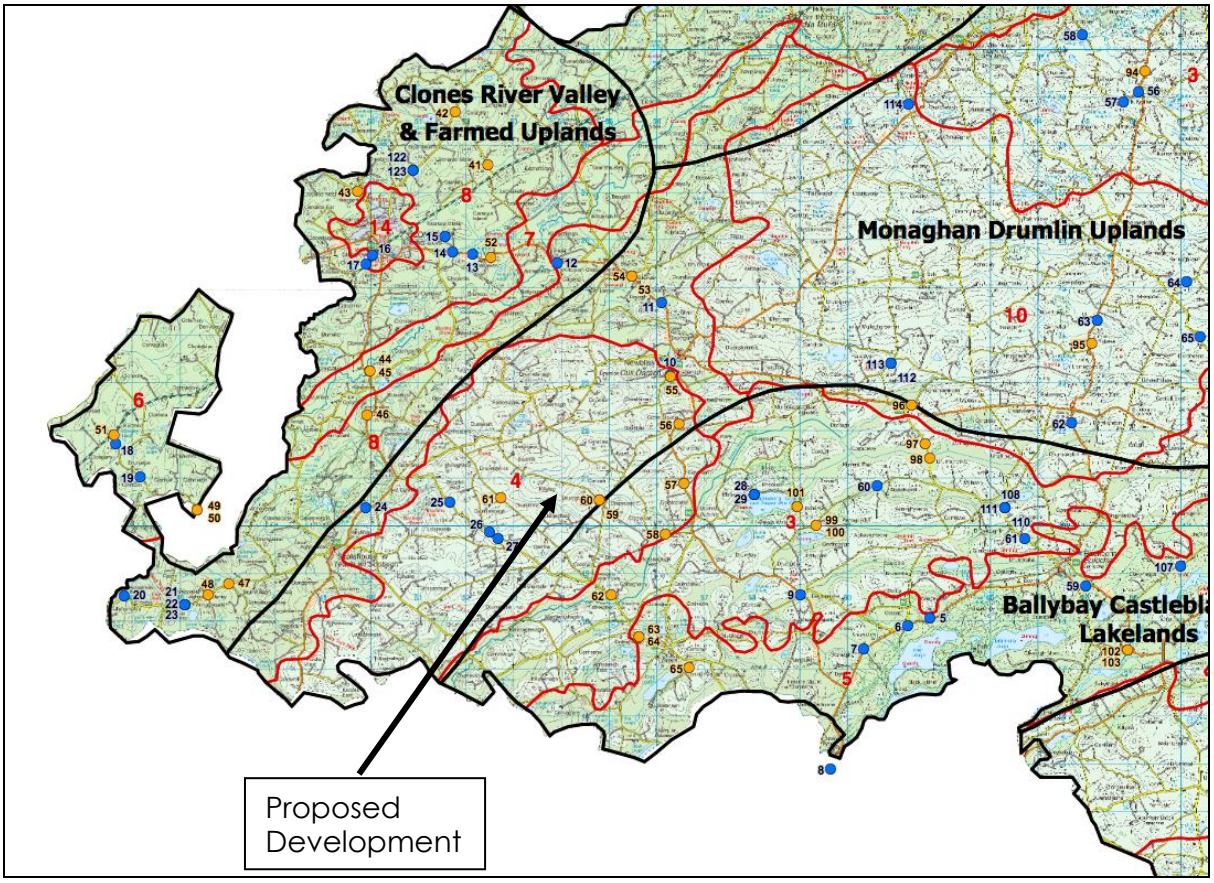

Figure 9.4: Landscape Character Assessment: Location of site in relation to Landscape Character Types (LCTs) and Landscape Character Areas (LCAs)

9.3.2.3 Cavan County Development Plan 2014-2020

Whilst the proposed development is wholly located within County Monaghan, much of the southern and western extent of the study area is contained within County Cavan. Consequently, it is important to consider landscape policies and designations from County Cavan. Furthermore, the grid connection option to the Shankill substation is predominately located within County Cavan.

Landscape Categorisation

Although the Cavan County Development Plan 2014-2020 states, "*the council has not prepared a landscape character assessment*", a 'landscape categorisation analysis of County Cavan' has been incorporated in Section 8.7. of the current development plan. Within this, County Cavan is divided in to five main landscape character areas that have been "*chosen mainly due to their physical geological and geomorphological features which make them distinctive in the County*." The most relevant landscape character areas within County Cavan are 'LCA 2: The Lakelands' and 'LCA 4: Drumlin Belt and Uplands east of Cavan' (**Figure 1.5** refers). LCA 4 is described as "*the central area of the county, stretching north-east from Shercock to south-west and Kilcogy.*"

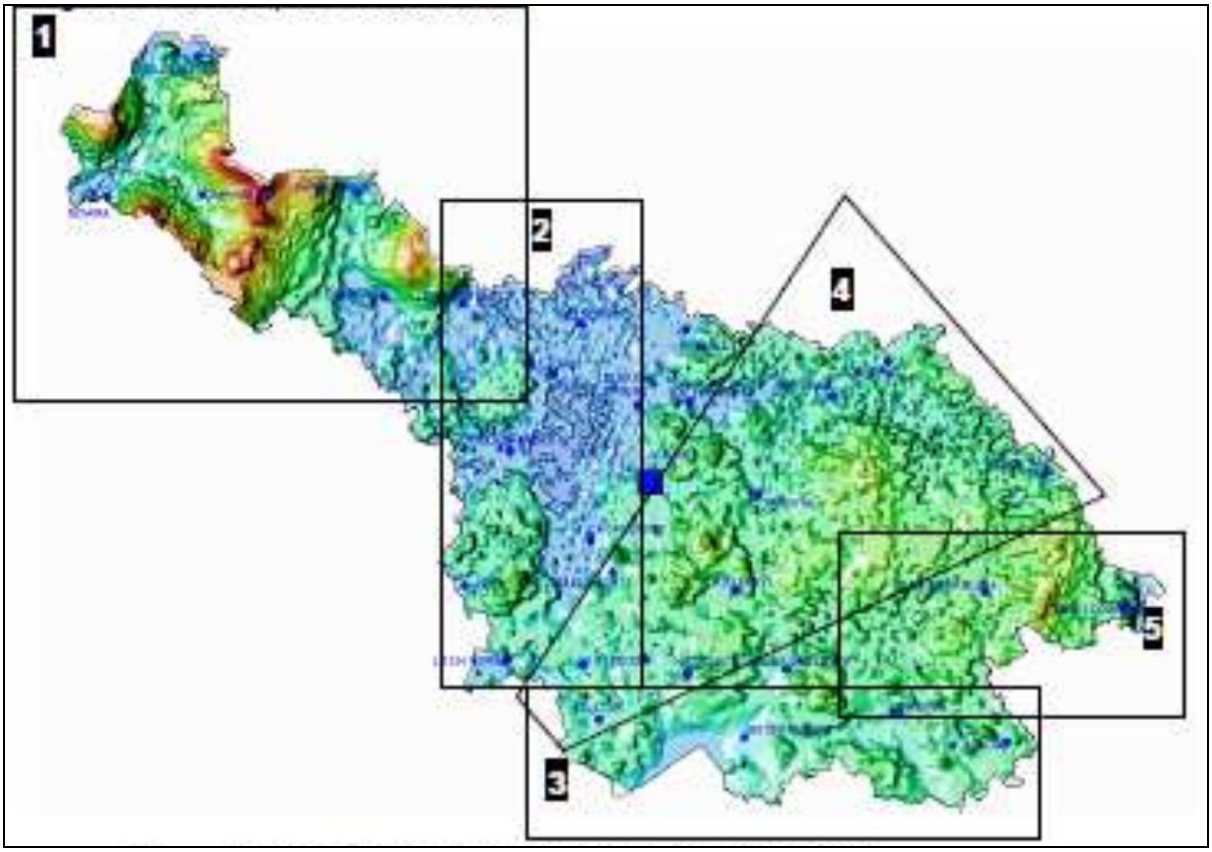

Figure 9.5 – Excerpt from Cavan County Development Plan 2008-2014, map no. 7 – showing approximate location of the proposed development site in relation to designated landscape character areas.

(Note: Maps from the previous County Development Plan (2008-2014) have been used as there are no maps in the current County Development Plan that outline the LCA boundaries.)

The Cavan County Development Plan states, "*the landscape character areas are described in terms of their character types*". These landscape character types are listed within Section 8.7 of the County Development Plan and are included below:-

- Designated Sites, Scenic Routes, Scenic Viewpoints and Walking Routes;
- Wind Energy Development Potential;
- Forestry Potential;
- General Aquifer Types;
- Water Framework Catchment;
- Geology, soil and topography;
- Vegetation and habitat;
- Urban areas and road access; and
- Built Heritage Items.

Although no specific landscape value or sensitivity designations are linked to either landscape character areas or landscape character types, Section 8.6 Landscape & Amenity Areas states "*the range of landscape types found in County Cavan have varying visual and amenity values, topography and contain a variety of habitats. Each landscape type has a varying capacity to absorb development related to its overall sensitivity.*"

The County Development Plan also lists a number of policies and objectives

regarding the landscape categorisation of County Cavan, some of which are relevant to the development in question and are included below:

Landscape Categorisation Policy

NHEP19 To protect the landscape character, quality, and local distinctiveness of County Cavan in accordance with relevant government policy and guidelines as set out above and recognise the Landscape Categorisation of County Cavan.

NHEP20 To require that any necessary assessments, including landscape and visual impact assessments, are provided when undertaking, authorising, or approving development

Landscape Categorisation Objectives

NHEO22 To protect and enhance the landscape of County Cavan by ensuring development occurs in a manner that has regard to the character, type of landscape or character area and sensitivity, visual impact of the landscape.

NHEO23 To support efforts to identify and designate vulnerable landscapes in County Cavan in order to maintain their character.

NHEO24 To identify, protect and enhance landscapes and landscape features of special environmental, geological, and geomorphological, archaeological, historic or cultural interest.

NHEO25 To protect and enhance the visual integrity, distinctiveness, character, scenic value and visual quality of the sensitive and outstanding landscapes, scenic areas and High Amenity Areas from intrusive and/or unsympathetic developments. Protect sensitive areas from injurious development, while providing for development that will benefit rural community and visitors. Ensure that, where an overriding need is demonstrated for a particular development in the vicinity of sensitive landscape careful consideration is given to site selection. Proposed developments should be appropriate in scale and be sited, designed and landscaped in a manner which minimises potential adverse impacts on the landscape. Proposed developments, where located within or adjacent to sensitive landscapes, may be required to provide a landscape report detailing how the proposal will impact on the landscape and mitigation measures to be taken. Proposed developments which have a detrimental impact on the landscape will not normally be permitted. Co-operate with adjoining local authorities to support the co-ordinated designation of sensitive landscape particularly where transboundary vulnerabilities are identified.

Section 8.8 of the County Development Plan relates to 'Landscape Features' and describes them as *"areas of County Cavan's landscape which are not protected under European or National Legislation. They are identified as requiring special landscape policies and are listed in the Landscape Categorisation for each Character Area."* **Table 9.7** below lists the landscape features located within County Cavan and their relevance to the development in question.

Landscape Features – Special Landscape Policy	Landscape features located within the 20km study area

Areas	
High Landscape Areas	N/A
Areas of Special Landscape Interest	N/A
County Heritage Sites and associated objectives	7. Bloody Pass Derryvoney, River Erne 8. Turbot Island 10. Castle Saunderson 11. Ballyhaise House 16. Drumkeen House Woodlands 22. Shantemon Mountain 23. Cohaw Megalithic Tomb 24. Bellamont Castle
	NHEO27: *To restrict incompatible development in order to protect the amenity, scientific and historic values of these areas.*
Scenic Views and Viewing Points and associated objectives	7. Drumauna 9. Annagh Lake 11. Drumgarry 16. Inchin 17. Drumcalplin
	NHEO28: *To restrict development that would obstruct views and to minimise visual intrusion by only permitting compatible uses.* NHEO29: *To ensure that the location, design and visual prominence of developments are examined, including possible effects on views from the public realm toward sensitive or vulnerable landscape features.*
Scenic Routes	N/A
Forest Parks and Other Parks and associated objectives	3. Con Smith Park, Cavan 4. Bellamont Forest, Cootehill 5. Drumkeen House Woodland
	NHEO32: *To regulate development within parks to maximise recreational, amenity and community use.*
Major Lakes and Lake Environs	N/A
Lakeside Amenity Areas and associated objectives	3. Annagh Lake, Butlersbridge 6. Greenlough, Cavan 7. Lavey Strand (N.3) 8. Annafarney, Shercock, Lough Sillan
	NHEO35: *To regulate development on adjoining lands, to ensure that public use is not prejudiced by incompatible uses or adverse visual impact.*
Riverside Amenity Areas and associated objectives	1. Annalee (Butlersbridge Riverside Walk) 2. Annalee (Ballyhaise Amenity Park)

	3. Annalee (Corick Bridge Amenity Park) 5. Erne (Belturbet Riverside Park)
	NHEO36: *To regulate all development on lands adjoining these rivers in order to maintain their amenity and ecological value.*
Walking Routes and associated objectives and policies	13. Dartrey Walk, Cootehill 14. Cootehill Town Walk 15. Beltubet Town Walk 18. Portraum/ Quivey Walk, Belturbet
	NHEP21: *To protect these amenity areas, permitting only very limited forms of development in these locations.* NHEO37: *To require developments likely to have an adverse impact on special landscape policy areas to identify and assess these impacts. Such applications will be required to carry out studies to establish baseline parameters and appropriate measures will be required, as are deemed necessary, to protect the environment.* NHEO38: *To examine, review and refine Special Landscape Policy areas during the lifetime of the Development Plan.*

Table 9.2: Summary of landscape features in County Cavan and their relevance to the proposed development

9.3.2.4 Northern Ireland Landscape Character Assessment 2000

The Northern Ireland Landscape Character Assessment (NILCA 2000) divides the counties of Northern Ireland into 130 no. geographically distinct Landscape Character Areas (LCAs). The most relevant LCAs include 'LCA 11 – Upper Lough Erne' and 'LCA 12 – Newtownbutler and Rosslea Lowlands' (**Figure 9.6** below refers).

A consultation draft of the Northern Ireland Regional Landscape Character Assessment (NIRLCA) 2015 is currently available online, however, this has not yet been adopted. This draft document is prepared at a broader scale than the original Landscape Character Assessment from 2000 and divides Northern Ireland's landscape into 26 no. Regional LCAs compared to the 130 no. from the earlier document. The nearest and most relevant landscape character areas are located within County Fermanagh and are 'LCA 2 – Lough Erne Lakeland' and 'LCA 3 – Clogher Valley and Slieve Beagh' (**Figure 9.7** refers). LCA 2 is described as "*a drumlin landscape, partly drowned by the River Erne to form two main loughs of different character*" whilst LCA 3 is described as "*a moderately broad valley, oriented with a north-east to south-west grain, and which lies at elevations between 50m and 100m.*"

As with the Landscape Character Assessment 2000, there are no general sensitivity levels provided for each LCA. Although the draft Regional Landscape Character Assessment provides a more up-to-date analysis of the landscape incorporating development that has taken place in the last 15 years, it is understood that it will not supersede the finer scale assessment from 2000.

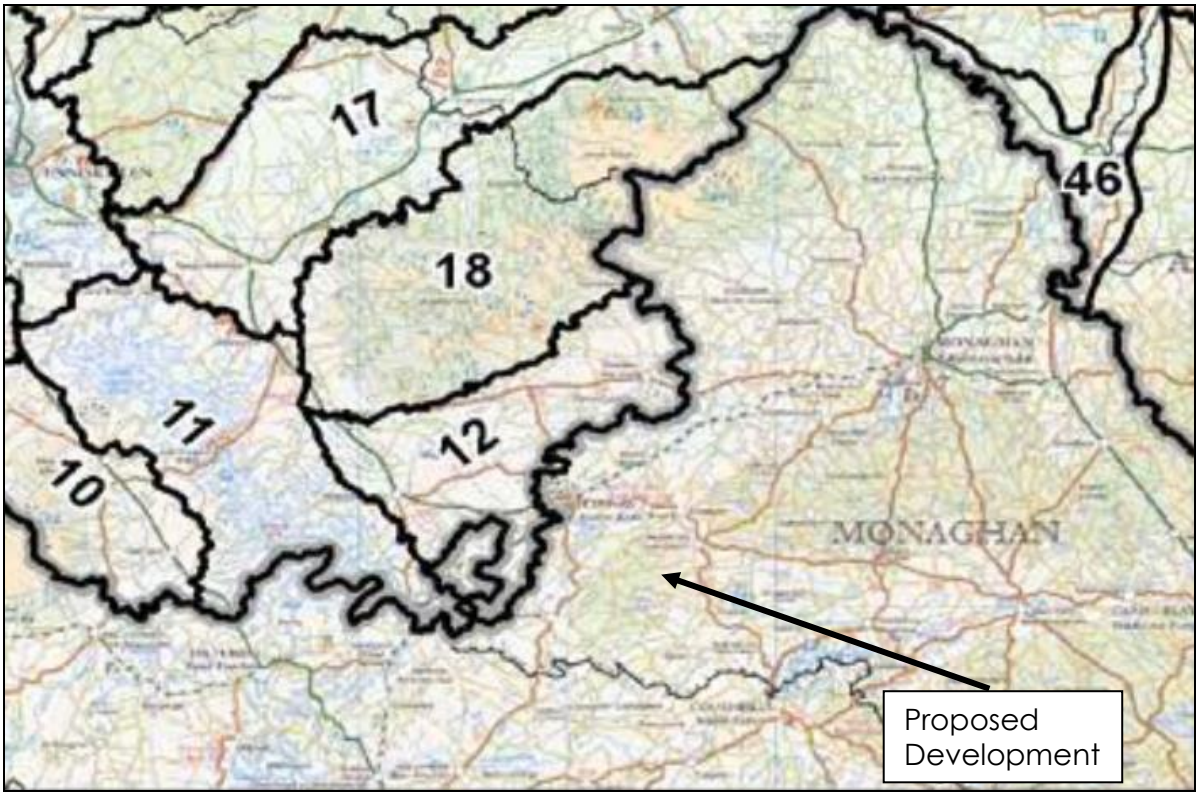

Figure 9.6 – Excerpt from Northern Ireland Landscape Character Assessment 2000, showing approximate location of proposed development site in relation to landscape character areas.

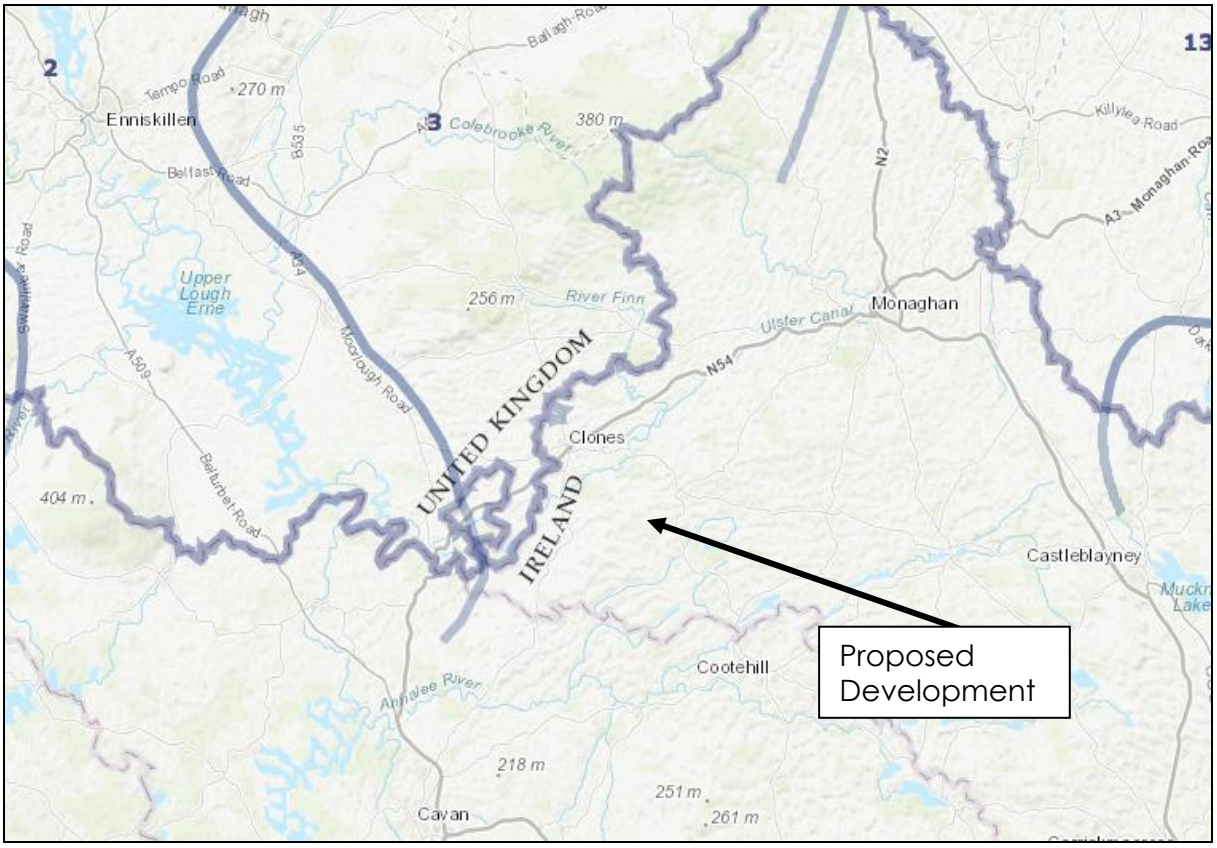

Figure 9.7 – Excerpt from Draft Northern Ireland Regional Landscape Character Assessment 2015, Overview map - showing approximate location of proposed

development site in relation to regional landscape character areas.

9.3.2.5 Monaghan County Development Plan 2019-2025 – Wind Energy

Whilst there is no specific wind energy guidelines or wind energy strategy included within the current Monaghan development plan, Section 9.15 'Wind Energy' states that "*Monaghan County Council will seek to achieve a balance between enabling the wind energy resource of the County to be harnessed while taking account of the visual, environmental and amenity impacts to ensure consistency with proper planning and sustainable development…The Planning Authority will adopt a favourable approach to wind energy development provided they are sited so as not to cause a serious negative impact on the special character and appearance of the landscape, designated conservation areas, protected structures or sites of archaeological importance.*"

9.3.2.6 Planning Policy Statement (PPS) 18 – Renewable Energy (Wind Energy Development in Northern Ireland's Landscapes)

As part of the Planning Policy Statement (PPS) for Northern Ireland, a Renewable Energy planning policy statement (PPS18) was produced. Within this, an accompanying document called "*Wind Energy Development in Northern Ireland's Landscapes*" was prepared, which identifies sensitivities relating to the landscape character areas identified in the Northern Ireland Landscape Character Assessment 2000. Whilst the proposed development is not located in either of these landscape character areas, it is important to analyse the policy statement due to the potential for transboundary as the proposed site is situated just over 5km east of the nearest LCA.

The *Wind Energy Development in Northern Ireland's Landscapes* document classes 'LCA 11 – Upper Lough Erne' as a 'high' sensitivity landscape in relation to wind energy development whilst 'LCA 12 – Newtownbutler and Rosslea Lowlands' have been identified as having an overall sensitivity of 'High-medium'. With regard to wind energy developments in LCA 11, it is noted that "*this LCA has a rural and intimate character whose valued landscape could easily be dominated by inappropriate wind energy development*" whilst in terms of LCA 12 it is noted that "*care should be taken to avoid adverse impacts on the highly sensitive open inter-drumlin hollows, drumlin tops, wetlands, lough shores, parklands and distinctive landscape settings around Newtownbutler and Rosslea. Care should be taken to ensure that turbine development does not overwhelm the underlying drumlin topography*".

9.3.3 Visual Baseline

Only those parts of the study area that potentially afford views of the proposed development are of interest to this part of the assessment. Therefore, the first part of the visual baseline is establishing a 'Zone of Theoretical Visibility' and subsequently, identifying important visual receptors from which to base the visual impact assessment.

9.3.3.1 Zone of Theoretical Visibility (ZTV)

A computer generated Zone of Theoretical Visibility (ZTV) map has been prepared to illustrate where the proposed development is potentially visible from. The ZTV map is based solely on terrain data (bare ground visibility) and ignores features such as trees, hedges or buildings which may screen views. Given the complex vegetation patterns within this landscape, the main value of this form of ZTV mapping is to determine those parts of the landscape from which the proposed development will definitely not be visible, due to terrain screening, within the 20km study area.

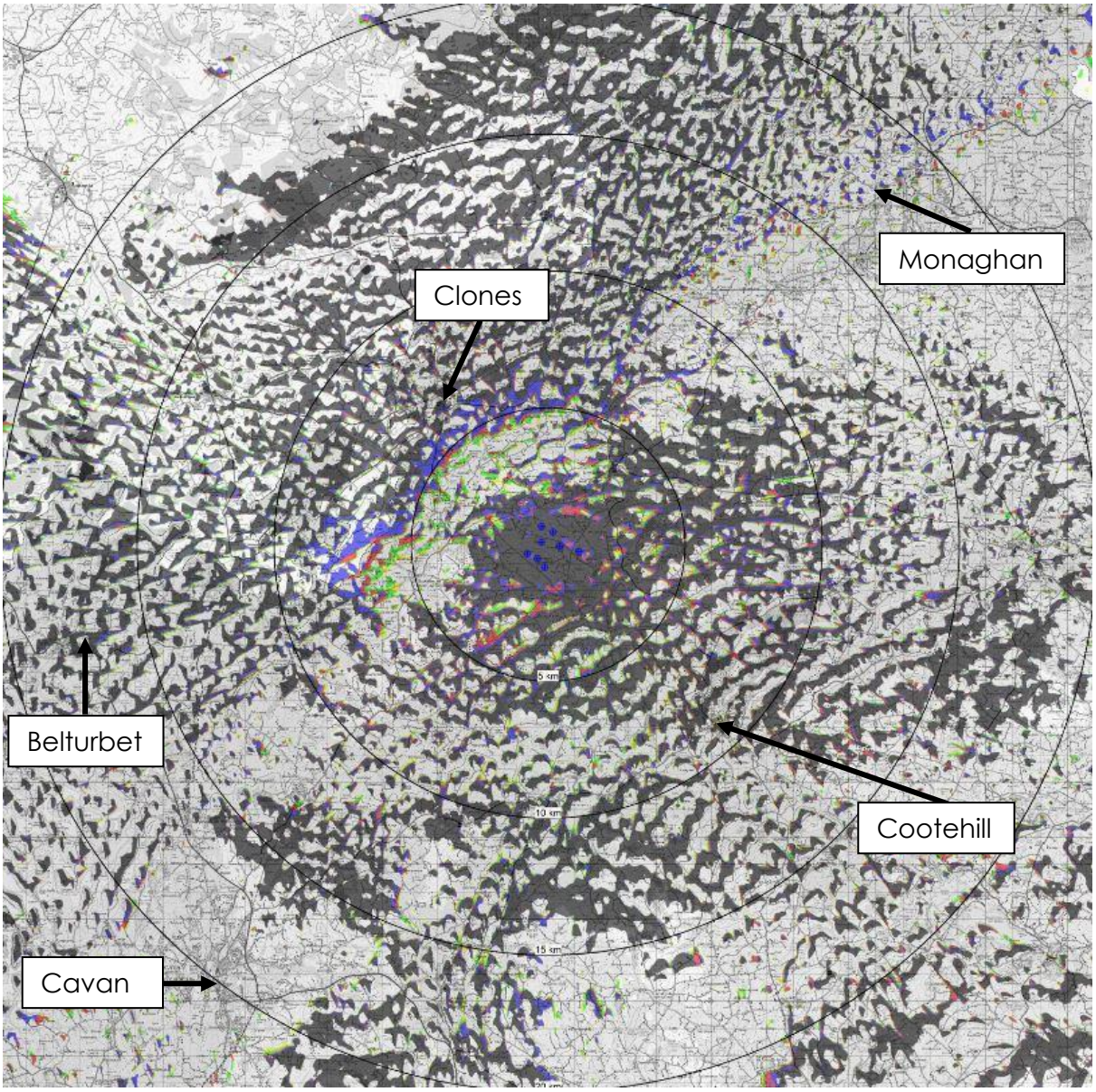

Figure 9.8: Bare-ground Zone of Theoretically Visibility (ZTV) Map. (See Volume 2, Annex 9.1 for larger scale map)

The following key points are illustrated by the 'bare-ground' ZTV map (**Figure 9.8** refers) It should be noted that the colouring system used in the above ZTV relates to the degree of turbine visibility based off a 'bare-ground' scenario (Dark Grey/Black = All 7 turbines theoretically visible; Blue = 5 to 6 turbines theoretically visible; Red = 3 to 4 turbines theoretically visible; and Green = 1 to 2 turbines theoretically visible). Where there is no colour pattern, visibility of the proposed turbines is entirely eliminated.;

- While comprehensive visibility exists in the immediate surrounds of the proposed development for approximately 2-3km, this becomes relatively sporadic further afield, most notably to the north and west of the proposed turbines where a band of taller drumlin hills and ridges provide screening to the landscape immediately beyond;
- Throughout the remainder of the study area, the ZTV pattern reflects the underlying profile of the terrain that predominately comprises of rolling drumlin hills and ridges. The distinctive 'sand ripple' pattern identifies potential visibility

on the elevated areas of these hills and ridges which subsequently provide screening to the lower landscapes beyond;

- In terms of potential visibility at notable settlements within study area, Clones to the northwest of the site will have theoretical visibility in its centre and wider surrounds. Cootehill in the southeast quadrant of the study area and Belturbet in the western periphery of the study area will have a similar degree of theoretical visibility due to their elevated locations. Ballybay situated on the eastern periphery of the study area will also have theoretical visibility in the outskirts of the town. In contrast to this, both the settlements of Cavan and Monaghan will have very little theoretical visibility, especially at the settlement of Cavan where there is no potential for visibility in the central areas of the town;
- With regard to the wider study area, a relatively modest block of comprehensive ZTV pattern exists in the northern extents of the study area, which relates to an upland area of terrain relating to the southern foothills of Slieve Beagh. However, this upland ridge entirely eliminates the potential for visibility further to the northwest. A large splay of no potential for visibility occurs in the northeast quadrant of the study area due to a group of more elevated drumlin hills and ridges situated immediately east and northeast of the settlement of Newbliss. Visibility in the wider southern study area is also eliminated in the surrounds of Lough Acanon due to a number of more elevated hills and ridges situated north of the Lough.

9.3.3.2 Views of Recognised Scenic Value

Views of recognised scenic value are primarily indicated within County Development Plans in the context of scenic views/routes designations, but they might also be indicated on touring maps, guide books, road side rest stops or on post cards that represent the area.

All of the scenic routes and views that fall inside the ZTV pattern (see **Figure 9.8**) were investigated during fieldwork to determine whether actual views of the proposed development might be afforded. Where visibility may occur, a viewpoint has been selected for use in the visual impact appraisal later in this chapter.

9.3.3.3 Monaghan County Development Plan 2019-2025 – Views and Prospects

The current Monaghan County Development Plan includes Map 6.1 (**Figure 9.9** refers) which identifies scenic routes within County Monaghan. A number of these occur within the study area and are included below. It is important to note that the County Development Plan states that "*any development that would interfere with or adversely impact on these scenic routes will not be permitted.*"

- Scenic View SV9: View of St. Macartan's Cathedral Monaghan from Berry Brae (R162);
- Scenic View SV23: Views of Lough Bawn & County Cavan (LT71111); and
- Scenic View SV24: Scenic drive, Tattybrack (R190).

The County Development Plan also lists a number of policies with regard to scenic routes/views and those of relevance to the proposed development have been outlined below:-

SRP 1 To prohibit development that would disrupt or adversely affect a view from/along any scenic route as identified in Appendix 5.

SRP 2 To protect the scenic quality of lakes by prohibiting development located between a public road and a lake where the development would interrupt

a view of the lake or adversely affect its setting or its wildlife habitat. Development may be permitted between a public road and the lakeshore where the development is screened from the lake by existing topography or *vegetation.*

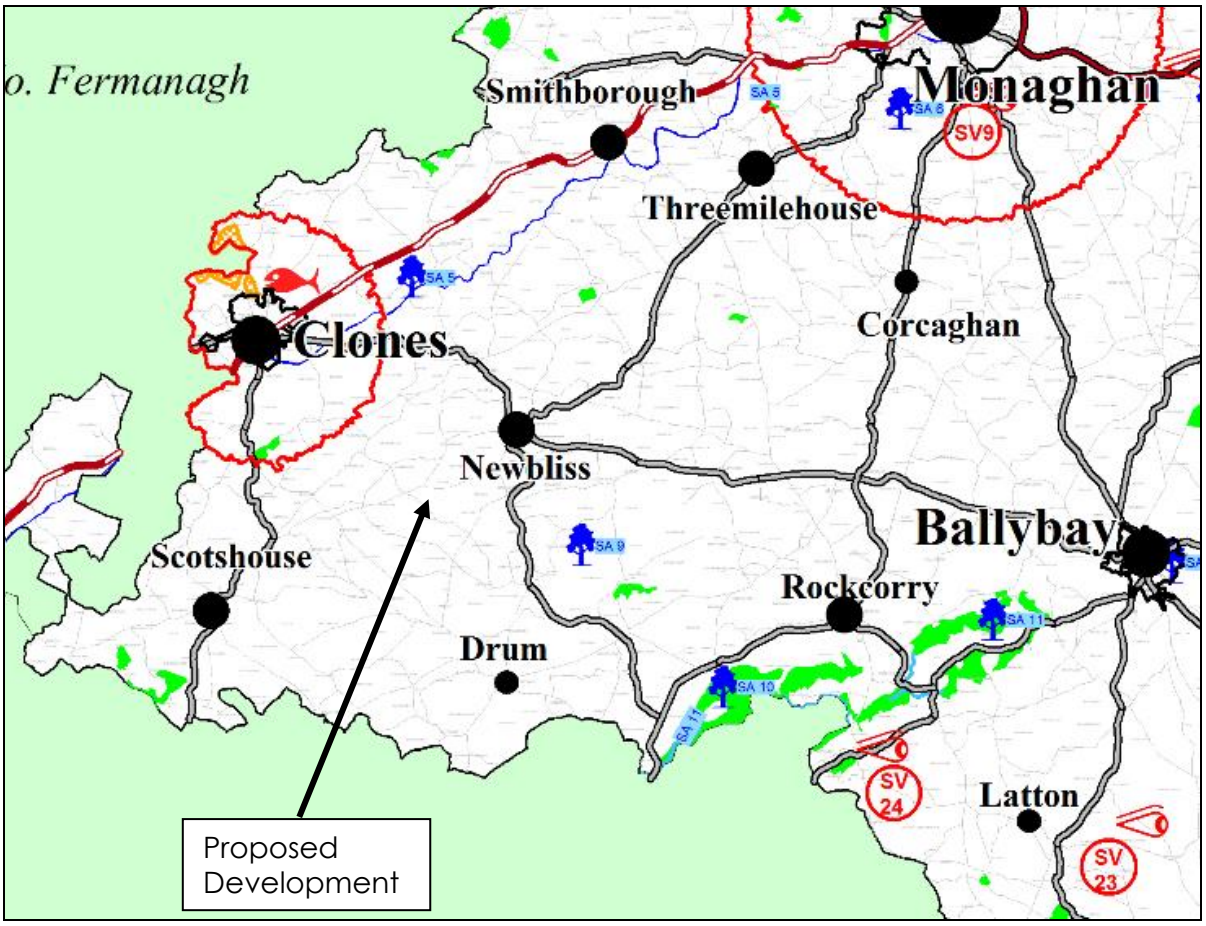

Figure 9.9: Excerpt from Monaghan County Development Plan, Map 6.1 - showing approximate location of proposed development site in relation to scenic routes and views.

9.3.3.4 Cavan County Development Plan 2014-2020 – Views and Prospects

The Cavan County Development Plan lists seventeen scenic viewpoints and three scenic routes all of which are also shown on Map 10 (**Figure 9.10** below). Any views and routes that are located within the study area are included below:-

- VP7 – Drumauna
- VP9 – Annagh Lake
- VP11 – Drumgarry
- VP16 – Inchin
- VP17 – Drumcalpin

Relevant objectives relating to scenic views and viewing points are outlined below:-

NHEO28 To restrict development that would obstruct views and to minimise visual intrusion by only permitting compatible uses.

NHEO29 To ensure that the location, design and visual prominence of developments are examined, including possible effects on views from the public realm toward sensitive or vulnerable landscape features.

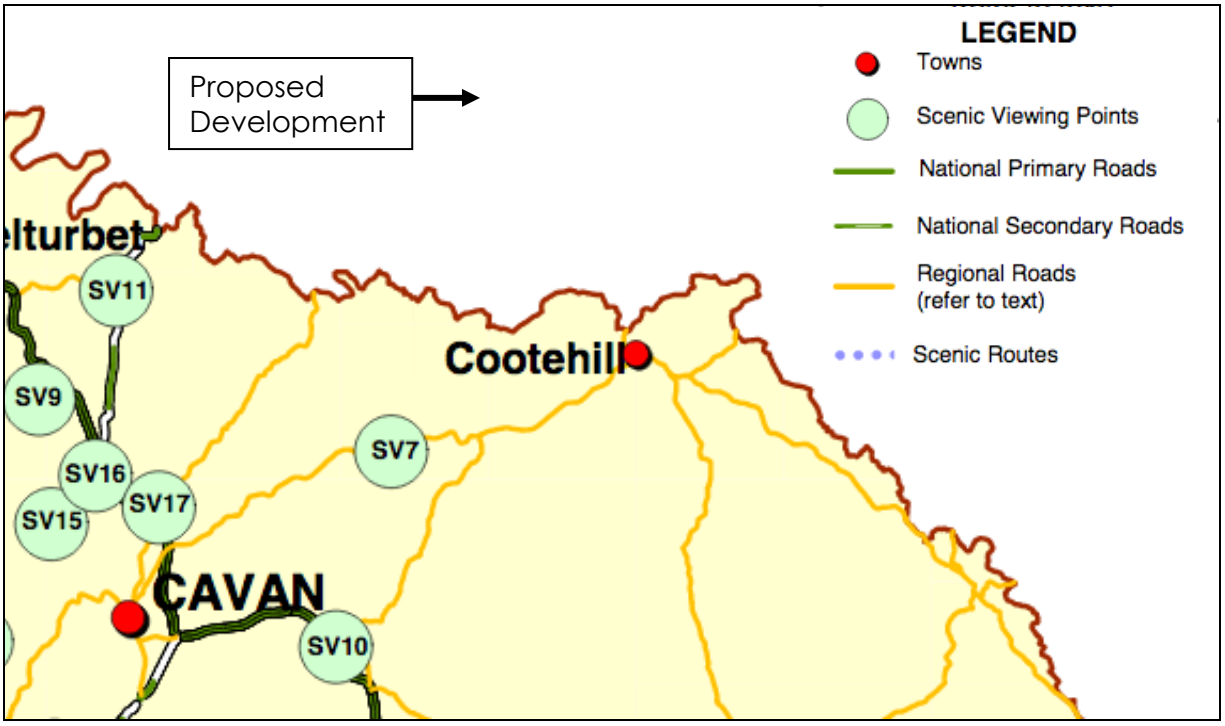

Figure 9.10 – Excerpt from Monaghan County Development Plan, Map 6.1 - showing approximate location of proposed development site in relation to scenic routes and views.

9.3.3.5 Planning Policy Statement (PPS) 18 – Renewable Energy (Wind Energy Development in Northern Ireland's Landscapes)

Whilst there are no specific designated views or prospects outlined within the PPS 18, it does state that in regards to 'LCA 11 - Upper Lough Erne' *"this LCA has a high scenic quality and is part of the highly scenic Erne lakeland landscape"* whilst it is noted that 'LCA 12 – Newtownbutler and Rosslea Lowlands' *"is a unified and rural landscape in good condition although there is evidence of declining farming activity."*

9.3.3.6 Centres of Population and Houses

In terms of the immediate study area, the most notable settlement in relation to the proposed development is that of Clones, which is situated approximately 5km northwest of the proposal site at its nearest point. The smaller settlements of Newbliss, Drum and Scotshouse are also situated within the immediate study area.

Modest sized settlements are scattered throughout the wider study area and include Cootehill situated 8km southeast of the site, Belturbet situated 16.5km west of the nearest turbine, Monaghan town situated 17km northeast of the site and Cavan situated 17km southwest of the proposal site.

A number of smaller villages and 'cross-road' settlements are also situated throughout the wider study area and include Redhills 9km west of the site, Rockcorry 9km east of the site, Drung 9.5km southwest of the site, Smithborough 10km northeast of the site, Ballyhaise 12km southwest of the site, Newtownbutler 12km northwest of the site, Cloverhill 13km southwest of the site, Butlers Bridge 15km southwest of the site, Stradone 16km southwest of the site, Bellanode 17km northeast of the site and Scotstown 17km northeast of the site; amongst others.

9.3.3.7 Transport Routes

The N3 national primary route is the most notable major transport route within the study area and is located c.15km southwest of the site at its nearest point as it passes northwest of Stradone. The N3 enters the 20km radius study area in its southern periphery and runs throughout the south-western quadrant of the study area before it exists west of Belturbet. The N54 national secondary route is another notable transport route within the study area, situated 6km northwest of the site as it passes through the centre of Clones. The N54 also becomes the A3 as it enters sections of County Fermanagh in Northern Ireland. The N2 national primary route briefly enters the study area as it bypasses Monaghan town, and is less than 19km northeast of the site at its nearest point.

In terms of regional roads, the nearest route is that of the R189 regional road which provides access to the proposed development site and is oriented in a general north-south direction as it connects the settlements of Newbliss and Cootehill. The R212 regional road is approximately 3km west of the site at its nearest point and is oriented in a general north-south direction connecting the settlements of Cavan and Clones. Another regional road passing through the central study area is the R183 regional road, which occurs throughout the northern half of the study area entering from the east near the settlement of Ballybay. The R183 is located c.2km northwest of the site at its nearest point as it passes through Newbliss. Other notable regional roads within the study area include the R188, which links the settlement of Cootehill and Monaghan and is located c.6km southeast of the site.

A number of regional roads also extend from Cootehill in a southerly direction and include the R190, R191 and R192. Similarly, a number of regional roads also extend from the settlement of Ballybay in the western extents of the study area and include the R162, R184 and R180 regional roads. A relatively high number of local roads also traverse the rolling drumlin hills of the central study area.

9.3.3.8 Tourism, Recreational and Heritage Features

Due to the scenic nature of the lake lands in Cavan, Monaghan and Fermanagh, and upland areas surrounding Slieve Beagh in the northern periphery of the study area, there are a modest number of walking trails and cycling routes to be found. The Ulster Way is the most notable walking route, and is situated in the wider study area, just over 14km northwest of the proposed turbines at its nearest point. The Ulster Way comprises of two sections within the study area and includes the Sliabh Beagh Way and the Lisnaskea to Florencecourt section. In addition to this, several looped cycle trails also occur within the northwest quadrant of the study area. The nearest to the proposed development site is the Kingfisher Cycle Route which passes along a local road just over 700m north of the northernmost turbine. A number of scenic walking trails are situated within the grounds of Bellamont Forest on the outskirts of Cootehill, just over 7km southeast of the nearest proposed turbine. Similarly, a number of local looped walking trails also occur in Rossmore Forest Park on the outskirts of Monaghan town 14km northeast of the proposal site.

Hilton Park & Demesne includes a stately home dating back to the c. 1800s and is situated north of Hilton Lough just under 4.5km west of the proposed development site.

Castle Saunderson Estate dates back to the 14th century and is now the home of Scouting Irelands International Scouting Centre. Located on the banks of the River Erne, the existing Castle Saunderson is situated just over 11km west of the proposed development.

Crom Castle and Estate is situated on the shores of Upper Lough Erne in County

Fermanagh and is just over 17km northwest of the nearest proposed turbine. The estate features an award winning visitors centre in addition to old castle ruins and walking trails.

Both the central and wider study areas contain a number of heritage features including ringforts, enclosures and earthworks. In addition, 3 no. National Monuments are located within the settlement of Clones. The potential for visual impacts on these monuments, and all other heritage features, has been fully assessed in this chapter and the assessment should be read in conjunction with **Chapter 10** (Cultural Heritage).

9.3.4 Identification of Viewshed Reference Points as a Basis for Assessment

The results of the ZTV analysis provide a basis for the selection of Viewshed Reference Points (VRPs/VPs), which are the locations used to study the landscape and visual impact of the proposed development in detail. It is not warranted to include each and every location that provides a view of this development as this would result in an unwieldy report and make it extremely difficult to draw out the key impacts arising from the project. Instead, receptor locations were selected that are likely to provide views of the proposed development from different distances, different angles and different contexts.

The visual impact of a proposed development is assessed using up to 6 no. categories of receptor type as listed below:

- Key Views (from features of national or international importance);
- Designated Scenic Routes and Views;
- Local Community views;
- Centres of Population;
- Major Routes; and
- Amenity and heritage features.

Where a VRP might have been initially selected for more than one reason, it will be assessed according to the primary criterion for which it was chosen. The characteristics of each receptor type vary as does the way in which the view is experienced. These are described below.

9.3.4.1 Key Views

These VRPs are at features or locations that are significant at the national or even international level, typically in terms of heritage, recreation or tourism. They are locations that attract a significant number of viewers who are likely to be in a reflective or recreational frame of mind, possibly increasing their appreciation of the landscape around them. The location of this receptor type is usually quite specific.

9.3.4.2 Designated Scenic Routes and Views

Due to their identification in the County Development Plan, this type of VRP location represents a general policy consensus on locations of high scenic value within the Study Area. These are commonly elevated, long distance, panoramic views and may or may not be mapped from precise locations. They are more likely to be experienced by static viewers who seek out or stop to take in such vistas.

9.3.4.3 Local Community Views

This type of VRP represents those people who live and/or work in the locality of the proposed development, usually within a 5 km radius of the site. Although the VRPs are generally located on local level roads, they also represent similar views that may be available from adjacent houses. The precise location of this VRP type is not

critical; however, clear elevated views are preferred, particularly when closely associated with a cluster of houses and representing their primary views. Coverage of a range of viewing angles using several VRPs is necessary in order to sample the spectrum of views that would be available from surrounding dwellings.

9.3.4.4 Centres of Population

VRPs are selected at centres of population primarily due to the number of viewers that are likely to experience that view. The relevance of the settlement is based on the significance of its size in terms of the study area or its proximity to the site. The VRP may be selected from any location within the public domain that provides a clear view either within the settlement or in close proximity to it.

9.3.4.5 Major Routes

These include national and regional level roads and rail lines and are relevant VRP locations due to the number of viewers potentially impacted by the proposed development. The precise location of this category of VRP is not critical and might be chosen anywhere along the route that provides clear views towards the proposal site, but with a preference towards close and/or elevated views. Major routes typically provide views experienced whilst in motion and these may be fleeting and intermittent depending on screening by intervening vegetation or buildings.

9.3.4.6 Tourism, Recreational and Heritage Features

These views are often one and the same given that heritage locations can be important tourist and visitor destinations and amenity areas or walking routes are commonly designed to incorporate heritage features. Such locations or routes tend to be sensitive to development within the landscape as viewers are likely to be in a receptive frame of mind with respect to the landscape around them. The sensitivity of this type of visual receptor is strongly related to the number of visitors they might attract and, in the case of heritage features, whether these are discerning experts or lay tourists. Sensitivity is also heavily influenced by the experience of the viewer at a heritage site as distinct from simply the view of it. This is a complex phenomenon that is likely to be different for every site.

Experiential considerations might relate to the sequential approach to a castle from the car park or the view from a hilltop monument reached after a demanding climb. It might also relate to the influence of contemporary features within a key view and whether these detract from a sense of past times. It must also be noted that the sensitivity rating attributed to a heritage feature for the purposes of a landscape and visual assessment is not synonymous with its importance to the Archaeological or Architectural Heritage record.

VRP No.	Location	Distance to nearest turbine	Direction of view
VP1	U1957 Mount Darby Road northwest of Killyfole Lough	13.17km (T1)	SE
VP2	N54 northwest of Magherarny cross roads	9.60km (T1)	SW
VP3	High Cross, Clones	5.82km (T1)	SE
VP4	Abbey Church, Clones	5.63km (T1)	SE
VP5	Clones Round Tower	5.68km (T1)	SE
VP6	Crom Estate	16.60km (T3)	SE
VP7	R189 at Newbliss	3.16km (T5)	SW

VP8	Local road west of Dorothys Cross Roads (Ringfort)	2.47km (T3)	SE
VP9	L2220 Local road west of Radeerpark Lough	1.26km (T1)	S
VP10	Local road at Crossreagh	0.80km (T1)	S
VP11	R189 at Aghareagh	1.65km (T7)	W
VP12	Castle Saunderson Estate	11.31km (T3)	E
VP13	Local road at Drumcrow	0.31km (T3)	E
VP14	Local road at Drumacreeve	0.47km (T7)	W
VP15	Local road at Lurganboy	0.90km (T3)	NE
VP16	Local road northwest of Corragarry cross roads	1.09km (T8)	N
VP17	Local road northwest of Rockcorry	8.54km (T8)	W
VP18	R180 south of Ballybay	16.70km (T7)	W
VP19	N54 north of Gannons Cross	12.13km (T3)	E
VP20	Local road north of Redhills Demesne	8.70km (T3)	E
VP21	Local road east of Drum Lough	2.80km (T7)	NW
VP22	Local road at Drum	2.90km (T7)	NW
VP23	N3 north of Annagh Lough	15.69km (T3)	NE
VP24	Cnoc Alainn residential estate north of Cootehill	7.43km (T7)	NW
VP25	Local road east of the R162 at Garryduff (SV23)	16.87km (T7)	NW
VP26	R188 west of Drung (SV7)	9.81km (T8)	NE
VP27	Local road at Knockfad (SV17)	14.95km (T3)	NE
VP28	Carnmore viewpoint	15.83km (T1)	SE
VP29	Knockballymore Road at Mullynavannoge	7.21km (T1)	SE
VP30	Lislea, southeast of Knockballymore Lough	7.93km (T1)	SE

Table 9.3: Outline description of selected Viewshed Reference Points (VRPs)

9.3.5 Cumulative Baseline

The Scottish Natural Heritage (SNH) Guidelines relating to the Cumulative Effects of Wind Farms (2012) and the 3rd edition of the IEMA Visual impact Assessment Guidelines (2013) identify that cumulative impacts on visual amenity consist of combined visibility and sequential effects. The same categories have also been subsequently adopted in the Landscape Institute's 2013 revision of the Landscape and Visual Impact Assessment Guidelines:-

> *"Combined visibility occurs where the observer is able to see two or more developments from one viewpoint. Combined visibility may either be in combination (where several wind farms are within the observer's arc of vision at the same time) or in succession (where the observer has to turn to see the various wind farms).*
>
> *Sequential effects occur when the observer has to move to another viewpoint to see different developments. The occurrence of sequential effects may range from frequently sequential (the features appear regularly and with short time lapses between, depending on speed of travel and distance between the viewpoints) to occasionally sequential (long time lapses between*

appearances, because the observer is moving very slowly and / or there are large distances between the viewpoints.)"

Cumulative impacts of wind farms tend to be adverse rather than positive, as they relate to the addition of moving manmade structures into a landscape and viewing context that already contains such development. Based on guidance contained within the SNH Guidelines relating to the Cumulative Effects of Wind Farms (2005) and the DoEHLG Wind Energy Guidelines (2006), cumulative impacts can be experienced in a variety of ways.

In terms of landscape character, additional wind energy developments might contribute to an increasing sense of proliferation. A new wind farm might also contribute to a sense of being surrounded by turbines with little relief from the view of them.

In terms of visual amenity, there is a range of ways in which an additional wind farm might generate visual conflict and disharmony in relation to other wind energy developments. Some of the most common include visual tension caused by disparate extent, scale or layout of neighbouring developments. A sense of visual ambivalence might also be caused by adjacent developments traversing different landscape types. Turbines from a proposed wind farm that are seen stacked in perspective against the turbines of nearer or further developments tend to cause visual clutter and confusion. Such effects are exacerbated when, for example, the more distant turbines are larger than the nearer ones and the sense of distance is distorted. **Table 9.7** below provides criteria for assessing the magnitude of cumulative impacts.

Magnitude of Impact	Description
Very High	• The proposed wind farm will strongly contribute to wind energy development being the defining element of the surrounding landscape. • It will strongly contribute to a sense of wind farm proliferation and being surrounded by wind energy development. • Strongly adverse visual effects will be generated by the proposed turbines in relation to other turbines.
High	• The proposed wind farm will contribute significantly to wind energy development being a defining element of the surrounding landscape. • It will significantly contribute to a sense of wind farm proliferation and being surrounded by wind energy development. • Significant adverse visual effects will be generated by the proposed turbines in relation to other turbines.
Medium	• The proposed wind farm will contribute to wind energy development being a characteristic element of the surrounding landscape. • It will contribute to a sense of wind farm accumulation and dissemination within the surrounding landscape. • Adverse visual effects might be generated by the proposed turbines in relation to other turbines.
Low	• The proposed wind farm will be one of only a few wind farms in the surrounding area and will be viewed in isolation from most receptors. • It might contribute to wind farm development becoming a familiar feature within the surrounding landscape. • The design characteristics of the proposed wind farm accord with other schemes within the surrounding landscape and adverse visual effects are not likely to occur in relation to these.
Negligible	• The proposed wind farm will most often be viewed in isolation or occasionally in conjunction with other distant wind energy

	developments. • Wind energy development will remain an uncommon landscape feature in the surrounding landscape. • No adverse visual effects will be generated by the proposed turbines in relation to other turbines.

Table 9.4: Outline Magnitude of cumulative impact

There are 5 no. operational wind farms contained within the study area. These are set out in **Table 9.8** below.

Wind Farm Name	Number of Turbines	Distance and Direction from Proposed Development Site	Status
Carrickallen Wind Farm	10	12km	Operational
Mountain Lodge/Bindoo Wind Farm	55	12km	Operational
Mullananalt Wind Farm	5	17km	Operational

Table 9.5: Cumulative Wind Farms within Study Area

9.4 Description of Likely Effects

9.4.1 Landscape Impacts

Landscape impacts are assessed on the basis of landscape sensitivity weighed against the magnitude of physical landscape effects within the proposed development site and effects on landscape character in the wider landscape setting. This wider setting is considered in respect of the central study area (<5 km) as well as the broader scale of the study area (5-20km).

9.4.1.1 Landscape Character, Value and Sensitivity

The landscape of the proposed development site and its immediate surrounds is that of a low rolling drumlin spine landscape interspersed with small loughs and streams. The predominant land use here is that of pastoral farmland comprising of small to medium sized geometric fields. These agricultural fields are often bound by dense and managed hedgerows, which, in combination with the rolling terrain, serve to restrict visual catchments, especially from low points in the terrain. This is a highly productive rural landscape, which is reflected in the numerous farmsteads and local rural/industrial facilities situated within the central study area.

A modest rural population also exists within the study area situated along the network of criss-crossing local roads that weave through the rolling drumlin hills. Clones is the most notable settlement within the central study area situated to the northwest of the proposed development, with Newbliss being the closest settlement c. 2km to the northeast whilst the small picturesque settlement of Drum is situated to the south of the site, just south of Drum Lough.

In terms of scenic and amenity value, the central study area has typical and local amenities that can be found throughout the drumlin/lakelands landscapes of Cavan and Monaghan. These include sections of the Kingfisher Cycle route, which follow the local and regional roads north and west of the proposed development site. Hilton Park and Demesne is situated on the western periphery of the study area and comprises of a stately home and gardens on the banks of Hilton Lough. Clones Golf Club is also situated just east of Hilton Park and Demesne. There are no scenic designations situated within the central study area, however, that is not to say that no scenic quality exists here. Instead scenic quality within the central study areas

tends to relate to enclosed localised views of rolling drumlin hills and small loughs which present a traditional pastoral aesthetic.

The central study area primarily comprises two landscape character areas; LCA 5 – Monaghan Drumlin Uplands and LCA 7 – Ballybay-Castleblaney Lakelands. The immediate vicinity of the site could be described as an area of transition as it sits right on the boundary between both LCAs. Whilst both LCAs comprise of their own localised sensitivities, LCA 7 is noted as a "*highly scenic landscape*" and "*would be highly sensitive to any form of development.*

The immediate study area (<5km from the proposal site) is considered to be a working rural landscape where landscape values relate mostly to productivity and subsistence of the rural economy, rather than naturalistic or scenic values. However, a number of sensitive features also occur within this landscape context and a 'high sensitivity' landscape unit (LCA 7) occurs to the south of the site. On balance of these factors, is considered that the landscape in the immediate context of the proposed development site is of a **Medium** landscape sensitivity.

Much of the wider study area also constitutes a rolling drumlin landscape, some aspects of which rise to higher elevations than those of the central study area, especially in the wider southern and eastern half of the 20km study radius. The predominant character here is that of a typical rural landscape of pastoral farmland and occasional small commercial conifer plantations. In comparison to the immediate study area, there is a higher proportion of sizeable waterbodies, including Upper Lough Erne and the River Erne in the western periphery of the study area and Dromore Lough and Dromore River just outside of Cootehill in the southern half of the study area. A high proportion of inter drumlin loughs also occur in the southwest quadrant of the study area just north of Cavan Town. In the northern periphery of the study area the landscape begins to transition to that of an upland landscape and encompasses the rolling foothills of Slieve Beagh.

Whilst the study area is predominantly rural in character, a number of substantial urban centres occur within the wider context. These include Cootehill, Cavan town and Monaghan town. A number of major transport corridors also pass throughout the wider study area including the N3 in the western half of the study area and the N2 on the northeast periphery of the 20km study radius just west of Monaghan town. These settlements and transport corridors impart a stronger utilitarian character on the hinterland landscape than surrounds them.

A modest degree of scenic quality exists in the wider study area and generally relates to the inter drumlin loughs and the most elevated drumlin spines situated in the southern and eastern periphery of the study area. A reasonable degree of recreational and scenic amenity also prevails in the western half of the study area in the surrounds of the lake rich drumlin zone of Upper Lough Erne. Notable landscape features such as Crom Estate and Castle Saunderson Demesne are located along the banks of major waterbodies here in conjunction with other recreation and heritage features in this general area.

For the reasons outlined above, the wider study area is generally considered to be of **Medium-low** landscape sensitivity, but with occasional landscape features and areas of higher sensitivity. In light of the Medium and Medium-low sensitivity ratings for the central and wider study areas respectively, an overall sensitivity rating of **Medium** is appropriate.

9.4.1.2 Magnitude of Landscape Impacts

The physical landscape, as well as the character of the proposed site and its

immediate surrounds, is affected by the proposed wind turbines as well as ancillary development such as access tracks, areas of hardstanding and site entrances. By contrast, for the wider landscape of the study area, landscape impacts relate almost exclusively to the influence of the proposed turbines on landscape character.

It is considered that the proposed development will have a relatively minor physical impact on the landscape within the site as none of the proposed development features have a significant 'footprint'. The topography and land cover of the proposed development site will remain largely unaltered with construction being limited to access tracks, areas of hardstanding, temporary site construction compounds and underground cabling. A new 101m meteorological mast comprising of a slender lattice structure is also proposed to be constructed on site. Excavations will tie into existing ground levels and will be the minimum required for efficient working. Any temporary excavations or stockpiles of material will be re-graded to marry into existing site levels and reseeded appropriately.

The finalised internal road layout has been designed to avoid environmental constraints, and every effort has been made to minimise the length of necessary roadway. Furthermore, the road layout has been designed to follow the natural contours of the land wherever possible. All internal site cabling will be underground and will follow site access tracks without the need to trench through open ground. Indeed, the land cover of the site will only be interrupted as necessary to build the structures of the proposed wind farm and to provide access. Impacts from land disturbance and vegetation loss at the site are considered to be relatively minor in the context of this modified and managed landscape setting.

As part of the assessment of project alternatives, it was concluded that 3 no. grid connection and substation options could be constructed to connect the proposed wind farm to the national grid. An appraisal of these options is provided below.

a) Option G1: 38kV On-site Substation (switchroom and compound) and Electricity Line to existing Clones 38kV substation.

This substation is proposed to be located in the townland of Crossbane and would contain connection points and associated equipment. The substation would be enclosed by a steel palisade fence up to 2.95m in height and would be screened with additional landscaping such as a native hedgerow, to reduce the visual impact. The substation would extend to an area of c. 1058m2 and would comprise of a single storey building finished in sand and cement render and a slate roof covering. The substation would also require the installation of a short section of underground cabling to connect the substation to the wind farm cabling network. The connection from the substation to the existing Clones substation (distance of c. 5km) will comprise a predominantly overhead line (OHL) with short sections of underground line (UGL) at either end. The overhead line infrastructure would comprise a simple 'pole and wire' arrangement with 3 no. electrical lines suspended from wooden poles.

b) Option G2: 38kV On-site Substation (switchroom and compound) and Electricity Line to existing Shankill 110kV substation.

This substation is proposed to be located in the townland of Lislongfield and would be an identical design and scale as that outlined above. The nature of the electricity line would be similar to that described above, requiring similar structures and would extent to a distance of c. 16km.

c) Option G3: 110kV 'Loop In-Loop Out' Substation

The construction of the proposed 110kV substation would be situated in the townlands of Cornawall and Drumanan and would be connected to the wind farm network via underground cabling located within the carriageway of the L62013. The substation would comprise of 1 no. switchroom, 1 no. control building and compound and would extent to an area of c. 14,100m2. The switchroom building would be c. 90m^2 with an overall height of up to 5m; while the control building would extend to c. 375m^2 with an overall height of up to 5m. The switchroom and control buildings would be constructed of blockwork and finished in a sand and cement render, blue/black slate roof covering and galvanised steel doors. The proposed substation will be connected to the existing 110kV line situated c. 1km south of T7 and will be connect by a 110kV underground line located in the carriageway of the L62013 and across private lands to the existing 110kV overhead line. This connection will be facilitated by 2 no. strain towers of up to 16m in height.

It is assessed that none of these grid connection options have the potential to result in significant landscape impacts as the physical infrastructure is modest in scale and will not result in major excavation losses of prevailing land cover. The 38kV substation and overhead lines relating to Option G1 and Option G2 will be small scale and typical of electrical infrastructure found through the rural area of Ireland resulting in barely discernible effects on landscape character. Where the respective OHLs may be visible, this visibility will be limited to short distances due to the topography of the landscape and the presence of mature vegetation. Indeed, it is likely that visibility will, at most locations, be limited to 200-300m. Where views are provided in excess of this, the OHL will be absorbed by the landscape and is unlikely to be discernible to the common viewer. The 110kV substation and strain towers associated with Option G3 are more substantial pieces of electrical infrastructure that are more likely to be noticed and is therefore likely to result in a greater influence on landscape character than Options G1 and G2. However, by way of balance, electrical cabling associated with Option G3 primarily consists of UGL while the substation is located in a relatively discrete setting enclosed by the local drumlin landscape thus ensuring that extensive views towards the substation are limited.

For most commercial wind energy developments, the greatest potential for landscape impacts to occur is as a result of the change in character of the immediate area due to the introduction of tall structures with moving components. Thus, wind turbines that may not have been a characteristic feature of the area become a new defining element of that landscape character. In this instance, wind turbines are a characteristic feature of the wider landscape, most notably in the southern and south-eastern extents of the study area. Carrickallen Wind Farm and Mountain Lodge/Bindoo Wind Farms are both situated just over 12.5km south of the proposed development site and comprise of a combined total of 65 no. turbines. Mullananalt Wind Farm includes 5 no. turbines and is situated at the outer south-eastern periphery of the study area just over 17km from the proposed development site. Old Mill Wind farm is situated further east of Mullananalt Wind Farm and is just outside of the 20km study radius. The effect, therefore, is one of intensification of an established land use type in this wider landscape and not the introduction of a new and unfamiliar feature.

In terms of scale and function, the proposed wind farm is well assimilated within the context of the central study area which comprises broad, low, rolling drumlin hills and ridges. Whilst the central study area is primarily rural in character it also encompasses a number of large farmsteads and small industrial facilities, especially on the outskirts of the nearby settlements of Newbliss and Clones. Although the proposed development represents a stronger human presence and level of built

development than currently exists on the site, it will be consistent with the productive rural character of the central study area, which wind turbines in the wider study area already contribute to.

Site activity will be at its greatest during the construction phase due to the operation of machinery on site and movement of heavy vehicles to and from site. This phase will have a more significant impact on the character of the site, but it is a temporary impact that will cease as soon as the proposed wind farm is constructed and becomes operational.

It is important to note that in terms of duration, this development proposal represents a long term, but not permanent impact on the landscape and is reversible. The lifespan of the project is 30 years, after which time it is likely to be dismantled and the landscape reinstated to prevailing conditions. Notwithstanding electricity grid network infrastructure that is likely to remain in perpetuity, within 2-3 years of decommissioning there would be little evidence that a wind farm ever existed on the site.

The decommissioning phase will have similar temporary impacts as the construction phase with the movement of large turbine components away from the proposed site. There may be a minor loss of roadside and trackside vegetation that has grown during the operation phase of the development, but this can be reinstated upon completion of decommissioning. Areas of hard standing and access tracks that are of no further use will be reinstated and reseeded to blend with the prevailing surrounding land cover of the time.

In summary, there will be physical impacts on the land cover of the site as a result of the construction, operation and decommissioning of the proposed development, but these will be relatively minor in the context of this productive rolling drumlin rural landscape. This scale of development can be comfortably assimilated into this broad rolling landscape context without undue conflicts of scale with underlying land form and land use patterns. Additionally, wind energy developments along ridgelines and rolling drumlin hills are already a familiar landscape feature within the wider study area. For these reasons, the magnitude of the landscape impact is deemed to be **Medium** in the central study area, reducing to **Low** and **Negligible** at increasing distances beyond this threshold.

9.4.1.3 Significance of Potential Landscape Impacts

The significance of landscape impacts is a function of landscape sensitivity weighed against the magnitude of landscape impact. This is derived from the significance matrix (**Table 9.3**) used in combination with professional judgement. Based on a Medium sensitivity judgement and a Medium magnitude of landscape impact, the significance of impact is considered to be **Moderate** within the central study area. Thereafter, significance will reduce to Slight and Imperceptible at increasing distances as the development becomes a progressively smaller component of the wider landscape fabric even in the context of higher sensitivity landscape units/features.

9.4.2 Visual Impacts

9.4.2.1 Visual Receptor Sensitivity

Unlike landscape sensitivity, visual sensitivity has an anthropocentric basis. Visual sensitivity is a two-sided analysis of receptor susceptibility (people or groups of people) versus the value of the view on offer at a particular location.

To assess the susceptibility of viewers and the amenity value of views, the assessor uses a range of criteria and provides a four point weighting scale to indicate how

strongly the viewer/view is associated with each of the criterion identified in **Section 9.2.3.2** above.

Strong association	Moderate association	Mild association	Negligible association

Table 9.1: Analysis of Visual Receptor Sensitivity at Viewshed Reference Points

Values associated with the view	VP1	VP2	VP3	VP4	VP5	VP6	VP7	VP8	VP9	VP10	VP11	VP12	VP13	VP14	VP15	VP16	VP17	VP18
Susceptibility of viewers to changes in views																		
Recognised scenic value of the view																		
Views from within highly sensitive landscape areas																		
Primary views from residences																		
Intensity of use, popularity (number of viewers)																		
Viewer connection with the landscape																		
Provision of vast, elevated panoramic views																		
Sense of remoteness / tranquillity at the viewing																		
Degree of perceived naturalness																		
Presence of striking or noteworthy features																		
Sense of Historical, cultural and / or spiritual																		
Rarity or uniqueness of the view																		
Integrity of the landscape character within the view																		
Sense of place at the viewing location																		
Sense of awe																		

Overall sensitivity assessment	**M**	**ML**	**M**	**M**	**M**	**H M**	**ML**	**M**	**ML**	**ML**	**M**	**HM**	**ML**	**ML**	**ML**	**ML**	**ML**	**M**

Table 9.2: Analysis of Visual Receptor Sensitivity

N = Negligible; L = low sensitivity; ML = medium-low sensitivity M = medium sensitivity; HM = High-medium sensitivity; H = high sensitivity; VH = very high sensitivity

Values associated with the view	**VP19**	**VP20**	**VP21**	**VP22**	**VP23**	**VP24**	**VP25**	**VP26**	**VP27**	**VP28**	**VP29**	**VP30**
Susceptibility of viewers to changes in views												
Recognised scenic value of the view												
Views from within highly sensitive landscape areas												
Primary views from residences												
Intensity of use, popularity (number of viewers)												
Viewer connection with the landscape												
Provision of vast, elevated panoramic views												
Sense of remoteness / tranquillity at the viewing location												
Degree of perceived naturalness												
Presence of striking or noteworthy features												
Sense of Historical, cultural and / or spiritual significance												
Rarity or uniqueness of the view												
Integrity of the landscape character within the view												
Sense of place at the viewing location												
Sense of awe												
Overall sensitivity assessment	**L**	**M**	**HM**	**M**	**L**	**M**	**H**	**M**	**M**	**H**	**M**	**M**

Table 9.3: Analysis of Visual Receptor Sensitivity

N = Negligible; L = low sensitivity; ML = medium-low sensitivity M = medium sensitivity; HM = High-medium sensitivity; H = high sensitivity; VH = very high sensitivity

9.4.2.2 Magnitude of Visual Impacts at Viewshed Reference Points

Viewshed Reference Point		Direction of View	Distance to proposal:
VP1	U1957 Mount Darby Road north of Lough-a-Hache	SE	13.17km (T1)

Representative of:	Amenity feature
Receptor Sensitivity	**Medium**
Existing View	This is a pleasant view of rolling drumlin hills and ridges interspersed with dense mature tree lined hedgerows. In the foreground the terrain descends away from the viewer towards an area of low-lying terrain that encompasses a small local waterbody known as Lough-a-Hache. Beyond the small lake, the terrain continues to roll in a typical drumlin manner and presents something of traditional pastoral aesthetic, albeit with a lesser sense of enclosure. The view is contained in the middle distance by several vegetated ridge lines.
Visual Impact of the proposed development	Six of the proposed turbines will be visible at a modest scale from this distance with a relatively low degree of contrast against the sky. The proposed turbines occupy a relatively small extent of the broad vegetated horizon line in this view. They are likely to be noticed from here, but with a sub-dominant to minimal visual presence. Aesthetically, there is some visual clutter generated by small degree of turbine overlap and turbine blade sets rotating against the vegetated horizon line. Aside from these small instances of turbine overlap, this is a relatively unambiguous view of the proposed development which benefits from even spacing characteristics. It is not considered that from this distance the proposed development will noticeably detract from the visual amenity of this scene and on balance of the factors outlined above, the magnitude of visual impact is considered to be **Low-negligible.**
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.

	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium	Low-negligible	**Slight-Imperceptible**

Viewshed Reference Point		Direction of View	Distance to proposal:
VP2	N54 northwest of Magherarny cross roads	SW	9.60km (T1)

Representative of:	Major route
Receptor Sensitivity	**Medium-low**

Existing View	This is a locally elevated and relatively open view from the N54 northwest of Magherarny cross roads. The view extends beyond a timber post and rail fence in the foreground towards several agricultural fields and two residential dwellings situated on the lower slopes of a nearby drumlin hill. Two sets of overhead cables cut across the nearby pastoral fields to the right and left of view. The view is partially contained a short distance beyond the road corridor by the combination of the distinctive rolling drumlin hill to the right of frame and a dense mature tree line / woodland that borders the opposite side of the foreground fields. Distant glimpses of vegetated drumlin hills in the background can also be discerned just above the dense tree lines that substantially contain the view.		
Visual Impact of the proposed development	One of the proposed turbines (T1) will be almost fully revealed from here while the blade tips of three other turbines will be partially visible in this open vista. Turbine T1 is seen in a small gap in the fore and middle ground vegetation and is viewed against a backdrop of sky with a low degree of contrast. The partial view of the proposed development has a relatively small visual envelope in this broad vista and as a result the visual presence of the development here is deemed to be sub dominant to minimal. Aesthetically, it is not an ideal scenario to have blade sets of turbines rotating against tree tops as they can contribute to a degree of visual irritation, however, this is slightly offset by the clearer view of turbine T1. Neither the scale or function of the proposed turbines will be out of place in this anthropogenic scene which also includes a telecommunications mast and several overhead cables and, consequently, the magnitude of visual impact is considered to be **Low-negligible**.		
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium-low	Low-negligible	**Slight-Imperceptible**

Viewshed Reference Point		Direction of View	Distance to proposal:
VP3	High Cross, Clones	SE	5.82km (T1)

Representative of:	Heritage feature Centre of population		
Receptor Sensitivity	**Medium**		
Existing View	This is a highly contained view from the centre of Clones town adjacent to the Celtic High Cross. The foreground comprises of a busy urban scene that is partially softened by several trees interspersed throughout the town's central plaza. The view is truncated in the near distance by a series of heritage terraced buildings that enclose the town centre.		
Visual Impact of the proposed development	The proposed wind farm will not be visible from here due to screening from the urban fabric of Clones Town. For these reasons, the magnitude of visual impact is deemed to be **Negligible.**		
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium	Negligible	**Imperceptible**

Viewshed Reference Point		Direction of View	Distance to proposal:
VP4	Abbey Church, Clones	SE	5.63km (T1)

Representative of:	Heritage feature Centre of population		
Receptor Sensitivity	**Medium**		
Existing View	This is a heavily contained view from the grounds of Abbey Church in Clones town. The view is contained in the near distance beyond the viewpoint by a combination of two storey buildings and a clump of mature vegetation. A smaller residential dwelling and large industrial building beyond can also be seen where a small gap occurs between the nearby building and dense vegetation.		
Visual Impact of the proposed development	The proposed wind farm will not be visible from here due to screening from nearby buildings and mature vegetation. For these reasons, the magnitude of visual impact is deemed to be **Negligible.**		
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium	Negligible	**Imperceptible**

Viewshed Reference Point		Direction of View	Distance to proposal:
VP5	Clones round tower	SE	5.68km (T1)

Representative of:	Heritage feature Centre of population		
Receptor Sensitivity	**Medium**		
Existing View	This is a contained view from the grounds of Clones round tower and graveyard. The foreground takes in the context of the graveyard which encompasses uneven ground carpeted in moss covered headstones and patches of mature dense vegetation. Immediately beyond the graveyard context is a row of terraced houses, which contains this aspect of the view. To the right of frame, the view is contained at a short distance by a mature thicket in the foreground.		
Visual Impact of the proposed development	The proposed wind farm will not be visible from here due to screening from nearby buildings and mature vegetation. For these reasons, the magnitude of visual impact is deemed to be **Negligible.**		

Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium	Negligible	**Imperceptible**

Viewshed Reference Point			**Direction of View**	**Distance to proposal:**
VP6	Crom Estate		SE	16.60km (T3)
Representative of:	Amenity and Heritage feature			
Receptor Sensitivity	**High-medium**			
Existing View	This is a pleasant and tranquil vista from the grounds of Crom Estate on banks of Upper Lough Erne. In the foreground the view is framed by two large patches of mature riparian vegetation and a marshy area that denotes the waters' edge. A small jetty lined with two boats projects out into the waterbody in the foreground of the view. Beyond this, the middle ground encompasses a mix of meandering channels of water bordered by large swathes of marshy vegetation. These considerable areas of marsh also contain intermittent patches of mature riparian vegetation and are backed by dense mature broadleaved woodland which truncates much of this view in the middle distance. Partial glimpses of broad low rolling hills heavily screened by mature vegetation are also afforded in the background of the view.			
Visual Impact of the proposed development	The blade sets of several of the proposed turbines are visible from here rotating against the distant vegetated skyline and will be perceived at very small scale due to the considerable viewing distance involved. The turbines blade sets will present against the backdrop of the sky with a low degree of contrast and whilst in the context of this tranquil view the proposed turbines will increase the intensity of development, the proposed scheme is likely to have a minimal visual presence. Whilst turbine blade sets rotating along a vegetated skyline can cause a sense of visual clutter and ambiguity, given the viewing distance and low degree of contrast, such effects are strongly diluted, if the turbines are noticed at all. For this reason, the magnitude of visual impact is deemed to be **Low-negligible.**			
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.			
	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**	
	High-medium	Low-negligible	**Slight**	

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP7	R189 at Newbliss	SW	3.16km
Representative of:	Major route Centre of population Local community views		

Receptor Sensitivity	**Medium low**
Existing View	This is a brief and relatively contained view from the main street of the settlement of Newbliss northeast of the proposed development site. In the foreground the view takes in the broad sloping main street that is lined on both sides by a number of two and three storey terraced buildings. Beyond the context of the main street a rolling drumlin hill projects above urban fabric of the middle ground and contains intermittent patches of mature vegetation, which in combination with the rolling drumlin hill, contains this view at a modest distance.
Visual Impact of the proposed development	The blade sets of four of the proposed turbines will be seen here rotating against the drumlin hill and tree top vegetation with a low degree of contrast against the backdrop of the sky. Whilst only partial visibility will be afforded of the proposed turbines, they will be a noticeable, but modest scale background feature of this view, and therefore the visual presence of the scheme is deemed to be in the order of co-dominant to sub-dominant. Aesthetically the view of turbine blade sets rotating against the ridge and above tree tops is not ideal as it can cause a sense of ambiguity and visual clutter. Furthermore, a small degree of overlap will occur between the closely aligned blade sets of turbines T2, T3 and T5, which will also slightly increase the sense of visual clutter. However, the proposed turbines do not appear incongruous in this anthropogenic rural hinterland scene and will be competing for attention within the context of a busy and dynamic foreground street scene. On balance of the reasons outlined above, the magnitude of visual impact is considered to be **Medium-Low**
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.

	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium-low	Medium-Low	**Moderate-slight**

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP8	Local road west of Dorothy's Cross Roads (Ringfort)	SE	2.47km (T3)
Representative of:	Local community views Heritage feature		
Receptor Sensitivity	**Medium**		
Existing View	This is a locally elevated and pleasant countryside view from a local road immediately south of an identified ringfort. The view presents a strong pastoral aesthetic of rolling drumlin hills punctuated by dense mature tree lined hedgerows. To the left of frame the view is partially contained by a mature hedgerow in the foreground that runs perpendicular to the local road. A residential dwelling and farmstead can also be discerned where gaps in the foreground hedgerow occur. The remaining sections of the vista are contained in the middle distance by the rolling terrain and ridgetop vegetation.		

Visual Impact of the proposed development	All of the proposed turbines will be visible from here ranging from partial views of blade sets to full turbines standing in silhouette against the sky. The turbines will be a prominent, but not spatially dominant feature of this view and will be seen with a low degree of contrast against the backdrop of the sky. In terms of this broad vista, the proposed development is deemed to have a co-dominant visual presence. The proposed turbines appear in three clusters within this view at a similar scale and with a notable degree of overlap in each cluster. Whilst the nacelles of the majority of the turbines are visible above the ridge line and tree tops, the degree of overlap is likely to cause a minor sense of ambiguity and visual irritation to the viewer. The turbines will represent a notable increase in the intensity of development in the view, which is otherwise characterised by a generally low degree of development. Nonetheless, it is not considered that the proposed development appears out of place in this working rural vista comprising of farmed hills. For the reasons outlined above, the magnitude of visual impact is deemed to be **Medium.**
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.

	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium	Medium	**Moderate**

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP9	L2220 local road west of Radeerpark Lough	S	1.26km (T1)
Representative of:	Local community views		
Receptor Sensitivity	**Medium-low**		
Existing View	This is a relatively contained view from a local road west of a lough known locally as Radeerpark Lough. The terrain descends away from the viewpoint in the foreground where its lower sections are covered in dense mature riparian vegetation that screens the nearby lough from view. Beyond this, the terrain begins to ascend again and encompasses several pastoral fields situated along rolling drumlin hills that contain this view in the near middle distance. To the right of frame much of the view is contained at close quarters by dense foreground hedgerows that traverse the adjacent drumlin hill.		
Visual Impact of the proposed development	The blade sets of four of the proposed turbines are almost fully revealed from here with partial views of the blades of two other turbines also afforded. All of these turbines will be visible against the backdrop of the sky with a relatively low degree of contrast. The turbines will be seen at a prominent scale from this short distance although they will not be spatially overbearing. The nearby moving turbines will draw the attention of viewer and consequently the development will have a dominant to co-dominant visual presence. While it is not an ideal aesthetic to have partial blade sets rotating in silhouette above ridge-top vegetation, this is offset by the clearer and more legible view of the three nearest turbines T2, T5 and T6. Although there is a degree of turbine overlap between T1 and T6, the proposed scheme benefits from relatively even spacing characteristic for the remaining visible turbines. There is also a clear scale distinction		

	between the nearest and furthest turbines, which highlights the depth and dispersion of the overall turbine layout. Overall, this is a relatively clear and comprehensible view of the proposed scheme within a broad and productive rural landscape context where it does not appear over-scaled or thematically out-of-place. On balance of the factors associated with visual presence and visual amenity described above, the magnitude of visual impact is deemed to be **Medium**.
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.

	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium-low	Medium	**Moderate**

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP10	Local road at Crossreagh	S	0.80km
Representative of:	Local community views		
Receptor Sensitivity	**Medium-low**		
Existing View	This is a locally elevated view across broad rolling drumlin hills which present something of a pastoral aesthetic. The foreground comprises of a patchwork of rolling agricultural farmland bound by mature tree lined hedgerows. A partially screened residential dwelling is situated just beyond a bank of mature coniferous trees in the lower foreground, beyond which, a conifer forest carpets the adjacent hill. The view is channelled through an area of lowland terrain in the centre of the view that is blanketed in dense mature vegetation and screens much of the middle ground landscape beyond. In the background a spine of more elevated hills and ridges projects above the nearer and lower drumlin context and hosts several large existing wind farm developments situated along the skyline ridge.		
Visual Impact of the proposed development	Nearly all of the proposed turbines will be clearly visible from here in the near middle ground standing tall in silhouette against the sky. The proposed turbines will be seen at a prominent scale and will occupy a sizable lateral extent of the afforded view. However, the turbines will not appear overbearing in this vista across broad scale land form and land use patterns. However, the turbines will be the most distinctive feature of the view afforded to the south and consequently the visual presence of the proposed scheme is deemed to be dominant. This is a clear and legible view of the proposed wind farm that benefits from relatively loose spacing characteristics allowing for visual permeability through the proposed scheme. There is also a noticeable sense of scale variation between the turbines here which provides a strong sense of perspective and highlights the dispersion of the proposed turbine layout. The proposed turbines will noticeably increase the intensity of built development in this view, which already affords views of distant turbines and a nearby anemometer mast. There will also be a number of instances of turbine overlap here which will generate a minor degree of visual clutter in this otherwise clear view of the proposed wind farm development. Furthermore, the development does not appear out of place in this anthropogenic rural		

	scene that is already partially characterised by wind energy developments in the far distance. Overall, the magnitude of visual impact is judged to be **High-medium.**		
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium-low	High-medium	**Moderate**

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP11	R189 at Aghareagh	W	1.65km (T7)
Representative of:	Major route Local community views		
Receptor Sensitivity	**Medium**		
Existing View	This is a short distance view from the verge of the R189 regional road in the townland of Aghareagh. The view is directed along a private laneway in the foreground which is bordered on both sides by sloping agricultural fields. A residential dwelling surrounded by a collection of farm sheds and outbuildings is situated in the central middle ground of the view. The combination of foreground and middle ground mature treelines and hedgerows contain much of this view in the middle distance as they traverse the rolling hillside.		
Visual Impact of the proposed development	All eight of the proposed turbines will be visible from here ranging from partial views of blade sets to clear views of near full turbines rising in silhouette against the sky. Turbine T7 appears at a slightly larger scale than the remaining turbines due to its relative proximity to the viewpoint. A minor conflict of scale occurs here between turbine T7 and the residential dwelling in the middle ground, as both are in direct alignment with each other from this viewing location. T7 and the remaining turbines do not appear spatially overbearing in the context of the overall view, but the proposed scheme will be a prominent feature of this vista. Whilst the proposed wind farm has a reasonable visual envelope, the lateral extent of the scheme is relatively consolidated and the profile generally mimics the underlying terrain. For these reasons scheme is considered to have a dominant visual presence from here. The scheme is presented in a clear and comprehensible manner from here with the majority of the turbines standing in silhouette against the sky with only a minor degree of turbine overlap. The clear and even spacing of the proposed turbines creates a sense of rhythm and helps to offset any ambiguity generated from the minor degree of turbine overlap. Nonetheless, while the proposal does not appear incongruous in this rural landscape setting, the introduction of sizeable wind turbines will noticeably increase the intensity of built development in this rural scene. On the basis of all of these reasons, the magnitude of visual impact is considered to be **Medium.**		

Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium	Medium	**Moderate**

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP12	Castle Saunderson Estate	E	11.31km
Representative of:	Amenity and heritage feature		
Receptor Sensitivity	**High-medium**		
Existing View	This is a contained view from the front lawn of Castle Saunderson west of the River Finn. The easterly view is truncated at a short distance by a band of mature vegetation that denotes the eastern boundary of Castle Saunderson demesne and its border with the River Finn.		
Visual Impact of the proposed development	Three of the proposed turbines (T1, T2 and T5) will be partially visible through and above a gap in the dense mature vegetation that occurs along the eastern boundary of the estate. The visible turbines are seen against the backdrop of the sky with a low degree of contrast and present at a small scale from this distance. It is unlikely that the casual observer will notice the proposed turbines in the context of this southerly oriented vista along the lawns of the estate and also because they occupy only a very minor portion of the view. For this reason, the visual presence of the development is considered to be minimal. Although the partial view of turbine blade sets just above tree tops and skyline ridges has little aesthetic merit, these effects are heavily diluted due to the viewing distances and degree of screening involved. It is not considered that the proposed turbines will have a material effect on the visual amenity of this vista and therefore the visual impact is considered to be **Low-negligible**.		
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	High-medium	Low-negligible	**Slight-imperceptible**

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP13	Local road at Drumcrow	E	0.31km
Representative of:	Local community view		
Receptor Sensitivity	**Medium-low**		

Existing View	This is a fleeting view from a gateway in a roadside hedgerow in the townland of Drumcrow. The brief, but tranquil view is channelled through the gateway and extends across an adjacent pastoral field which is bound shortly after by a mature tree lined hedgerow. Filtered views are afforded through gaps in the middle ground hedgerow of the neighbouring pastoral fields situated on a neighbouring drumlin hill.
Visual Impact of the proposed development	This is a up-close view of the development where a number of the proposed turbines are prominently visible rising in silhouette against the sky in the near middle ground. Due to the close proximity of the proposed development (nearest visible turbine T3 situated 0.31km from the viewpoint) the nearest turbines are viewed here at a considerable scale and will be the most distinctive feature of this typical rural vista and T3 will generate a slight sense of overbearing. Consequently the visual presence of the scheme is considered to be dominant. *It should be noted that this roadside view is approximately half of the distance to nearest turbines that any of the neighbouring dwellings could be on the basis of the setback distances being applied. Even though the hub and upper blade set is not depicted in the panoramic photomontage, the full height of this turbine is accounted for in the assessment*. Even with the close viewing distances involved here, this is a clear and comprehensible view of the proposed development where relatively uncomplicated views of the turbines are afforded. The loose arrangement of the turbines allows for visual permeability through the scheme and therefore there is very little sense of visual obstruction generated. There is also a strong sense of perspective created here due to the scale differential between the nearest and most distant proposed turbines. Although the development has a considerable lateral extent, there will only be a couple of minor instances of turbine overlap and blade sets rotating against foreground vegetation in what is otherwise a legible view of the proposed development. Whilst the introduction of 8 no. turbines will noticeably increase the intensity of development in this productive rural landscape setting, the proposed turbines are considered to be well assimilated into this productive rural landscape in a thematic sense. On balance of the factors associated with visual presence and visual amenity described above, the magnitude of visual impacted is deemed to be **High**.
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.

	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium-low	High	**Substantial-moderate**

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP14	Local road at Drumacreeve	W	0.47km (T7)
Representative of:	Local community views		
Receptor Sensitivity	**Medium-low**		

Existing View	This is a pleasantly enclosed view across a patchwork of rolling fields from a local road in the townland of Drumacreeve. The locally elevated view extends across a collection of fields in rough grazing and improved pasture defined by mature tree lined hedgerows, which string along the sloping hillsides of the nearby drumlin hills. The view is contained by several vegetated ridgelines. An anemometer mast occurs just to the left of the summit of the drumlin hill in the centre of the view.		
Visual Impact of the proposed development	Almost all of the turbines will be revealed in this view at varying scales and will stand tall in silhouette against the backdrop of the sky. The nearer of the turbines will be seen to rotate clearly above the vegetated ridgelines whilst the blades sets of the more distant turbines will partially rotate against the distant tree tops. The proposed development has both a broad lateral and tall vertical extent in this view and will be the most distinctive feature in the landscape from this viewing location. Whilst the nearest of the proposed turbines (T7) will present at a considerable scale from this near distance, the development benefits from a relatively loose arrangement which allows for visual permeability through the scheme and reduces the sense of obstruction or enclosure. On balance of the reasons outlined above, the visual presence of the scheme is deemed to be dominant. Aesthetically, the turbines benefit from good spacing characteristics and present in a clear and legible manner. A very minor amount of visual clutter may be generated from the slight overlapping of turbines T1 and T5; however this is heavily offset by the clearer views of the remaining turbines. A strong sense of perspective is generated through the difference in scale of the turbines from nearest to furthest, which highlights the depth and dispersion of the proposed scheme. Whilst the proposed development will generate a marked increase of the intensity of built development in this view, the proposed turbines will not appear incongruous in this working rural landscape. On balance of the reasons outlined above, the magnitude of visual impact is deemed to be **High-medium**		
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium-low	High-medium	**Moderate**

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP15	Local road at Lurganboy	NE	0.90km (T3)
Representative of:	Local community views		
Receptor Sensitivity	**Medium-low**		

Existing View	This is a broad picturesque view across a rolling patchwork of pastoral farmland from a local road in the townland of Lurganboy. The foreground takes in a sloping pastoral field interspersed with patches of scrubby vegetation and backed by a large immature conifer forest plantation. A group of large farm buildings occurs just beyond the conifer plantation in the left middle ground. Several residential dwellings and a large farm shed also occur in the foreground to the right of frame. Beyond the fore-to-middle ground context, the combination of rolling drumlin hills topped with mature tree lined hedgerows contains this view at a modest distance.
Visual Impact of the proposed development	All of the proposed turbines will be fully visible from here rotating above the vegetated drumlin hills below. The proposed development will be seen against a backdrop of the sky and presents with a considerable lateral and vertical extent. The nearest two turbines (T3 and T4) are viewed here at a larger scale than the remaining turbines due to their closer proximity. A minor sense of dwarfing occurs in relation to the underlying dwellings and farm sheds however, in general there is very little sense of overbearing in respect of this viewing location and there are large gaps in the turbine arrangement, which allows for visual permeability through the proposed development. Nevertheless, the turbines will be viewed at a prominent scale from this local road and will be the most distinctive landscape feature. Consequently the visual presence of the proposed EIA development is deemed to be dominant. There is a notable degree of turbine overlap in this view which can contribute to a sense of visual clutter and ambiguity; however this is partially offset by the clearer views of the remaining turbines. Turbines T2, T3 and T5 are seen here in one cluster, whilst the remaining turbines benefit from relatively even spacing characteristics. Furthermore, the scale differential between T2, T3 and T5 due to relative viewing distance provides some legibility to the layout and a clearer understanding of their actual separation. Otherwise, this is a fairly simple view of blade sets rotating freely above the skyline. The proposed turbines will represent a marked increase in the intensity of built development of this scene; however, they are not out of place in this anthropogenic rural scene that already encompasses broad landscape patterns associated with farmed slopes and large conifer plantations. Overall, the magnitude of visual impact is judged to be **High-medium**.
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.

	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium-low	High-medium	**Moderate**

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP16	Local road northwest of Corragarry cross roads	N	1.09km (T8)
Representative of:	Local community views		
Receptor Sensitivity	**Medium-low**		

Existing View	This is a relatively contained vista from a local road in the townland of Killynenagh northwest of Corragarry cross roads. The view is partially truncated in the near distance by a dense hedgerow beyond a grassy verge. A near hillside projects just above the dense foreground hedgerow and encompasses a number of sloping pastoral fields bound by dense tree lined hedgerows. A collection of farm sheds is also located at the base of a nearby drumlin hill to the right of frame. The combination of the near ridge line and mature tree lined hedgerows contain this view at a modest distance.		
Visual Impact of the proposed development	Seven of the proposed turbines are revealed here ranging from near full blade sets rising in silhouette against the sky, to partial views of turbine blades rotating just above the vegetated skyline. All of the turbines will be viewed with a low degree of contrast against the backdrop of the sky and the proposed development will present with a modest lateral extent. The turbines have a relatively loose spacing from here and will not be spatially overbearing although a very minor sense of scale conflict is generated by turbine T7 which is located directly above a collection of farm sheds and in the middle ground of the view. Thus the visual presence of the proposed development is deemed to be in the order of dominant to co-dominant. Aesthetically the partial view of turbine blade sets rotating against a vegetated skyline ridge and the minor degree of turbine overlap can generate a sense of visual clutter and ambiguity. However this is slightly diminished by the clearer views of turbines T4, T7 and T8. Nonetheless, the proposed turbines will represent an intensification of built development in this view; however, it is not considered that the turbines will appear out of place in the rural working landscape setting. For the reasons outlined above, the magnitude of visual impact is deemed to be **High-medium**.		
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium-low	High-medium	**Moderate**

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP17	Local road northwest of Rockcorry	W	8.54km (T8)
Representative of:	Centre of population		
Receptor Sensitivity	**Medium-low**		
Existing View	This is a relatively channelled view from the L2380 local road extending from the settlement of Rockcorry in a north-westerly direction. The view extends across the local road which is bound on both sides by a dense grassy verge and partially screens the neighbouring agricultural fields beyond. In the middle ground several agricultural fields are contained on the sloping hillsides of a nearby rolling drumlin hill, which in combination with the dense tree lined hedgerows, contains this view in the middle distance.		

Visual Impact of the proposed development	The uppermost section of the blade set of turbine T1 will be visible from here rotating just above / within the vegetated skyline with a low degree of contrast against the backdrop of the sky. In the context of this brief and distant glimpse of a blade set within middle distance tree tops, the proposed scheme will likely go unnoticed by the casual observer and will have a minimal visual presence and, therefore, a **negligible** effect on the visual amenity of this scene.		
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium-low	Negligible	**Imperceptible**

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP18	R180 south of Ballybay	W	16.70km (T7)
Representative of:	Major route Centre of population		
Receptor Sensitivity	**Medium**		
Existing View	This is a filtered view from the entrance of a residential development on the R180 regional road on the southern outskirts of Ballybay. Much of the view is truncated in the near distance by the dense road side vegetation on the western side of the R180 carriageway. Filtered glimpses of the landscape beyond are afforded where gaps in the roadside vegetation occurs and includes a brief view of a rolling farmland and a partial view of an area of marsh encircling a local lough. The view is contained in the background by stacked tree-lined hedgerows on the hillsides.		
Visual Impact of the proposed development	The proposed wind farm will not be visible from here due to screening along the adjacent R180 regional road corridor. However, it is important to note that brief glimpses of the proposed development may be afforded through gaps in the foreground vegetation as cars travel along the regional road although from this distance the proposed development is unlikely to have a marked impact on the visual amenity of this scene. For these reasons, the magnitude of visual impact is deemed to be **Negligible.**		
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium	Negligible	**Imperceptible**

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP19	N54 north of Gannon's Cross	E	12.13km (T3)
Representative of:	Major Route		

Receptor Sensitivity	**Low**
Existing View	This is a brief view from a gap in a roadside hedgerow situated along the N54 national secondary road north of Gannon's Cross. The view extends across a small agricultural field in the foreground and is contained on the opposite side by a mature tree lined hedgerow. Filtered glimpses of the neighbouring fields and landscape beyond are afforded where gaps in the dense hedgerow occur.
Visual Impact of the proposed development	The blade sets of two of the proposed turbines will be partially and intermittently visible from here through a gap in the nearby hedgerow. The blade sets will be seen rotating above the vegetated skyline with a low degree of contrast against the backdrop of the sky. In the context of this brief filtered view, the proposed turbines will be barely noticeable to passers-by and will have very little consequence for the visual amenity of this view. For these reasons, the magnitude of visual impact is deemed to be **negligible**.
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.

	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Low	Negligible	**Imperceptible**

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP20	Local road north of Redhills Demesne	E	8.70km (T3)
Representative of:	Centre of population		
Receptor Sensitivity	**Medium**		
Existing View	This is a heavily contained view from a locally elevated point on a local road on the eastern outskirts of the settlement of Redhills. The local road flanks the northern boundary of Redhills demesne, identified by the stone wall in the foreground to the right of frame. The view extends along the local road for a short distance in the foreground where it is then screened by the adjacent roadside hedgerow. Beyond this foreground context the landscape is cloaked in mature trees which contain this view a short distance beyond the local road corridor.		
Visual Impact of the proposed development	The proposed wind farm will not be visible from here due to the high degree of intervening mature screening in the fore and middle ground of this view. For these reasons, the magnitude of visual impact is deemed to be **Negligible.**		
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		

	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of Visual Impact
	Medium	Negligible	**Imperceptible**

Viewshed Reference Point		Direction of View	Distance to proposal:
VP21	Local road east of Drum Lough	NW	2.80km (T7)
Representative of:	Amenity feature Local community views		
Receptor Sensitivity	**High-medium**		
Existing View	This is a pleasant and tranquil view from a picnic area on the banks of Drum Lough just north of the settlement of Drum. This picturesque picnic spot is situated right on the water's edge and takes in a broad panoramic view of the lake and the landscape beyond. On the far side of the lake the terrain rises up towards a locally elevated drumlin hill which encompasses several mature tree-lined hedgerows and dense block of mature broadleaved woodland. To the right of frame the northern portions of the lake are cloaked in dense riparian vegetation. A number of residential dwellings are also discerned though and above the dense areas of mature vegetation to the right of frame.		
Visual Impact of the proposed development	All but one of the proposed turbines will be visible from here rising above the rolling middle ground ridgelines with a low degree of contrast backed by the sky. The turbines are viewed from here in three clusters between dense areas of hilltop vegetation with turbine 7 appearing as something of an outlier to the other two clusters. The turbines will be a noticeable feature in this otherwise tranquil lake side view however in the context of the mature woodland located on the hill top in the centre of the view, the proposed turbines will not present at an overbearing scale. Nonetheless, the rotating turbines will be a distinctive feature of this view and therefore the visual presence of the scheme is considered to be co-dominant. There is some degree of ambiguity and visual confusion generated by the overlapping of blade sets and blade sets rotating against vegetated ridgelines, and this is especially evident with turbines T3, T4 and T8 which appear in a cluster to the left of frame. However, the clearer and more legible view of the remaining turbines somewhat counterbalances this as they rotate well above the ridgeline below with very little degree of overlap. Within this broad panorama, the proposed scheme is relatively well assimilated in its landscape setting and it is considered that the turbines themselves are well accommodated in terms of their scale and function. The foreground setting of Drum Lough and its riparian surrounds still holds the lion's share of attention with the turbines a noticeable, but not incompatible background feature. For the reasons outlined above, the magnitude of visual impact is deemed to be **Medium**.		
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**

	High-medium	Medium	**Moderate**

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP22	Local road at Drum	NW	2.90km (T7)
Representative of:	Centre of population Local community views		
Receptor Sensitivity	**Medium**		
Existing View	This is a locally elevated view from the western outskirts of the small settlement of Drum. It takes in a broad vista of low rolling drumlin hills carpeted in pastoral fields defined by mature tree line hedgerows. The dense nature of these hedgerows partially screens many of the fields as it becomes stacked in perspective throughout the middle ground of the view. Several rural dwellings are scatted along the hillsides and lower portions of the rolling drumlin hills throughout the view.		
Visual Impact of the proposed development	All of the turbines are revealed from here rotating well above the broad rolling landscape of drumlin hills and ridges below and will be viewed with a low degree of contrast against the background of the sky. The scheme has a relatively broad lateral extent within this view and will span a reasonable section of the skyline. Apart from some instances of turbine overlap the proposed development has a relatively loose arrangement and the turbines will all appear at a similar scale. Consequently, the visual presence of the proposed wind energy development is deemed to be co-dominant. Overlap will occur between turbines T4 and T8 and turbines T6 and T5. Whilst the turbines will rise well above the vegetated skyline below, the degree of overlap is likely to generate a minor sense of visual clutter. Nonetheless, the remaining turbines are all viewed in a clear and legible manner which somewhat alleviates the sense of clutter. The turbines also do not appear out of place or uncharacteristic in this broad working rural landscape. For these reasons, the magnitude of visual impact is deemed to be **Medium.**		
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium	Medium	**Moderate**

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP23	N3 north of Annagh Lough	NE	15.69km
Representative of:	Major route		
Receptor Sensitivity	**Low**		

Existing View	This is a contained view from and elevated section of the N3 national primary route north of Annagh Lough. The view looks across the roadway corridor to and area carpeted in dense broadleaf woodland which contains this view at a short distance. Brief glimpses of vegetated rolling drumlin hills are afforded just above nearby tree tops in the background.
Visual Impact of the proposed development	The proposed wind farm will not be visible from here due to the high degree of intervening screening in the foreground of this view and substantial terrain screening in the background (as shown on the wireframe image). For these reasons, the magnitude of visual impact is deemed to be **Negligible.**
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.

	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Low	Negligible	**Imperceptible**

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP24	Cnoc Alainn residential estate north of Cootehill	NW	7.43km (T7)
Representative of:	Centre of population		
Receptor Sensitivity	**Medium**		
Existing View	This is a filtered and partially contained vista from Cnoc Alainn residential estate on northern outskirts of the settlement of Cootehill. This brief window of visibility occurs through a band of mature trees that defines the northern boundary of this residential estate and truncates much of the view in the near distance. The view is channelled through a gap in the foreground vegetation and a neighbouring dwelling and extends across a landscape cloaked in dense mature vegetation with only brief glimpses of rolling drumlin hills in the background afforded.		
Visual Impact of the proposed development	All of the proposed turbines aside from one (T3) will be visible from here to some degree. A partial view of the blade sets of turbine T8 will be visible whilst the remaining turbines will all rise above the vegetated landscape below and will be seen with a low degree of contrast against the backdrop of the sky. The proposed development will extend the full width of the channelled vista afforded from here and the turbines will be viewed at a modest but noticeable scale from this viewing distance with their visual presence deemed to be sub-dominant. Aesthetically, a small degree of visual clutter and confusion will be generated by turbines T1 and T6 as they rotate immediately beyond each other. Otherwise the remaining visible turbines appear in a clear and comprehensible manner with relatively even spacing characteristics that avoids any sense of visual clutter or ambiguity. The staggered vertical extent of the scheme reflects the underlying drumlin hills and the proposed turbines do not appear out of place in this primarily working rural landscape. Overall, the magnitude of visual impact is judged to be **Low.**		

Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium	low	**Slight**

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP25	Local road east of the R162 at Garryduff	NW	16.87km (T7)
Representative of:	Designated scenic view (SV23)		
Receptor Sensitivity	**High**		
Existing View	This is a broad panorama from an elevated drumlin hill in the south-easternmost quadrant of the study area. The view extends over several vegetated rolling ridges in the foreground and across a rolling landscape of drumlin hills and ridges beyond, which are contained in a patchwork of pastoral farmland. Brief glimpses of the roofs of residential dwellings situated along the hillsides are afforded above and through the dense tree lined hedgerows that define the agricultural fields throughout the view. To the right of frame the view is partially screened in the middle distance by a prominent hill, whilst to the left of frame the broad panoramic view continues into the far distance and is eventually contained by distant gently undulating ridge cloaked in large groups of turbines from both Mt Lodge/Bindoo and Carrickallen wind farms.		
Visual Impact of the proposed development	All of the proposed turbines will be visible from here rotating just above the distant vegetated horizon backed by the sky with a low degree of contrast. The turbines appear in three clusters whilst turbine T8 appears as a slight outlier to the left of the turbine clusters. In the context of this broad panoramic view, the turbines will be visible as a small scale background feature and are considered to have a visual presence in the order to sub-dominant to minimal. There is a considerable degree of overlap within each of the three turbine clusters with turbine T8 being the only turbine to rotate freely without any overlap. The overlap between the remaining turbine blade sets can generate a sense of visual clutter and ambiguity, however this is somewhat diminished due to the viewing distances involved. Overall the proposed development will not appear incongruous in this anthropogenic panorama in which wind energy is already and established and characteristic feature. Overall, the magnitude of visual impact is deemed to be **Low-negligible.**		
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	High	Low-negligible	**Slight**

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP26	R188 west of Drung	NE	9.81km (T8)

Representative of:	Major route Designated scenic view (SV7) Centre of population
Receptor Sensitivity	**Medium**
Existing View	This is a pleasant and picturesque view of rolling farmed hills from the R118 regional road on the western outskirts of the settlement of Drung. The terrain descends away from the road corridor in the foreground and is contained in a mixture of pastoral fields and dense scrubby vegetation. A large residential dwelling is also situated in the foreground to the right of frame. A number of large farm sheds and an additional residential dwelling are also visible in the middle ground, just beyond the nearby residential dwelling. The rolling pastoral fields continue throughout the middle ground of the view and, in combination with their dense tree lined hedgerows, screen much of the landscape beyond. Views of the distant rolling hills are also discerned just above the drumlin hills of the middle ground and are similarly cloaked in a dense veil of mature vegetation.
Visual Impact of the proposed development	All of the proposed turbines will rise almost fully in silhouette with a low degree of contrast against the sky in the middle ground of this view. The proposed turbines will all present at a similar scale and will be a modest but noticeable feature of the afforded vista with turbine T7 presenting as a slight outlier. The turbines are viewed above the farm sheds in the middle ground; however there is little sense of dwarfing or overbearing generated here due to relative distance. Furthermore, the proposed wind farm occupies a relatively small extent of the afforded vista and consequently the visual presence of the scheme is deemed to be sub-dominant. The proposed turbines are presented here in a relatively clear and comprehensible manner despite the small degree of overlap that occurs between turbines T2 and T4. The turbines benefit from even spacing characteristics which generates a subtle sense of rhythm. Overall, this is a fairly unambiguous view of a modest scale wind energy development within an anthropogenic rural scene. Consequently, the magnitude of visual impact is deemed to be **Low.**
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.

	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium	Low	**Slight**

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP27	Local road at Knockfad (SV17)	NE	14.95km (T3)
Representative of:	Designated scenic view (SV17)		
Receptor Sensitivity	**Medium**		

Existing View	This is an elevated scenic view afforded from a local road in the townland of Knockfad. It is important to note here that the scenic designation is likely to relate to the more extensive views across the drumlin landscape to the north. The depicted easterly view extends across an elevated portion of terrain contained in rough grassland and scrubby vegetation. The easterly view is contained by a nearby ridgeline cloaked in dense scrubby vegetation. To the very left of frame the view opens up across a landscape of rolling drumlin hills covered in a veil of farmland interspersed by dense mature vegetation. A small residential dwellings is also discerned on the lower slopes of the adjacent hill in the lower middle ground.
Visual Impact of the proposed development	Two of the turbine nacelles will be visible from here over the scrubby vegetation in the middle ground whilst several of the turbine blade sets will be seen to rotate against the ridgeline vegetation. The partial views of turbines will be revealed here at a very small scale due to distance and will be visible with a low degree of contrast against the backdrop of the sky. The turbines are unlikely to catch the attention of the casual observer in the context of the broad vista afforded to the north. Consequently, the proposed development is likely to have a minimal visual presence. Whilst it is not an ideal aesthetic to have turbines and turbine blade sets rotating against ridgetop vegetation, the visible turbines will have little bearing on the easterly view afforded here, and consequently the magnitude of visual impact is deemed to be **Low-negligible.**
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.

	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium	Low-negligible	**Slight-imperceptible**

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP28	Carnmore viewpoint	SE	15.83km (T1)
Representative of:	Scenic view Amenity feature		
Receptor Sensitivity	**High**		
Existing View	This is a vast panoramic view from the Carnmore viewpoint located on the south-western foothills of Slieve Beagh. In the foreground, the view extends across descending terrain cloaked in mountain moorland before opening up across a landscape of low rolling drumlin hills and ridges contained in a patchwork of pastoral farmlands, blocks of coniferous forest and small patches of woodland. In the distance several hill top wind farms are just discernible across the gently rolling skyline ridges.		
Visual Impact of the proposed development	All of the proposed turbines will be fully revealed from this elevated viewpoint partially backed by terrain with a relatively strong degree of contrast. The upper portions of the blade sets of some of the proposed turbines will be visible in faint silhouette against the backdrop of the sky. The proposed turbines will appear as modest scale features in this vast landscape and will have a sub-dominant visual presence within this view. Aside from one instance of turbine overlap between turbines T5 and		

	T6, the proposed scheme presents in a highly clear and comprehensible manner with good spacing characteristics between each of the turbines. The turbines will be viewed in conjunction with the several wind energy development along distant ridges lines and therefore will not appear as an unfamiliar feature in this vast working landscape. Overall, the magnitude of visual impact is deemed to be **Low-negligible.**		
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	High	Low-negligible	**Slight**

Viewshed Reference Point		**Direction of View**	**Distance to proposal:**
VP29	Knockballymore road at Mullynavannoge	SE	7.21km (T1)
Representative of:	Heritage feature		
Receptor Sensitivity	**Medium-low**		
Existing View	This is a relatively contained view from the Knockballymore road in the townland of Mullynavannoge west of Killylacky River. The view looks across a low section of the roadside hedgerow towards and adjacent agricultural field. The view is truncated on the opposite side of this field in the middle ground by a dense tree lined hedgerow. Partial glimpses of the neighbouring fields beyond are also afforded where gaps in the hedgerow occur.		
Visual Impact of the proposed development	Half of the proposed turbines will be partially revealed from here ranging from views of nacelles to partial views of blade tips. The proposed turbines will be visible just above a skyline ridge and middle ground vegetation against the backdrop of the sky. The proposed turbines are seen at a modest but noticeable scale from this distance and thus, their visual presence is deemed to be sub-dominant. Aesthetically, it is not ideal to have partial views of turbines and turbine blade sets rotating against the skyline ridge as it can generate a sense of visual clutter and ambiguity. However, the clearer views of both turbines T1 and T5 slightly offset this as they are seen in a relatively clear manner with only a minor degree of overlap with their adjacent turbines. Whilst the proposed development will represent an increase in the visual intensity of development in this scene, it will not represent a marked visual change. For the reasons outlined above, the magnitude of visual impact is deemed to be **Low.**		
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium	Low	**Slight**

Viewshed Reference Point	**Direction of View**	**Distance to proposal:**

VP30	Lislea southeast of Knockballymore Lough	SE	7.93km (T1)
Representative of:	Heritage view		
Receptor Sensitivity	**Medium**		
Existing View	This is a view from a locally elevated hilltop adjacent to the identified remnants of a ringfort. The view looks across an area of rough grassland towards neighbouring agricultural fields contained in the middle ground, which are defined by intermittent treelines. A large farm shed and the rooftop of a residential dwelling can also be discerned in the centre middle ground of the view. The view is partially truncated at a middle distance by a dense tree lined hedgerow whilst glimpses of the distant landscape beyond are afforded where gaps in the hedgerow occur.		
Visual Impact of the proposed development	The hubs of two of the proposed turbines (T2 & T6) will rise just above the distant skyline ridge while the blade tips of two other turbines will be seen to rotate against middle ground vegetation. The proposed turbines will be visible from here backed by the sky with a low degree of contrast. The visible turbines will be viewed at a modest but noticeable scale and the proposed development is considered to have a sub-dominant visual presence. Although there is relatively even spacing between the visible turbines, the view of blade sets and partial blade tips rotating along the skyline ridge is not an ideal aesthetic. However, both T2 and T6 are otherwise seen in a relatively clear manner with only a very minor degree of turbine overlap and the proposed development does not appear incongruous in this anthropogenic rural scene. For the reasons outlined above, the magnitude of visual impact is deemed to be **Low.**		
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	**Visual Impact Magnitude**	**Significance of Visual Impact**
	Medium	Low	**Slight**

9.4.3 Cumulative Impacts

The appraisal of cumulative impacts with other wind energy developments is based on the cumulative ZTV maps and wireframes provided at **Annex 9.1**. Given the absence of other tall structures within the study area, it is assessed that there is no potential for in combination effects with other types of development.

9.4.3.1 Nature of Cumulative Visibility

The nature of cumulative visibility within the study area is analysed in **Table 9.13** below using the same viewpoints that are used for the main visual impact assessment.

VRP Ref.	**Number of other wind farms potentially visible**	**Nearer or further than the Proposed Development**	**Combined View** (within a single viewing arc)	**Succession View** (within a series of viewing arcs from the same location)	**Sequential View** (view of different developments moving along a linear receptor)
VP1	3	Further	Yes	No	No

VP2	0	-	-	-	Yes
VP3	0	-	-	-	-
VP4	0	-	-	-	-
VP5	0	-	-	-	-
VP6	3	Further	Yes	Yes	No
VP7	0	-	-	-	Yes
VP8	0	-	-	-	-
VP9	0	-	-	-	-
VP10	3	Further	Yes	Yes	No
VP11	0	-	-	-	Yes
VP12	3	Further	Yes	Yes	No
VP13	3	Further	Yes	Yes	No
VP14	2	Further	No	Yes	No
VP15	1	Further	Yes	No	No
VP16	0	-	-	-	-
VP17	1	Similar distances	No	Yes	No
VP18	1	Nearer	No	Yes	Yes
VP19	2	Similar distances & further	No	Yes	Yes
VP20	0	-	-	-	-
VP21	0	-	-	-	-
VP22	3	Further	No	Yes	No
VP23	0	-	-	-	Yes
VP24	3	Similar distances	No	Yes	No
VP25	3	Nearer and further	No	Yes	No
VP26	0	-	-	-	Yes
VP27	0	-	-	-	-
VP28	3	Further	Yes	No	No
VP29	0	-	-	-	-
VP30	0	-	-	-	-

Table 9.13: Nature of Cumulative Visibility

9.4.3.2 Cumulative Impact Assessment

The cumulative ZTV map (**Annex 9.1**) shows the potential for cumulative visibility between the proposed development and all other existing wind farm developments within the 20km study area. At present there are 3 other operating wind farms within the study area, all of which are contained in the outer southern and south-eastern half of the study area. The ZTV map (based on a bare ground scenario), identifies that the proposed development has the potential to be viewed in isolation throughout a considerable extent of the study area. The most notable areas where the proposed development will potentially be viewed in isolation occur in the

immediate surrounds of the site and within the northern and western extent of the study area. The proposed development and all other existing developments within the study area have the potentially to be viewed in combination for only a relatively small percentage of the study area. These areas generally relate to the upper reaches of rolling drumlin hills within the central study area and areas of elevated terrain situated in the wider surrounds of the study area, most notably along the foothills of Slieve Beagh to the north of the site.

Table 9.13 above gives an analysis of the nature of cumulative visibility within the study area based on the selected VRP's. Due to the rolling nature of the vegetated drumlin hills throughout the study area, much of the potential for cumulative visibility is heavily reduced. Only 14 of the identified VRP's will theoretically afford visibility of the proposed development in combination with other existing developments within the study area. However, it is important to note that this is only 'theoretical' and, in reality, cumulative visibility is likely to be much less due to a combination of viewing distance and screening from vegetation and man-made structures within the intervening landscape.

Within the central study area, the proposed development will be read as its own distinct development, and once vegetative screening is accounted for, the proposed wind farm will only be visible in combination with other existing developments at VP10. Here the proposed development will be visible in combination with both Carrickallen Wind Farm and Mountain Lodge/Bindoo Wind Farm, both of which cloak the distant ridge lines in the background of the view. However, due to the considerable viewing distances and scale differentials involved, the proposed wind farm will not contribute to a strong sense of proliferation here.

Aside from VP10, situated in the central study area, the highest potential for the proposed development to be viewed in combination with the other existing developments occurs along elevated areas of terrain within the wider study area. These principally occur along an area of elevated drumlin hills south and southeast of the proposed development and along the Slieve Beagh foothills in the northern half of the study area. Nonetheless, all existing wind energy developments have a considerable separation distances from the proposed development (minimum of 12km at Carrickallen Wind Farm) and consequently the proposed scheme will not contribute to any strong sense of wind farm proliferation within the study area. Furthermore, the proposed development is consistent with the guidance in the Wind Energy Development Guidelines which states "*visibility of two or more wind energy developments is usually acceptable.*"

In terms of sequential cumulative views, the proposed development will theoretically be visible in combination with existing wind energy developments along a number of notable linear receptors such as the N54 national secondary route in the northern and western half of the study area and along several regional roads and the Kingfisher Cycle Route within the central portions of the development. However, much of the theoretical visibility will, in reality, be fully and intermittently obscured by vegetated drumlin hills tops in combination with the high degree of existing roadside screening that borders these linear receptors. Consequently, cumulative impacts along these linear receptors are not considered to be significant.

As has been discussed above, the identified grid connection options are not assessed as likely to result in significant landscape impacts. Similarly, due to their nature and scale, it is assessed that they will not result in any significant visual impacts. The simple structure and narrow profile of the OHL are ubiquitous in the Irish landscape and will be absorbed by the existing environment over short distances as

a result of rolling terrain and mature vegetation and, as a result, will not result in any cumulative effects. The UGLs, by their very nature, will be imperceptible in the landscape. The 38kV substation structures, associated with the respective Shankill and Clones grid connection options, will be generally imperceptible in the landscape and, where visible, will be viewed as ancillary structures to the proposed wind farm. The 110kV substation option is a larger structure however; the site is well contained be surrounding drumlin hills thus reducing the potential for extensive views towards the substation. Despite the intervening distance between the wind turbines and the 110kV substation (<1km), the substation is likely to be read as comprising an element of the overall development and significant cumulative effects are unlikely.

Overall, it is considered that the proposed development will contribute an additional cumulative effect that is in the order of **Low** in respect of the impact classification at **Table 9.7** above.

9.5 Mitigation Measures

9.5.1 Construction Phase

Aside from construction stage mitigation measures to minimise land and vegetation disturbance and dust emissions, there are no specific mitigation measures to be implemented. The appropriate management and reinstatement of excavations, in a timely manner, will ensure that any adverse effects caused, for example at site entrances or road upgrade locations, are minimised insofar as possible. Similarly, the progressive reinstatement and landscaping of the site will remediate any short term adverse effects on the local landscape.

9.5.2 Operational Phase

Given the highly visible nature of commercial wind energy developments it is not generally feasible to screen them from view using on-site screening measures typically employed for other forms of development during the operational phase. Instead, landscape and visual mitigation measures have been incorporated into the siting and design of the development at an early stage (see **Chapter 2**). In the case of the proposed development, the guidance provided in the Wind *Energy Development Guidelines for Planning Authorities 2006* was the principal consideration. The relevant guidance for the landscape types that constitute the landscape and visual setting of the proposed development are discussed in detail in **Section 9.3.2.1** above. It is considered that the proposed development is broadly in line with the recommendations contained within the Guidelines.

The proposed development has embedded landscape and visual mitigation measures and thus, the appraisal of potential landscape and visual effects is equivalent to any appraisal of residual effects in this instance.

Some of the general mitigation measures that will be implemented to make the development less intrusive and less eye catching on a localised level include:-

- The colour will be industry standard off-white/light grey semi-matt non-reflective finish;
- Transmission lines between individual turbines and the substation will be placed underground;
- Special care will be taken to preserve any features, insofar as possible, which contribute to the landscape character of the study area; and
- Counter rotation of blade sets will be avoided.

9.5.3 Decommissioning Phase

The turbines are expected to be fully operational for up to 30 years. After this period, and if planning permission is not sought for an extension of this use at the site, the turbines and ancillary developments will be deconstructed and removed from the site with the exception of electricity grid infrastructure which may remain as part of the national grid network in perpetuity. Aspects of the ancillary site development including the access tracks may be retained in-situ. These may facilitate the use of the site for, as stated, suitable future rural development uses including animal grazing or recreational activities including walks and bridleways.

9.6 Summary

A summary table is provided below, which collates the assessments of visual impacts. A discussion of the results is provided thereafter.

Visual Impact			
VRP	**Visual Receptor Sensitivity**	**Magnitude of visual impact**	**Visual Impact Significance**
VP1	Medium	Low-negligible	**Slight-Imperceptible**
VP2	Medium-low	Low-negligible	**Slight-Imperceptible**
VP3	Medium	Negligible	**Imperceptible**
VP4	Medium	Negligible	**Imperceptible**
VP5	Medium	Negligible	**Imperceptible**
VP6	High-medium	Low-negligible	**Slight**
VP7	Medium	Medium-Low	**Moderate-slight**
VP8	Medium	Medium	**Moderate**
VP9	Medium-low	Medium	**Moderate**
VP10	Medium-low	High-medium	**Moderate**
VP11	Medium	Medium	**Moderate**
VP12	High-medium	Low-negligible	**Slight-imperceptible**
VP13	Medium-low	High	**Substantial-moderate**
VP14	Medium-low	High-medium	**Moderate**
VP15	Medium-low	High-medium	**Moderate**
VP16	Medium-low	High Medium	**Moderate**
VP17	Medium-low	Negligible	**Imperceptible**
VP18	Medium	Negligible	**Imperceptible**
VP19	Low	Negligible	**Imperceptible**
VP20	Medium	Negligible	**Imperceptible**
VP21	High-medium	Medium	**Moderate**
VP22	Medium	Medium	**Moderate**
VP23	Low	Negligible	**Imperceptible**
VP24	Medium	Low	**Slight**

VP25	High	Low-negligible	**Slight**
VP26	Medium	Low	**Slight**
VP27	Medium	Low-negligible	**Slight-imperceptible**
VP28	High	Low-negligible	**Slight**
VP29	Medium-low	Low	**Slight**
VP30	Medium	Low	**Slight**
Cumulative Impact			**Low**

Table 9.1: Summary Impact Assessment

9.6.1 Landscape Impacts

With regard to the Monaghan County Landscape Character Assessment, the proposed wind energy development is primarily contained within *'LCA 5 – Monaghan Drumlin Uplands'* but also enters the northern portions of *'LCA 7 – Ballybay Castleblaney Lakelands'*. LCA 5 is noted as a landscape in *"good condition"* whilst LCA 7 is described as *"highly scenic"* and *"highly sensitive to any form of development"*. Consequently, the central study area can be described as an area of transition where typical productive rural values meet areas of higher scenic amenity. Overall the sensitivity of the receiving landscape is considered to be Medium, with landscapes of higher sensitivity such as Upper Lough Erne in the wider landscape context.

There will be direct physical impacts on the site during construction and operational stages of the development, but such effects are considered to be modest in scale and nature in this already modified rural setting. There will also be effects on landscape character of the central study area from the introduction of tall moving structures. However, in this instance, wind turbines area a characteristic feature of the wider landscape, especially to the south and southeast of the proposed development. Consequently, the effect is one of intensification of an established land use and not the introduction of a new and unfamiliar feature. Within the central study area the magnitude of landscape impacts is deemed to be 'Medium' resulting in a landscape impact significance of 'Moderate'.

Beyond the central study area (<5km), the turbines will have a lesser background influence on prevailing landscape character, especially given that wind energy developments are already a characteristic landscape feature. To the west and southwest of the wider study, areas of higher sensitivity occur such as the Upper Lough Erne and the foothills of Slieve Beagh, in Northern Ireland and an area of drumlin rich lakes northwest of Cavan town and whilst the proposed turbines will be intermittently visible from here, they will often be viewed as a background feature in the context of the wider study area. Furthermore, the potential for the proposed development to impact the landscape here is heavily diluted due to the viewing distances (c .10km) involved. Landscape impacts beyond 5km are considered to be no greater than 'Slight' diminishing to 'Imperceptible' with distance and as the proposed wind farm becomes a comparatively small scale component of the overall landscape fabric.

For the reasons contained herein, it is considered that the proposed development will not give rise to significant landscape effects within either the central or wider study area. This reflects the fact that the proposed development has been located

and designed in accordance with relevant local and national level policy documents.

9.6.2 Visual Impacts

Visual impacts where assessed at 30 no. visual receptor locations throughout the study area. As noted in the summary table above (**Table 9.14**), sensitivity ranged widely from High to Low. Those locations with the highest levels of sensitivity tend to relate to areas of outdoor pursuits such as the Carnmore viewpoint situated along a local walking trail in the northern half of the study area (in Northern Ireland), elevated areas of terrain that afford distant views across the landscape and designated scenic views within the County Development Plans. Medium-low sensitivity tends to be attributed to less remarkable and contained views from local and regional roads, often comprising a range of typical anthropogenic land uses.

The potential for clear views of a wind energy development is heavily reduced in a rolling drumlin landscape such as this, especially from distances further than 5km from the proposed scheme. As a result, it was important to have a large representation of local community views within this assessment. Eleven viewpoints were selected to represent views within the local community and their sensitivity generally ranged between 'Medium' to 'Medium-Low' which reflects the working rural landscapes within which the proposed development is located. The highest impact magnitude was deemed to be 'High' at VP13 which reflects the prominent view of the nearest turbine to the viewpoint as opposed to any particularly negative aesthetic qualities of the scheme. Furthermore, it should be noted that VP13 is less than half of the distance to the nearest turbine than any local dwellings as a result of the dwelling setback distance incorporated into the design of the proposed development.

Generally, the proposed development is aesthetically well presented from within the central study area with rhythmic spacing characteristics that avoid excessive turbine overlap. The blade sets of the turbines are most often seen to rotate freely above the skyline ridges and vegetation with a gently undulating profile that matches the underlying terrain. Slightly more cluttered and ambiguous views of turbines rotating on and amongst skyline vegetation tend to occur beyond the central study area (>5km), but in such instances any negative aesthetic traits are generally diluted by the reduced visual presence of the scheme at longer distances.

Overall, whilst the scheme is viewed at a prominent scale from some of the nearer viewpoints, it almost always presents in a clear and legible manner with little sense of overbearing. Furthermore, the proposed development is seen to be well assimilated into its landscape setting, which comprises of broad rolling drumlin hills contained in productive rural land uses.

9.6.3 Cumulative Impacts

Wind energy development is an established feature within the study area, most notably on its southern and south-eastern periphery. Although only three schemes exist within the study area, one of these schemes (Mountain Lodge/Bindoo) comprises of a considerable number of turbines (50+) spaced across and area of elevated drumlin hills. Nonetheless, all existing developments and the proposed development benefit from substantial separation distances which alleviate the potential for a strong sense of wind farm proliferation to be generated. Due to the rolling nature of the terrain within the study area, the proposed development will rarely be visible in combination with existing wind energy developments. Consequently, the proposed development will not contribute to a strong sense of

wind farm proliferation or adverse cumulative aesthetic effects such as stacking in perspective against other wind farms. Thus, cumulative effects are not considered to be significant.

9.6.4 Overall Significance of Impact

The highest level of visual impact significance from viewshed receptor points is considered to be 'Substantial-moderate', which occurs at VP13 and this is principally due to the close viewing distance of just over 300m where these sense of spatial dominance from the nearest turbine is in excess of what will be experienced at the nearest dwellings. The next highest level of significance is 'Moderate', which occurs at nine receptors, all of which are local community views. Outside of the central study area the visual impact significance generally drops to Slight and Imperceptible which reflects the high degree of screening provided by the rolling vegetated drumlin hills throughout the study area. When coupled with the assessed landscape impact and cumulative impact, it is considered that the proposed development will not give rise to significant landscape and visual impacts, including cumulative and transboundary effects.