

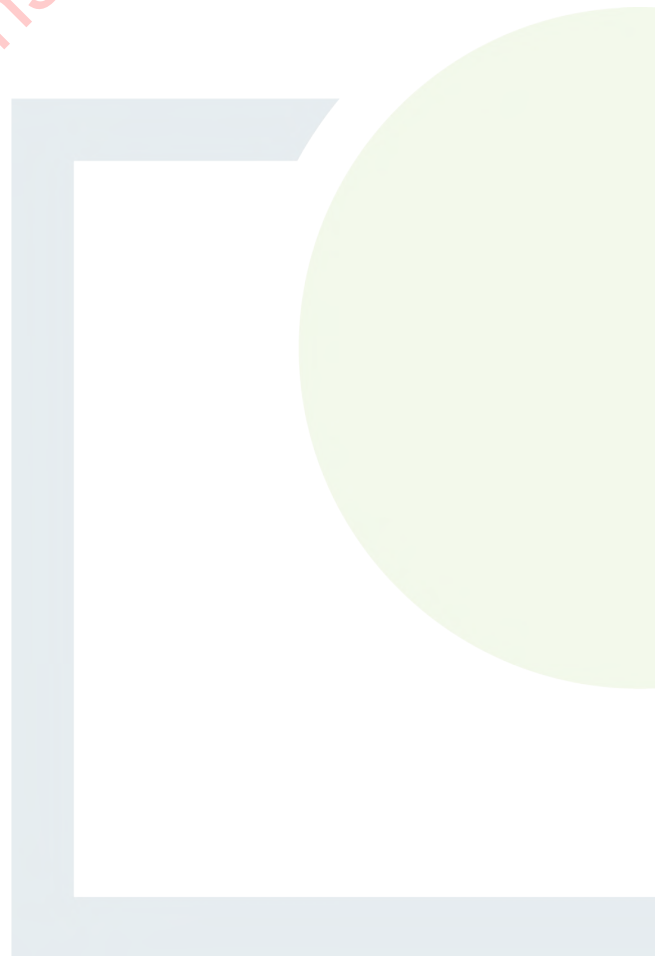


CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

APPENDIX 15.1

Visual Impact Assessment

Clare Planning Authority - Inspection Purposes Only!



Appendix 1

Appraisal of Visual Receptor Sensitivity

Degree of Association within each Criterion

Strong association	Moderate association	Mild association	Negligible association

Receptor Sensitivity Criterion and Analysis at each Viewshed Reference Point (VRP)

Values associated with the view	VP1	VP2	VP3	VP4	VP5	VP6	VP7	VP8	VP9	VP10	VP11	VP12	VP13	VP14	VP15	VP16	VP17	VP18	VP19	VP20
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	ML	M	ML	M	ML	ML	ML	ML	M	M	L	ML	HM	HM	H	M	HM	M	ML	HM

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

VP No.	Existing View	VP Sensitivity	Visual Impact Magnitude	Significance / quality / duration of impact
VP1	<p>Local Road at Cloongaheen East – This is a relatively enclosed setting at the roads side where a more open view is framed by foreground trees. The open view extends across the western slopes of Lackereagh Beg Hill, which are carpeted in a mix of farmland on lower slopes giving way to forestry on upper slope and ridges.</p>	<p>Medium-low</p>	<p>Six of the turbines are visible from here to varying degrees ranging from full extent for two, blade sets for three and just blade tips for one. The turbines are seen at a noticeable yet modest scale within the context of broad landform and land cover. There is one strong instance of turbine overlap, but otherwise the scheme fits well in terms of scale and function within this productive upland setting. Consequently, the magnitude of visual change is deemed to be Medium-low.</p>	<p>Moderate-slight / Negative / Long-term</p>
VP2	<p>R466 at Cloonygonry More – This view is from a local access road adjacent to the R466 regional road which can be seen in the right-hand foreground. Fields of wet pasture rise through woodland foothills into farmed and forested upper slopes on Lackereagh Beg Hill. A high voltage overhead line also passes close to the viewer and sweeps uphill.</p>	<p>Medium</p>	<p>All eight of the proposed turbines are potentially visible from here, albeit on the blade tips of two of them can be seen above the forested ridge. The nearest pair of turbines are fully presented to the viewer at a prominent scale with the remaining four partially revealed at a lesser scale just beyond. The turbines appear well accommodated in this landscape setting in terms of both scale and broad productive context. The only minor aesthetic issue is one of turbine overlapping between two of the more prominent turbines. Overall, the magnitude of visual impact is deemed to be Medium-low</p>	<p>Moderate-slight / Negative / Long-term</p>
VP3	<p>St Mary's Church Kilbane – This is a pleasant pastoral scene from a country graveyard across ascending, rolling slopes of grazing towards a derelict farmhouse fringed by mature trees upper slopes of forestry can be seen in the distance.</p>	<p>Medium-low</p>	<p>Six of the proposed turbines can be seen from here to varying degrees above intervening topography with three full and two partial blade sets visible along with one blade tip. The two nearest turbines are heavily overlapped generating a degree of visual clutter and some of the blade sets will rotate against the skyline. Nonetheless, the wind farm does not appear over-scaled or out of context in this landscape context and its profile is consistent with the slope of the underlying topography. Overall, the magnitude</p>	<p>Moderate-slight / Negative / Long-term</p>

VP4	<p>R466 at Springmount - This is a slightly elevated and framed cross-valley view. The richly textured landscape in view consists of a combination of fields and hedgerows, woodlands, a quarry and commercial forestry on upper slopes and ridges.</p>	<p style="text-align: center;">Medium</p>	<p>of visual impact is deemed to be Medium-low.</p> <p>All of the proposed turbines are visible from here at a prominent scale, but varying individually with relative distance. This generate a strong and desirable sense of perspective for the scheme that highlights its depth and the manner in which it settles into the pattern of the receiving landscape. Indeed, this is a highly legible view of the wind farm in a setting where it appears as another complementary layer of countryside productivity. On balance of its prominence versus its legibility, the magnitude of visual impact is deemed to be Medium-low.</p>	<p style="text-align: center;">Moderate-slight / Negative / Long-term</p>
VP5	<p>Local Road at Ballyquin More - This is an uphill view across foreground fields of pasture. This gives way to scrubby woodland and then commercial forestry upslope to the northwest where the rolling hills can be seen running away from the viewer. The field to the northeast is topped by a silhouetted tree-lined hedgerow. A high-voltage overhead line can be seen above the forested ridge while a 38kV line runs across the foreground fields.</p>	<p style="text-align: center;">Medium low</p>	<p>The nearest pair of the proposed turbines will be prominently visible from here at a large scale within the foreground setting. These two turbines are fully revealed against a backdrop of both terrain and sky, whilst the more distant turbines are substantially screened beyond the brow of the hill. Despite the proximity of the proposed turbines, they do not appear overbearing or over-scaled relative to the broad landform and land use patterns. Furthermore, they will not appear incongruous in this productive upland landscape setting. For the reasons outlined above the magnitude a visual impact is deemed to be High-medium.</p>	<p style="text-align: center;">Moderate / Negative / Long-term</p>
VP6	<p>Local Road at Fahymore (North) – This is an open uphill view towards Lackereagh Beg Hill. The foreground consists of a gently sloping field of pasture, which soon gives way to marginal farmland and forestry on the upper slopes. More distant mountains can be seen rolling away from the viewer further to the northwest. The other notable feature of the view is the series of low voltage overhead lines that run across the foreground and high-voltage lines silhouetted on the ridge above.</p>	<p style="text-align: center;">Medium low</p>	<p>The proposed turbines are all clearly visible from here rising prominently about the skyline. The nearest turbines are seen at a considerably larger scale than their more distant counterparts. This generates a strong sense of perspective and layout depth, which in turn, generates visual legibility. It is not considered that the turbines appear out of scale or out of place in this broad upland rural landscape. However, they do impart a much greater intensity of built development than occurs at present. Overall, the magnitude of visual impact is deemed to be</p>	<p style="text-align: center;">Moderate / Negative / Long-term</p>

VP7	<p>Local Road at Kilroughil – This is a relatively contained uphill view through a double gateway. Beyond foreground fields, a hedgerow lines the brow of a low ridge that limits the view beyond.</p>	<p>Medium low</p>	<p>High-medium.</p> <p>Only four of the proposed turbines can be clearly seen from this precise location, however, up to 2-3 others may be intermittently visible along this section of road where foreground vegetation allows. The turbines are seen at a modest scale and although they are tightly clustered the scale differential between them hints at the layout depth and actual separation distances involved. The turbines will add to the scale and intensity of built development in view, but they will not unduly draw from visual amenity in this scene. Overall, the magnitude of visual impact is deemed to be Medium.</p>	<p>Moderate-slight / Negative / Long-term</p>
VP8	<p>Bridgetown – This is a view from the centre of the small rural settlement of Bridgetown across the church and graveyard. Other dwellings can be seen beyond the graveyard and lining the street to the north where they are intermittently presented between mature amenity trees. Peaking through the band of mature vegetation contained within and immediately around the settlement is the forested ridge of Lackereagh Beg Hill.</p>	<p>Medium-low</p>	<p>The proposed turbines will be an overt feature of the northerly view from this settlement rising above and beyond the trees and houses of the foreground setting. The turbines are seen at a prominent but not overbearing scale and they have an even profile and relatively even spacing. Most of the visible turbines also present full blade sets above intervening features aiding visual legibility. One of the main considerations for this (and any other settlement views) is whether there is a clear sense of contextual separation between the turbines and the settlement. In this instance the turbines to the left rise directly over foreground trees such that their actual scale and proximity may not be easily interpreted. However, this is ameliorated by the pair of turbines to the right, which can be clearly seen rising from more distant forested slopes of the settlement's rural hinterland. These provide legibility to the overall scheme and on balance of the factors outlined above, the magnitude of visual impact is deemed to be Medium.</p>	<p>Moderate / Negative / Long-term</p>

<p>VP9</p>	<p>R466 at Bridgetown – This is an open gateway view across flat pastoral fields towards a band of stacked hedgerow vegetation and woodland running across the middle ground. Beyond rises slopes of marginal upland farming blending with forestry on upper slopes and ridges.</p>	<p>Medium</p>	<p>Around 3-4 of the proposed turbines will be fully visible from base to tip at this particular location. There is potential for the others to come into view from other sections of this road, albeit they occur further around the slope of Lackereagh Beg Hill and are more aligned with the dense roadside vegetation along the road. The visible turbines present at a modest scale from this distance and in the context of broad land form and land cover patterns. They are also contextually assimilated within this productive rural setting. There will be some visual clutter generated by the heavy overlapping of the two easternmost turbines. Overall, the magnitude of visual impact is deemed to be Medium-low.</p>	<p>Moderate-slight / Negative / Long-term</p>
<p>VP10</p>	<p>O'Briensbridge – This is a view across the Ardnacrusha Canal from the Settlement of O'Brien's Bridge which also has the River Shannon and the Lough Derg Way running through it. Across the watercourse is the overtly engineered grassed embankment of the canal with its perfectly horizontal crest. A band of mature trees interspersed with dwellings runs across the lower ground beyond the canal. Rising in the middle distance are the farmed and forested slopes of Lackereagh Beg Hill with moorland mountains beyond.</p>	<p>Medium</p>	<p>This is a clear and comprehensible view of the proposed turbines rising at a modest and assimilative scale from the upper forested and farmed slopes of Lackereagh Beg Hill. There are some instances of turbine overlap generating minor visual clutter and the intensity of built development is increased. However, the depth of the array is readily appreciated and overall the wind farm sits comfortably within this scene which is already characterised by the theme of power generation (Ardnacrusha Canal). The magnitude of visual impact is Medium-low, but the quality of effect is only marginally negative i.e. Negative-Neutral.</p>	<p>Moderate-slight / Negative-neutral / Long-term</p>
<p>VP11</p>	<p>R527 at Towlerton – This is an open view from the outskirts of Limerick City across a large field of marginal grazing, which is framed by a mature hedgerow and trees to the left and the suburb of Castletroy to the right. A band of vegetation extends away from the viewer and the settlement. In the distance to the north can be seen the silhouette of the mountain ridge line.</p>	<p>Low</p>	<p>The distant proposed turbines will be almost fully screened from here by the band vegetation that runs across the middle ground and will not be noticed by a casual observer. Consequently the magnitude of visual impact is deemed to be negligible by default.</p>	<p>Imperceptible/ Neutral/</p>

<p>VP12</p>	<p>R463 at Ardclloony – The is a view across a mixed foreground of manicured domestic lawn and marshy ground. A more bucolic scene of rolling farmland follows up the lower slopes of Lackereagh Beg Hill, where forestry defines the upper slopes and skyline ridge.</p>	<p>Medium-low</p>	<p>This is a clear and legible view of the proposed turbines rising at a reasonable but integrated scale from the upper forested and farmed slopes of Lackereagh Beg Hill. There are one instance of turbine overlap generating minor visual clutter and the intensity of built development is increased. However, the wind farm is well assimilated within this productive rural scene in a thematic sense and does not unduly draw from visual amenity. The magnitude of visual impact is Medium-low, but the quality of effect is only marginally negative i.e. Negative-Neutral.</p>	<p>Moderate-slight/ Negative-neutral/ Long-term</p>
<p>VP13</p>	<p>R494 at Townlough Lower - This is a broad and slightly elevated scenic view overlooking Lough Derg from its eastern side. The foreground farmland slopes down towards riparian woodland at the water's edge. Only a relatively narrow sliver of the Lough is visible between this and the far shore of the Lough, which rises as a patchwork of farmland and forestry towards an undulating ridgeline.</p>	<p>High-medium</p>	<p>As can be seen from the wireframe image, only three blade tips from the proposed turbines are potentially visible from here within a distant saddle to the southwest. However, at this particular location the turbines are fully screened from view by intervening vegetation. It is considered that even if visible, the blade tips will have a material effect on the visual amenity of this scene. For these reasons, the magnitude of visual impact is considered to be negligible.</p>	<p>Imperceptible/ Neutral</p>
<p>VP14</p>	<p>R494 at Ryninch Upper – This is another view across the southern end of Lough Derg from a slightly elevated position the R494, which runs along its eastern side. Again, both the near and far shores of the Lough consist of fertile tree-lined farmland mixed with forestry on upper slopes.</p>	<p>High-medium</p>	<p>As with VP13, only the blades of three turbines will be seen rising above a saddle in the skyline ridge, which is to the left of the main view across the Lough and the tallest hills that define the western aspect of the view. Thus, they are peripheral and not particularly conspicuous. However, if noticed, they may generate a minor degree of contextual confusion and clutter rotating against the skyline ridge. Such effects are strongly diluted by limited visual presence of the turbine blades which will most often be seen with low contrast against a light sky. Overall, the magnitude of visual impact is deemed to be Low-negligible.</p>	<p>Slight/ Negative/ Long-term</p>
<p>VP15</p>	<p>Local road at Leagane – This is a view from high up on the slopes of the Ara mountains on a section of the Lough Derg Way. It affords views across a broad Valley overlooking the settlements of Killaloe and Ballina. The majority of the landscape is cloaked in a patchwork of</p>	<p>High</p>	<p>The proposed turbines are seen in a clear and comprehensible manner in the middle distance rising with an even spacing and complementary sloping profile above a forested spur ridge. Only the northwesternmost turbine contrasts with this exemplary layout and there is a barely</p>	<p>Slight/ Negative-neutral/ Long-term</p>

VP16	<p>farmland, but with riparian woodland vegetation hugging the shores of the Parteen Basin to the south-west and forestry on the upper slopes of the hills across the valley.</p> <p>Local road at Ballina – This is an elevated view from the back of the town where hinterland farmland meets the urban residential development of this village, which is a popular tourist destination. Beyond the joint villages of Ballina and Killaloe, on the opposite side of the valley, are ascending slopes of farmland and forestry. A high voltage overhead line is also silhouetted on the skyline ridge.</p>	<p>Medium</p>	<p>noticeable view of its blades. The proposed turbines will be a noticeable feature of this vast view and they will add marginally to the intensity and diversity of built features. However, they have a sub-dominant visual presence and they are well accommodated in terms of both scale and productive context. Overall, the magnitude of visual impact is deemed to be Low and of only a marginally negative quality.</p> <p>The proposed turbines are seen rising above a lower portion of the skyline ridge at a modest YET noticeable scale. Aside from the barely discernible blade tip of the northwesternmost turbine, the array has an even and uncomplicated spacing with a profile that complements the underlying ridge. The wind farm appears well assimilated in this richly varied / textured scene, albeit there is some minor overlap with skyline electricity pylons which contributes to visual clutter. Overall, the magnitude of visual impact is deemed to be Low and of only a marginally negative quality.</p>	<p>Slight-imperceptible/ Negative-neutral/ Long-term</p>
VP17	<p>R494 at Ballina – This view is from near the centre of Ballina adjacent to the river looking across at Killaloe and its impressive church set amongst mature trees. The arched stone bridge can be seen to the right with a backdrop of mountains.</p>	<p>High medium</p>	<p>The proposed turbines will not be visible from here due to screening by a combination of intervening topography and vegetation. Consequently, the magnitude of visual impact is negligible by default.</p>	<p>Imperceptible/ Neutral</p>
VP18	<p>Birdhill – This is a slightly elevated view from the small settlement of Birdhill, where broad views are afforded northwards towards the Ara Mountains and glimpses of the Parteen Basin can be seen through heavily vegetated lowland farmland and forestry to the northwest. Patchwork farmland and forestry on the slopes of Lackereagh Beg Hill can be seen at the western periphery of the framed view.</p>	<p>Medium</p>	<p>The proposed turbines will rise in a legible manner above the skyline ridge at the left hand side of the framed vista. They are visible in a peripheral portion of the vista that is not critical to visual amenity where forested slopes descend towards lowland farmland. They are seen at a modest scale, with a generally even spacing and with a profile that reflects the slope of the underlying ridge. Aside from contributing in a minor way to the intensity and diversity of built form within the view, the only aesthetic downside is the overlapping of two turbines in perspective.</p>	<p>Slight-imperceptible/ Negative-neutral/ Long-term</p>

VP19	<p>R503 at Shower – This is an open views across lowland farmed fields and then a band of broadleaf and coniferous trees that separate the foreground farmland from the background hills. Aside from one dwelling and a low voltage overhead line in the foreground context, there is little other built development within this scene.</p>	<p>Medium-low</p>	<p>All of the proposed turbines are visible from here but in two distinct groups. Those to the left, only lower slopes are tightly clustered, whilst those to the right are more spread and evenly spaced. They appear to rise from the band of middle ground forestry against a backdrop of hills and sky. They have a modest scale at this distance and are not incongruous in this productive rural scene. There is a minor degree of contextual ambiguity as the bases of the turbines and their position within the landscape are not revealed. On balance, the magnitude of visual impact is deemed to be Low.</p>	<p>Slight/ Negative/ Long-term</p>
VP20	<p>Local road, Ashhoe – This is a broad panoramic vista across a lowland landscape of farmed fields, but where the intervening hedgerows have become stacked in perspective to form a carpet of vegetation. Farmed/forested slopes and an undulating ridgeline form a distant backdrop to the scene.</p>	<p>High-medium</p>	<p>The proposed turbines are all substantially revealed rising from the distant slopes against a backdrop of both terrain and sky with varying degrees of contrast. They are seen at a small scale, but will be noticeable as distinctive features in the otherwise homogenous rural land use texture. Whilst they add fractionally to the intensity and diversity of built form within this vast scene they are well accommodated in a thematic sense. Overall, the magnitude of change is Low-negligible, but this is of only a marginally negative quality.</p>	<p>Slight- imperceptible/ Negative-neutral/ Long-term</p>



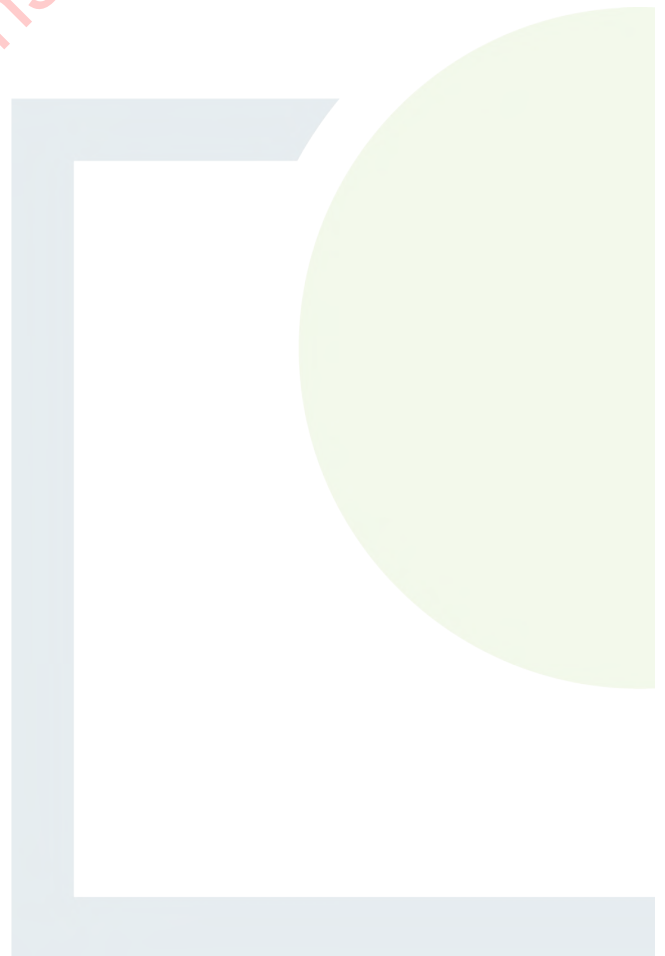
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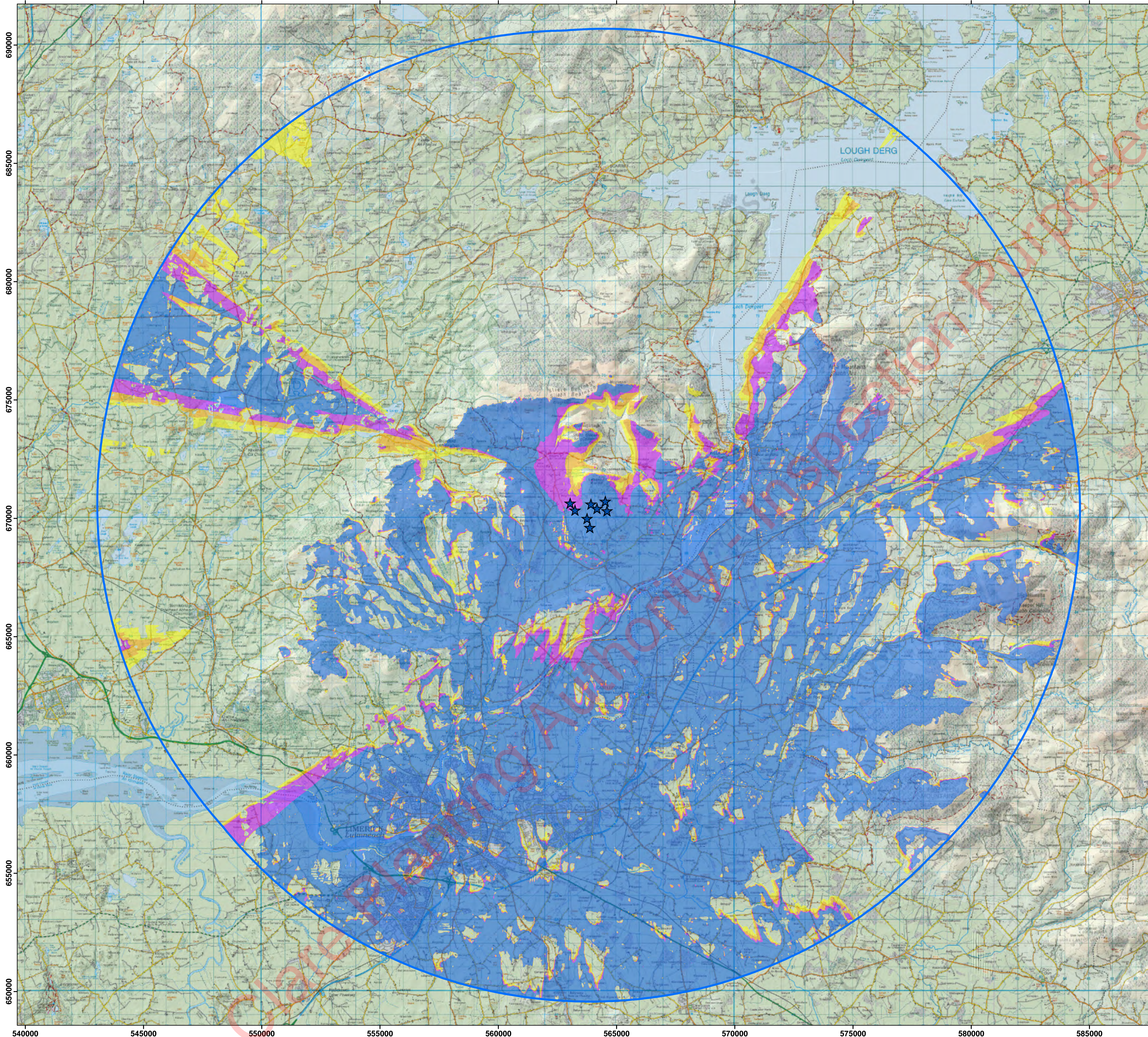
APPENDIX 15.2

LVI A Maps

Clare Planning Authority - Inspection Purposes Only!



ZTV (Zone of Theoretical Visibility) indicating the areas that have a potential view of Fahy Beg Wind Farm turbines (176.5m Blade Height)



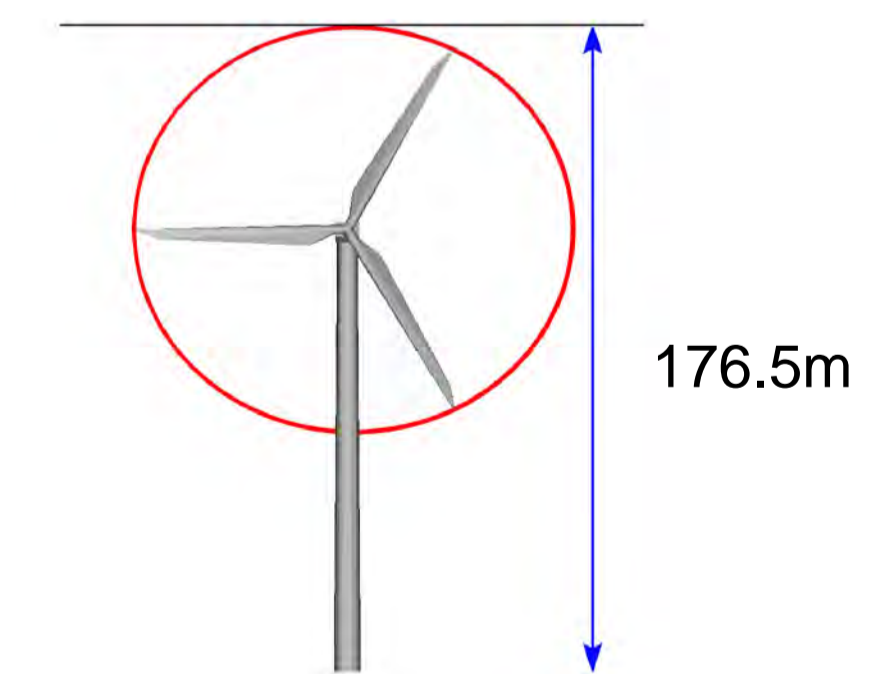
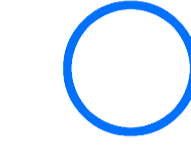
Proposed Turbines



No. Turbines Visible

- 1 - 2
- 3 - 4
- 5 - 6
- 7 - 8

20km Extent



This ZTV map has been calculated such that a turbines as been theoretically visible to observers in the surrounding landscape once there is an unobstructed line of sight to its blade tips.

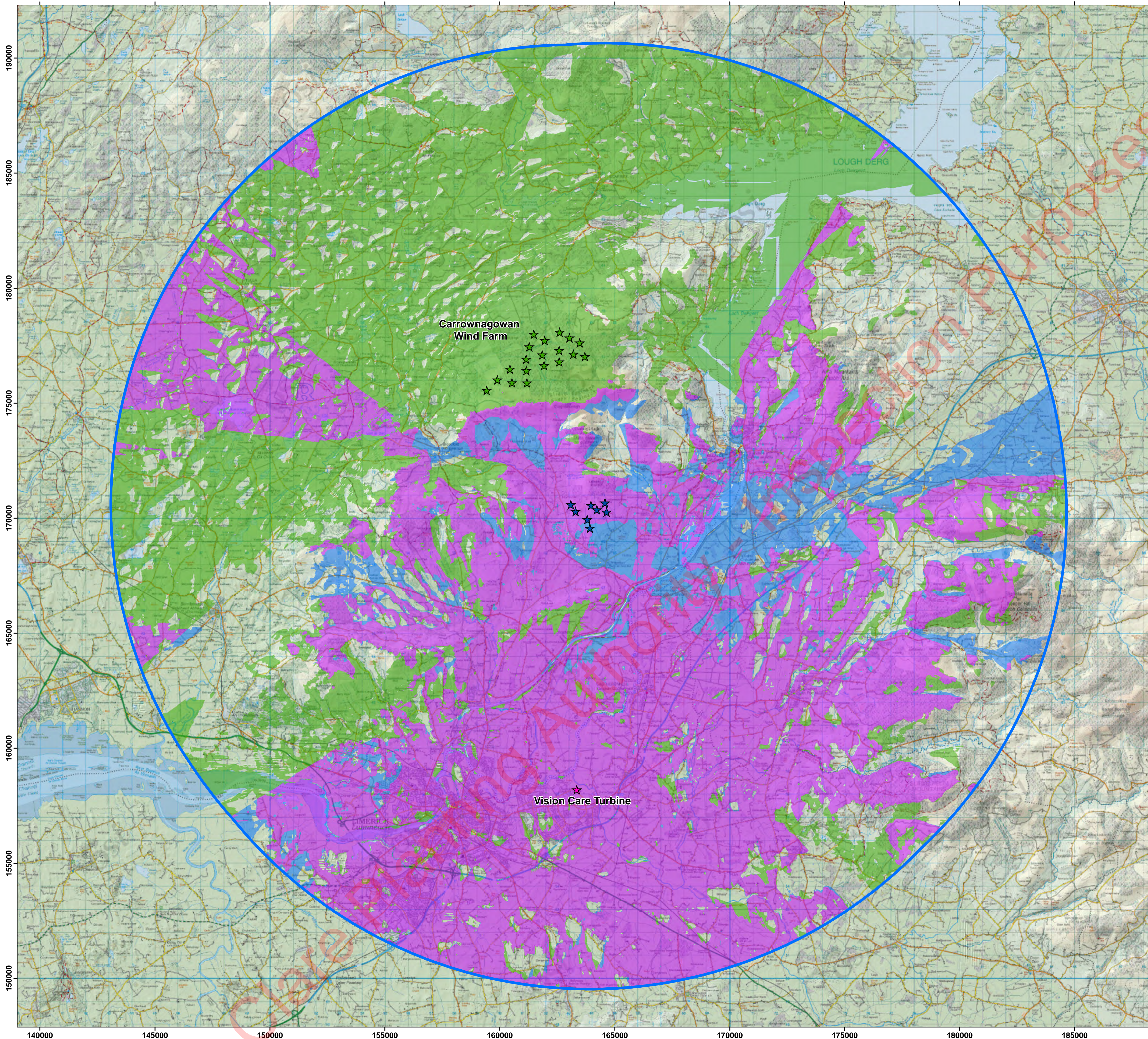
Observer Height assumed: 1.7m to eye-level height
Blade Tip Height: 176.5m

Note: This ZTV map is calculated for landform screening only and does not take account of the significant screening effects of vegetation (hedgerows, trees) and buildings inherent across the study area.

Scale: 1 : 78,000 if printed @ A1 size



ZTV indicating the cumulative theoretical visibility of the proposed Fehy Beg Wind Farm in combination with all other wind farms in the study area



Proposed Turbines



Existing Turbines



In-Planning Turbines



Wind Farm Visibility

32.4% *Visibility of existing and/or permitted turbines only*

37.4% *Visibility of proposed turbines as well as existing and/or permitted turbines*

6.4% *Visibility of proposed turbines only*

23.8% of the entire study area to 20km will not have any view of the turbine blades of the proposed Wind Farm or that of any existing/in-planning wind farms

20km Extent



This ZTV map has been calculated such that a turbine registers as been theoretically visible to observers in the surrounding landscape once there is an unobstructed line of sight to its blade tip.

Observer Height assumed: 2m to eye-level height
Blade Tip Heights: Variable

Note: This ZTV map is calculated for landform screening only and does not take account of the significant screening effects of vegetation (hedgerows, trees) and buildings inherent across the study area.

