



## Appendix 5.3

### Landscape and Visual Impact Assessment (LVIA) Preliminary Assessment

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## 5 Preliminary Assessment

### 5.1 Introduction

1. To ensure that the Landscape and Visual Impact Assessment (LVIA) is focussed on potential significant effects but also acknowledging the number and different types of receptors within the Study Area, this appendix sets out the preliminary assessment undertaken for landscape and visual receptors. These receptors would lie within the Zone of Theoretical Visibility (ZTV) of the Proposed Development but through the initial assessment it was found that significant effects from the Proposed Development on its own or cumulatively would not create significant effects. This is often due to distance, foreground screening by trees or buildings, direction of travel or the key views, and characteristics which limit the susceptibility of the receptor to the Proposed Development. This preliminary assessment includes reference to the application Craiginmoddie Windfarm and in-scoping Knockcronan Windfarm where relevant.
2. This appendix also provides an initial appraisal of the cumulative windfarm context, with cumulative ZTVs provided in **Figures 5.3.1-5.3.5**.
3. An assessment of the impacts of the turbine aviation lighting as permanent lighting within the hours of darkness was undertaken as part of the initial LVIA process to establish the effects on landscape and visual receptors within the Study Area. This established that there would be significant effects on the dark sky qualities of the Galloway Dark Sky Park within approximately the northern 3km of the Core Area. To mitigate against these effects, the Applicant has set out in **Appendix 13.4 Indicative Aviation Lighting Landscape and Visual Impact Mitigation Plan** that the Proposed Development would not be operational without a regional solution to an aircraft detection lighting system being in place. This would mean the lights would only be switched on when an aircraft transits the Site, which would be very infrequent and would only be for approximately 1.5 to 3 minutes. As the mitigation proposed removes all potential for significant effects, the preliminary assessment of the permanent turbine aviation lighting is not considered necessary to include as part of the application.

### 5.2 Landscape Character

4. Landscape Character Types within the Study Area are illustrated on **Figure 5.3 Landscape Character Areas** of the Environmental Impact Assessment Report (EIAR), and with the blade tip ZTV overlaid on **Figure 5.4 Landscape Character Areas and ZTV** of the EIAR.

LCT unit	Initial Assessment
Foothills with Forest and Wind Farm (SA 17c)	As the host Landscape Character Type (LCT), it would have the most potential to be affected by the Proposed Development and is assessed in detail in <b>Chapter 5: LVIA</b> of the EIAR.
Intimate Pastoral Valleys (SA 13a and b)	This LCT covers the upper reaches of the Water of Girvan which lie adjacent to the north eastern boundary of the Site, and the Stinchar Valley which lies at the west of the Site. The ZTV indicates visibility across the Water of Girvan area and along the northern stretches of the Stinchar Valley. It is assessed in detail in <b>Chapter 5: LVIA</b> of the EIAR.
Middle Dale (SA 12)	The Middle Dale LCT comprises the valley of the Water of Girvan between Old Dailly and Straiton. The proposed wind turbines would lie approximately 5 kilometres (km) south and south east of the LCT. The Foothills where the Proposed Development would lie, contain this LCT and provide a backdrop to the area. This already includes Hadyard Hill and Dersalloch Windfarms. The ZTV indicates that visibility would be very intermittent across the valley floor and southern side of the valley due to the

LCT unit	Initial Assessment
	screening by the landform around the north of the Site. The northern, south facing slopes of the Middle Dale would potentially have greater potential visibility. It is assessed in detail in <b>Chapter 5: LVIA</b> of the EIAR.
Rugged Uplands, Lochs and Forest (SA 21 and EA21)	This LCT crosses over the border between South Ayrshire and East Ayrshire, and the nearest proposed wind turbine would lie approximately 2km to the north and north west of the LCT. This LCT includes the northern end of the Merrick Wild Land Area, up to approximately Kirriereoch Hill. The ZTV illustrates potential visibility across the majority of this area. It is assessed in detail in <b>Chapter 5: LVIA</b> of the EIAR.
Foothills with Forest west of Doon Valley (SA 17b and EA 17b)	This LCT lies to the north east of the Site, the nearest proposed wind turbine would be approximately 4km to the south west. The LCT extends into East Ayrshire to edge of the Upper River Valley LCT along River Doon. This LCT includes Dersalloch Windfarm in its southern extents, with the majority of the rest of the LCT covered by commercial forestry, and a high voltage electricity transmission line runs north-south through the LCT. The Proposed Development would potentially be perceived from south western facing slopes from less than half the area which doesn't take into account the screening from forestry. It is considered that the Proposed Development would not significantly affect the key characteristics of this LCT and it is not considered further.
Maybole Foothills (SA 17d)	This LCT comprises a group of low hills lying between the coast and the Girvan Valley. The proposed wind turbines would lie approximately 7km at closest to the south east of the LCT. The Maybole Foothills are described as highly visible backdrops to the coast and the Doon and Girvan Valleys. The location of the Proposed Development would not affect these qualities. The SAWLCS highlights the potential for <i>“cumulative effects with existing wind farms sited in the Foothills with Forestry and Wind Farms (17c) seen in combination with the consented Kirk Hill wind farm and any further development located in the Maybole Foothills (17d) and the Foothills with Forestry West of the Doon Valley (17b) which could lead to a perception of ‘encirclement’ and dominance experienced from the Girvan Valley.”</i> There are currently no other windfarms proposed within the Maybole Foothills LCT or Foothills with Forestry West of the Doon Valley LCT and whilst the Proposed Development would be potentially seen in views from parts of this LCT, distance and location of other windfarm development would not create the potential for significant effects to occur on its key characteristics and it is not considered further.

Table 5.3.1 Landscape Character

### 5.3 Settlements

5. Settlements within the Study Area are highlighted on **Figure 5.7 Blade Tip ZTV with Visual Receptors** of the EIAR.

Settlement	Preliminary Assessment
Straiton	Straiton lies 6km north of the Proposed Development and the ZTV illustrates potential visibility from parts of the settlement. It is assessed in detail in <b>Chapter 5: LVIA</b> of the EIAR.
Maybole	Maybole lies 11km north west of the Proposed development and lies in an elevated position which affords views across the settled dales to the foothills and rugged uplands beyond. Properties on the south side of Maybole have their outlook towards the Site and the ZTV indicates visibility across the settlement. It is assessed in detail in <b>Chapter 5: LVIA</b> of the EIAR.

Settlement	Preliminary Assessment
Kirkmichael	<p>Kirkmichael is located approximately 9.2km to the north of the proposed wind turbines. The ZTV illustrates potential visibility of up to eight wind turbines, across the settlement. However, its location in a natural bowl within the landform, close intervening vegetation and built form would limit views from the majority of the settlement, with views being limited to the properties along its south east edge. From these locations, the visible proposed wind turbines would occupy a relatively small proportion of the overall views and would appear set behind the immediate middle dales and set within the distant foothills, so that while they would be perceptible, there would be a considerable degree of separation.</p> <p>There is potential for the application Craiginmoddie Windfarm to be seen within the wider views where foreground vegetation allows. The addition of the Proposed Development to Craiginmoddie Windfarm would extend the horizontal extent of wind turbines visible from this settlement but would appear as a separate development due to the contrast in wind turbine spacing and gap between the sites. The proposed wind turbines would be at a similar elevation to Craiginmoddie Windfarm. Craiginmoddie Windfarm would be potentially more noticeable due to the lower intervening landform from this view which allows more of the wind turbines to be visible in addition to the apparent density of the wind turbine arrangement. The majority of the Proposed Development would remain screened.</p> <p>The in-scoping Knockcronal Windfarm would lie in front of the eastern turbines of the Proposed Development in available views from Kirkmichael and likely to be more prominent. However, it would be within the same horizontal extent as the Proposed Development and therefore will be screened in the same views as the Proposed Development from the majority of the village.</p> <p>It is considered that there would be no potential for significant effects from the Proposed Development by itself or in addition to application or in-scoping windfarms on local residents in Kirkmichael and it is not assessed further.</p>
Bellsbank and Dalmellington	<p>Bellsbank and Dalmellington are located approximately 10.6km and 11.6km north east of the proposed wind turbines respectively. The ZTV indicates that the number of proposed wind turbines visible increases west to east as the settlements rise up the slopes of the surrounding hills. Viewpoint 16: Riecawr Avenue, Bellsbank (<b>Figure 5.32 Viewpoint 16 – Riecawr Avenue, Bellsbank</b> of the EIAR) represents a view from the more elevated parts of Bellsbank. The proposed wind turbines would sit within the broad undulating forested foothills, set back from the immediate periphery hills which form the backdrop to the views. The closer wind turbines would be viewed at a similar scale as the operational Dersalloch Windfarm to the east and the movement of the blade tips would be discernible. Even though the visible wind turbines would be noticeable, they would not change the composition of the overall view from these settlements, appearing behind the distant forested skyline.</p> <p>Phased clear felling of intervening forestry would allow more visibility of the Proposed Development but the landform would still largely screen the majority of the wind turbine height. They would remain a distant feature set back behind the periphery foothills.</p> <p>The application Craiginmoddie Windfarm would be visible but would only occupy a narrow horizontal extent of the view and would be viewed beyond the foothills and the intervening forestry would likely screen the majority of the wind turbines so that it would not be particularly noticeable.</p> <p>The in-scoping Knockcronal Windfarm would appear as part of the Proposed Development in available views from Bellsbank and Dalmellington, with its turbines marginally closer but still set back behind the forested foothills from this direction of view.</p>

Settlement	Preliminary Assessment
	<p>It is considered that there would be no potential for significant effects from the Proposed Development by itself or in addition to application or in-scoping windfarms on local residents in Bellsbank and Dalmellington and they are not assessed further.</p>
Dailly	<p>Dailly is located approximately 7.4km to the west of the proposed wind turbines. The ZTV illustrates visibility of up to eight wind turbines in the centre and along the north edge of the settlement and up to four wind turbines along its southern edge. Close intervening vegetation and built form would limit views of the proposed wind turbines from its central and northern edge, limiting views to properties along the settlements southern edge. Views from the settlements southern edge would be similar to that of Viewpoint 7: B741, Dailly (<b>Figure 5.23 Viewpoint 7 – B741, Dailly</b> of the EIAR). The Proposed Development would appear as two wind turbines, largely obscured by forestry, of which only the blades of one would be seen. The blade tips of three additional wind turbines would be visible just above the forestry, which would be largely indiscernible. There would be slight changes to a very small portion of the view. Phased clear felling of intervening forestry would increase the visibility of a small amount of wind turbine 1's tower and the blades of wind turbine 1 and wind turbines 4-6 may become perceptible, but still within a very small proportion of the view and set back behind the immediate foothills.</p> <p>The consented Kirk Hill Windfarm would be visible, partially obscured by landform and vegetation in a separate arc of the view to that of the proposed wind turbines. The application Craiginmoddie Windfarm would be also be visible and would appear in front of the Proposed Development and would appear as the more prominent windfarm development. The in-scoping Knockcronal Windfarm would not be notably visible from Dailly.</p> <p>It is considered that there would be no potential for significant effects from the Proposed Development on local residents in Dailly and it is not assessed further.</p>
Barr	<p>Barr is located approximately 7.5km to the south west of the proposed wind turbines. The ZTV indicates that only the 10 most northerly properties along Glenginnet Road within the settlement of Barr would have visibility of the Proposed Development. From here the maximum number of wind turbines visible would be five, consisting of the hub and blades of wind turbines 4-5 and the blade tips of wind turbines 1-2 and wind turbine 6.</p> <p>The Proposed Development would appear essentially as two wind turbines, as all other potentially visible wind turbines would be barely discernible above the landform and forestry. Only a small extent of the Proposed Development would be seen from a very small proportion of this settlement. The visible proposed wind turbines would occupy a very small proportion of the overall view, which the focus of is to the west over the River Stinchar Valley, the opposite direction to the Proposed Development. The visible wind turbines would be perceptible but would not fundamentally change the composition of the overall view.</p> <p>The application Claucharie Windfarm would be visible in a separate arc of the view, to the east of the settlement.</p> <p>The application Craiginmoddie Windfarm would be seen within the wider views where close vegetation allows. The addition of the Proposed Development to Craiginmoddie Windfarm would extend the horizontal extent of wind turbines visible from this settlement but would appear as a separate development due to the contrast in wind turbine spacing and gap between the sites. The proposed wind turbines would be at a similar elevation to Craiginmoddie Windfarm. Craiginmoddie Windfarm would be more noticeable due to the lack of intervening landform, which allows more of the wind turbines to be visible in addition to the apparent density of the wind turbine arrangement. The in-scoping Knockcronal Windfarm would be more distant and hidden behind the intervening landform such that it would not be notably visible.</p>

Settlement	Preliminary Assessment
	It is considered that there would be no potential for significant effects from the Proposed Development by itself or in addition to application or in-scoping windfarms on local residents in Barr and it is not assessed further.
Crosshill	<p>Crosshill is located approximately 7.5km north of the proposed wind turbines. The ZTV illustrates visibility of up to four turbines across the settlement. However, close intervening vegetation and built form would limit views from the majority of the settlement, with view being limited to the properties along its south east edge (Viewpoint 9: Dalhowan Street Road, Crosshill, <b>Figure 5.25 Viewpoint 9 – Dalhowan Street, Crosshill</b> of the EIAR). All visible proposed wind turbines would be visible to the right of Glenalla Fell and above the horizon line. The Proposed Development is separated from the foreground views by the band of vegetation along the middle ground north of Glenalla Fell. The visible wind turbines appear distant and occupy a small proportion of the overall view. The wind turbines may be seen as conflicting with the scale of the foothills, but the scale of Glenalla Fell and the position of the wind turbines behind the landmark landform, provide a sense of distance. The full extent of the Proposed Development would not be seen from this settlement. The visible wind turbines would be noticeable but would not fundamentally change the composition of the overall view.</p> <p>The application Craiginmoddie Windfarm would lie separately from the Proposed Development to the west in views from the edge of Crosshill with less screening by landform such that its full horizontal extent is likely to be visible. The in-scoping Knockcronal Windfarm would not be visible, screened by Glenalla Fell.</p> <p>It is considered that there would be no potential for significant effects from the Proposed Development by itself or in addition to application or in-scoping windfarms on local residents in Crosshill and it is not assessed further.</p>

Table 5.3.2 Settlements

6. The Isle of Arran lies approximately 37km at closest to the Proposed Development, beyond the 30km Study Area. However, NatureScot requested an illustrative wireline to show the view from the Isle of Arran. The ZTV on **Figure 5.1 Blade Tip and Hub Height Zone of Theoretical Visibility (A1)** of the EIAR illustrates that the south east facing coastal areas and higher inland slopes, largely in the south of the island would have potential visibility of the Proposed Development. A viewpoint was taken at Kildonan, on the south of the island as one of the closest locations on the island to the Proposed Development. The cumulative wireline from this location is presented on **Figure 5.3.6 Illustrative Wireline – Kildonan, Arran**. This illustrates that the Proposed Development would be potentially discernible, at 37.8km from the viewpoint, within a very small portion of the view and would not have the potential to create significant effects on visual or landscape receptors on the Isle of Arran.

## 5.4 Transport Routes

7. The main roads within the Study Area can be seen on **Figure 5.1 ZTV** of the EIAR, and also specifically identified on **Figures 11.1 Proposed Abnormal Load Access Route** and **11.2 General Construction Access Routes and Study Area Link Sections** for **Chapter 11: Transport** of the EIAR.

Road	Preliminary Assessment
A77	The A77 is the main route within the Study Area, between Ayr in the north to Girvan and beyond along the coast. The ZTV illustrates that there is potential visibility of the Proposed Development from this road intermittently between Ayr and Maybole when travelling south. There would be no visibility south of Maybole. In the area of visibility, in addition to local landform and meanders in the road, there is much roadside vegetation and local settlements that would limit wider views out.

Road	Preliminary Assessment
	There are glimpse views out to the wider landscape that would include distant views of the Proposed Development, but these would be generally oblique to the direction of travel. Viewpoint 13: A77 near Maybole ( <b>Figure 5.35 Viewpoint 19 – Brown Carrick Hills</b> of the EIAR) illustrates the potential view from one such location where a Low scale of effect is assessed. The wind turbines would be noticeable but within a small proportion of the distant view. Given the overall limited visibility and that views to the Proposed Development would be oblique to the direction of travel, it is considered that there would be no potential for significant effects on users of the A77, also taking into account sequential and cumulative effects. It is not assessed further.
A713	The A713 lies between Ayr in the north of the Study Area to Carsphairn in the south east, 11km at closest to the Proposed Development. The ZTV indicates that very little potential visibility of the Proposed Development. The closest stretch of potential visibility illustrated by Viewpoint 17 near Loch Doon ( <b>Figure 5.33 Viewpoint 17 – A713 east of Loch Doon</b> of the EIAR), at 13km from the Proposed Development and where a Low-Negligible scale of effect is assessed due to the screening of the wind turbines by the foothills. Viewpoint 18 ( <b>Figure 5.34 Viewpoint 18 – A713 and B742 Road Junction</b> of the EIAR) also illustrates the view from the northern section, 17.5km from the Proposed Development where a Low-Negligible scale of effect is assessed. Considering these represent the very few locations where there is visibility, it is considered that there would be no potential for significant effects on users of the A713, also taking into account sequential and cumulative effects. It is not assessed further.
B734	The B734 lies between Old Dailly and Barr where it changes direction to follow the Stinchar Valley to the west to meet the A714 south of Pinmore. Of the stretch between Old Dailly and Barr, the ZTV indicates only a small extent of visibility to the east of Auchensoul Hill which is illustrated by Viewpoint 12 ( <b>Figure 5.28 Viewpoint 12 – B734, Auchensoul Hill</b> of the EIAR). The views to the Proposed Development would be oblique and as shown for Viewpoint 12 a few of the proposed wind turbines would be visible, but would be distant and largely screened by the intervening foothills. Travelling north east from Pinmore to Barr, the ZTV indicates more visibility where the Proposed Development would be directly ahead of the direction of travel, between 8-14km from the proposed wind turbines. The ZTV ( <b>Figure 5.2 Blade Tip ZTV - No. of Wind Turbines Visible</b> of the EIAR) illustrates that this visibility would generally only be up to eight wind turbines, not the full extent of the Proposed Development. This does not take into account the screening by the mature trees which lie along much of the roadside, in addition to other valley floor woodland and forestry on the valley sides. There would be potentially glimpsed views of the Proposed Development but not consistently. Where visible, it would be partially screened by the intervening foothills and appear on the distant horizon. Given the limited visibility it is considered there would not be any potential for significant effects on users of the B743, and there would be no potential for significant cumulative effects. It is not assessed further.
B741	<p>The B741 lies between Dalmellington in the east to Girvan in the west, approximately 6km to the north of the Proposed Development at its closest point. It connects the villages of Straiton, Crosshills and Dailly.</p> <p>The ZTV illustrates potential visibility of the Proposed Development from Grangeston (2.5km east of Girvan) for an approximate 7km stretch to Dailly. From Dailly, there would then be no visibility until south of Crosshill where visibility would be patchy with another stretch of no visibility around Blairquhan, and a short stretch of visibility east of Straiton. Except where the A741 changes direction to Dailly, views to the Proposed Development from the majority of the road would be oblique. The woodland along the valley, often associated with the gardens and designed landscapes in this area, particularly along the western stretch would prevent any views out to the Site. Viewpoint 7 (<b>Figure 5.23 Viewpoint 7 – B741, Dailly</b> of the EIAR) illustrates the view from a more open part of the road near Dailly where the majority of the Proposed Development would be screened by the foothills and the wind turbines potentially visible would appear distant and within</p>

Road	Preliminary Assessment
	a small portion of the view. Woodland and roadside vegetation would prevent open views towards the Proposed Development from the other stretches with potential visibility. It is considered that as there would be minimal visibility of the Proposed Development along the length of the road, there would be no potential for significant effects on users of this road, and there would be no potential for significant cumulative effects. It is not assessed further.
<b>B7023</b>	The B7023 lies 7km to the north east of the Site. The Proposed Development would lie directly ahead of the direction of travel from the north. The ZTV indicates visibility across much of the route. It is assessed in detail in <b>Chapter 5: LVIA</b> of the EIAR.
<b>B7045</b>	The B7045 lies 6km to the north of the Site. The Proposed Development would lie directly ahead of the direction of travel from the north. The ZTV indicates visibility across much of the route. It is assessed in detail in <b>Chapter 5: LVIA</b> of the EIAR.
<b>Local Road between Tairlaw and Waterhead on Minnoch (C46W)</b>	This local road extends from Newton Stewart Road, south of Straiton into the Carrick Hills, and lies at the edge of the eastern Site boundary. It would have visibility of the proposed wind turbines in close proximity. It is assessed in detail in <b>Chapter 5: LVIA</b> of the EIAR.

Table 5.3.3 Transport Routes

## 5.5 Recreational Routes

8. Recreational routes within the Study Area are identified on **Figure 5.7 Blade Tip ZTV with Visual Receptors** of the EIAR.

Recreation Route	Preliminary Assessment
Old Road through Straiton Heritage Path, Core Path SA47 and LPN72.	These routes have been assessed together as they all have similar characteristics as walks within commercial forestry and pass through the Site. They are assessed in detail in <b>Chapter 5: LVIA</b> of the EIAR.
NCN7 and Core Path SA1	This national cycle route and core path lies 1.1km west of the nearest proposed wind turbine. They are assessed in detail in <b>Chapter 5: LVIA</b> of the EIAR.
Core paths SA49 and SA56	Both paths lie within the Site. They are assessed in detail in <b>Chapter 5: LVIA</b> of the EIAR.
Core paths SA52, SA53, and SA55	These core paths generally fall between Barr and North Balloch Bridge, 3.4km south of the proposed wind turbines. These have been assessed together as they all have similar characteristics as walks within commercial forestry on the sides of the Stinchar Valley. They are assessed in detail in <b>Chapter 5: LVIA</b> of the EIAR.
Cornish Hill Trail	This trail lies 1.4km south of the proposed wind turbines and within the open elevated edge where views of the proposed wind turbines would be in close proximity. It is assessed in detail in <b>Chapter 5: LVIA</b> of the EIAR.

Recreation Route	Preliminary Assessment
Core paths D12, D13 and D16 at Craiggengillian	The core path D12, D13 and D16 are located approximately 7km to the north east of the nearest proposed wind turbine. The ZTV indicates that is potential visibility of the Proposed Development from the more elevated southwest facing stretches of these core paths. Visibility would be limited to just blade tips, viewed between the folds of the intervening foothills. Blade movement would be discernible but distant, and in the context of the much closer Dersalloch wind turbines to the west. The visible wind turbines would be barely perceptible and not change the composition of the overall view. There would be no potential for significant effects on walkers on these routes and these are not assessed further.
SA46	Core path SA46 is approximately 9.4km long and is made up of a combination of tracks and roads, starting at Lindsayston, to the east of Dailly heading south through Hadyard Hill Windfarm, along the B734 and then south to the Junction with the Girvan to Barr - core path SA51. SA46 lies approximately 5.25km to the west of the nearest proposed wind turbine. The ZTV illustrates visibility from approximately half of the route. Whilst the Proposed Development would increase the influence of wind turbines within the views from the path, the views are dominated by Hadyard Hill through which the path runs. It is considered that there would be no potential for significant effects on users of this path and it is not assessed further.
SA43	Core path 43 is approximately 10.6km long and is made up of a combination of tracks, roads and earth/grass paths. The path starts at Kilgrammie Wood, west of Dailly, travels along the south bank of the Water of Girvan before passing through Glengee Wood to the junction with the National Cycle Route 7 at Brownford Bridge, approximately 3.8km to the north west of the nearest wind turbine. The ZTV illustrates that only the first 3.5km of the footpath at Dailly would have potential visibility of the Proposed Development. In reality Kilgrammie Wood would obscure any views for the first 1km, leaving only 1.5km of path with potential visibility, as illustrated by Viewpoint 7 ( <b>Figure 5.23 Viewpoint 7 – B741, Dailly</b> of the EIAR). The full extent of the Proposed Development would not be visible from this location. It is considered that there would be no potential for significant effects on users of this path and it is not assessed further.
SA39	Core path 39 is approximately 5.5km long and is made up of a combination of tracks and roads. The path starts at Crosshill and travels east to Straiton. The ZTV illustrates that approximately 2.7km of the path, between Crosshill and Laigh Garphar Wood, would have visibility of the Proposed Development. This section of path passes through agricultural and pastoral fields which are separated by a number of tree belts. Where the trees don't screen view, oblique open views of the proposed wind turbines would be to the south towards the foothills, which form the background to these views. The ZTV ( <b>Figure 5.2 Blade Tip ZTV - No. of Wind Turbines Visible</b> of the EIAR) illustrates that only a limited number of wind turbines would be seen as the intervening foothills would screen most of the Proposed Development. It is considered that due to the limited extent of visibility along the route and the few wind turbines potentially visible there would be no potential for significant effects on users of this path and it is not assessed further.
SA32, SA33, SA34, SA35 SA36 and SA37	Core paths SA32, SA33, SA34, SA35, SA36, and SA37 lie on the foothills south west of Maybole above the Water of Girvan, beyond approximately 10km from the Proposed Development. The Proposed Development would potentially be visible from sections of these paths where woodland, forestry and the landform does not screen views. The wind turbines would appear on the horizon on the forested foothills to the south and would be noticeable but would only slightly change the composition of the views available. It is considered that due to distance and intermittent visibility, there would be no potential for significant effects on users of these paths and they are not assessed further.
SA41	Core path 41 is approximately 4km long and is predominantly earth/grass path over the moorland foothills, 4km north west of the Proposed Development. The path starts at the eastern end of

Recreation Route	Preliminary Assessment
	Linfern Road and heads east over Barony Hill, before heading north and ending at Blengee Wood. The ZTV indicates that there would be almost no visibility of the Proposed Development from the path as it lies on the outer slopes of the foothills which would screen views of the proposed wind turbines. It is considered that due to distance and intermittent visibility, there would be no potential for significant effects on users of this path and it is not assessed further.
Carrick Forest Drive, SA57 and Local Paths Network: 75 (LPN:75)	<p>These three routes have been grouped together as they follow the same roads and tracks. Carrick Forest Drive is a 10km route connecting Loch Doon and Stinchar Bridge, which is also designated as core path SA57 and LPN75. The Forest Drive is only open for six months of the year (between May and October).</p> <p>The ZTV illustrates that only a very short section of the route would have potential visibility as it heads south east past the north boundary of Loch Riecawr. Only the blade tip of one wind turbine would be visible from this location and intervening forestry would further obscure this from view. There would also be potential visibility at the western section of the route but the surrounding coniferous woodland encloses the route at this location and it would not be visible.</p> <p>Phased clear felling of intervening forestry would potentially open views of the proposed wind turbines at the western end. The visible proposed wind turbines would then become a prominent feature within views from this short (approximately 500m) length of this trail, but the majority of the route would still be screened from any visibility of the Proposed Development by the landform.</p> <p>It is considered that there would not be any potential for significant effects on users of Forest Drive due to the very limited extent of visibility. It is not assessed further.</p>

Table 5.3.4 Recreational Routes

## 5.6 Visitor Attractions

9. Visitor attractions are illustrated on **Figure 5.5 Landscape Designations**, **Figure 5.6 Landscape Designations with Blade Tip ZTV**, and **Figure 5.7 Blade Tip ZTV with Visual Receptors** of the EIAR.

Recreation Destination/Visitor Attraction	Preliminary Assessment
Galloway Forest Park	The Site lies within the Galloway Forest Park. It is assessed in detail in <b>Chapter 5: LVIA</b> of the EIAR.
Colonel Hunter Blair Monument Viewpoint	A local landmark south of Straiton and viewpoint as part of local walking routes. It is assessed in detail in <b>Chapter 5: LVIA</b> of the EIAR.
Merrick Summit	As the highest point in the south of Scotland, this summit is a known visitor destination. It is assessed in detail in <b>Chapter 5: LVIA</b> of the EIAR.
Loch Doon	Loch Doon is located approximately 10.8km to the east of the nearest proposed wind turbine. The ZTV indicates that only the eastern edge of the Loch has potential visibility. Viewpoint 17 - A713 east of Loch Doon ( <b>Figure 5.33 Viewpoint 17 – A713 east of Loch Doon</b> of the EIAR) which is representative of the views available from the edge of the Loch shows that

Recreation Destination/Visitor Attraction	Preliminary Assessment
	the full extent of the Proposed Development would be potentially visible, beyond the immediate open moorland hills, within a relatively small proportion of the overall view. The proposed wind turbines would be visible above the skyline and would be noticeable but would only be a small change to the overall view. The majority of the Loch and the walks around it would have no visibility of the Proposed Development. It is considered that there would be no potential for significant effects or cumulative effects and it is not assessed further.
Loch Braden	Loch Braden is located approximately 2.2km to the east of the nearest proposed wind turbine. The ZTV indicates that there is potential visibility from the centre of the loch and the eastern edge. The picnic area and car park associated with the loch, accessed by the Carrick Forest Drive, which is only open for certain periods of time through the year, does not have any visibility due to intervening landform. Forestry surrounding the edges of the Loch also prevents consistent views for walkers out to the wider landscape and the Proposed Development. One of the most common activities at Loch Braden is fishing, for permit holders only. Where views of the proposed wind turbines are visible, they would be viewed above the foothills to the east of the Loch. The visible wind turbines would appear as prominent features, only occupying a small proportion of the view, with the landform clearly separating them from the immediate open water landscape. This may create some very localised significant effects, but overall it is considered that there would be no potential for significant effects or cumulative effects on visitors or users of the Loch and it is not assessed further.
Bargany Garden and Designed Landscape (GDL)	<p>Bargany Estate is located approximately 7.7km to the west of the nearest proposed wind turbine. The ZTV indicates that only the northern half of the Estate has potential visibility. The A listed House, walled garden and rock gardens are located to the south of the Estate, outside of the ZTV. Viewpoint 7: B741, Dailly (<b>Figure 5.23 Viewpoint 7 – B741, Dailly</b> of the EIAR) is taken from the eastern edge of the Estate and indicates that the full extent of the Proposed Development would not be seen from this location and would be mostly screened by the intervening foothills. The enclosed wooded nature of the Estate within the river valley also limits views out to the wider landscape, so that there would only be potential for views from the more elevated and open areas of the northern half of the Estate. In these views the Proposed Development would be perceptible, largely obscured by forestry, of which only the blades of a number of wind turbines would be seen. There would be slight changes to a very small portion of the view. Phased clear felling of intervening forestry would increase the visibility of a small amount of some wind turbines but still within a very small proportion of the view and set back behind the immediate foothills.</p> <p>The consented Kirk Hill Windfarm will lie within 5km to the north of the Estate (see <b>Figure 5.9 Cumulative Sites Location Plan</b> of the EIAR) partially obscured by landform and vegetation in a separate arc of the view that of the proposed wind turbines. Craiginmoddie Windfarm would be also be visible, appearing in front of the Proposed Development and would appear as the more prominent windfarm development.</p> <p>Overall it is considered that there would be no potential for significant effects or cumulative effects on visitors to Bargany GDL and it is not assessed further.</p>
Kilkerran GDL	Kilkerran is located approximately 4.1km to the north west of the nearest proposed wind turbine. Only a very small part of the block of woodland that lies in the far south east corner of the Designed Landscape falls within the ZTV. In reality the proposed wind turbines would be obscured from view by this woodland. It is not assessed further.

Recreation Destination/Visitor Attraction	Preliminary Assessment
Blairquhan GDL	<p>Blairquhan Estate and Castle are located approximately 5.8km to the north of the nearest proposed wind turbine. The ZTV indicates that potential visibility is available from the majority of the Estate, with the exception of areas in the south and far north west parts. The castle is located in the southern area of no visibility. It is noted the main views of interest are from the house are looking north over the Water of Girvan, in the opposite direction to the Proposed Development. Views to the south towards the proposed wind turbines from the House/Castle are limited by dense woodland along the Estates southern boundary. Viewpoint 10: Blairquhan, Kirkmichael Road (<b>Figure 5.26 Viewpoint 10 – Blairquhan, Kirkmichael Road</b> of the EIAR) illustrates a typical view available from the areas of the Estate with potential visibility. This shows that the proposed wind turbine visibility would be limited to mostly hub and blades, the majority screened by the intervening landform, and would not be prominent. The Proposed Development would only be a small change to the overall view and would not detract from Blairquhan GDL in the foreground. It is considered that, as much of the estate, including the core area around the house would not have any visibility, there would be little potential for significant effects to occur on visitors to the GDL and it is not assessed further.</p> <p>Craiginnmoddie Windfarm would also be visible in the same views but would appear as a separate development due to the contrast in wind turbine spacing and gap between the sites. The proposed wind turbines would be at a similar elevation to Craiginnmoddie Windfarm and appear as largely just blades from behind the periphery forested foothills which backdrop these views. Craiginnmoddie Windfarm would be potentially more noticeable due to the lower intervening landform from this location, which allows more of the wind turbines to be visible in addition to the apparent density of the wind turbine arrangement. But overall, both windfarms would appear associated with the foothills on the horizon and would not create a significant effect on the views for visitors within the Estate.</p> <p>The in-scoping Knockcronal Windfarm would appear in front of the Proposed Development in views from the GDL, with turbines appearing higher in the skyline and potentially more prominent in any available views. Its turbines would be within the eastern horizontal extents of the Proposed Development and therefore still likely to be screened by the same extent of vegetation described above for the Proposed Development on its own.</p>
Dalquharran Castle	<p>Dalquharran Castle is located approximately 7.9km to the west of the nearest proposed wind turbine. The ZTV illustrates visibility of up to four wind turbines from this location which would likely be blades only. Close intervening vegetation would limit views of the proposed wind turbines, to the open areas around the castle. The Proposed Development would be perceptible, largely obscured by forestry, of which only the blades of a number of wind turbines would be seen. There would be slight changes to a very small portion of the view. Overall it is considered that there would be no potential for significant effects or cumulative effects on visitors to Dalquharran Castle and it is not assessed further.</p> <p>Craiginnmoddie Windfarm would also be visible from this location, and it would appear in front of any views of the Proposed Development and would be more prominent. The in-scoping Knockcronal is likely to be mostly screened by landform from this direction of view, and where visible, will be viewed behind the Proposed Development and unlikely to create any additional effects to the Proposed Development on its own.</p>
Craigengillan GDL and Dark Sky Observatory	<p>Craigengillan Estate is located approximately 7km to the north east of the nearest proposed wind turbine. The ZTV indicates that only small areas along the south and eastern edge of the Estate and the central and western east facing slopes have potential visibility. The core area including the Category A listed mansion house, stables, formal gardens, a walled garden and a Japanese water garden, Pulhamite rockwork, rockeries and waterfalls all fall</p>

Recreation Destination/Visitor Attraction	Preliminary Assessment
	<p>outside of the ZTV as they are located in a dip in the landform. Within the wider estate which includes areas on the open moorland, the ZTV indicates visibility from the highest parts in the north west. In these views, the Proposed Development would be prominent within the views appearing from behind the immediate foothills, with some screening by forestry. These parts of the Estate also include views of Dersalloch Windfarm to the north, and the many windfarms to the north east. It is considered that whilst there would be visibility of the Proposed Development from these limited areas, the majority of the estate would not have visibility including the core area of the GDL and significant effects on visitors would not occur. It is not assessed further.</p> <p>The application Craiginnmoddie Windfarm would be visible from the more elevated parts of the estate in the context of the existing windfarms within the wide panoramic views. From these same locations, the in-scoping Knockcronal Windfarm would also be visible, appearing as part of the Proposed Development, slightly increasing the horizontal extent of turbines to the north.</p> <p>As Viewpoint 14: Craigengillan Dark Sky Observatory (<b>Figure 5.30 Viewpoint 14 – Craigengillan Dark Sky Observatory</b> of the EIAR) indicates, the visibility from the Dark Sky Observatory would be limited to blades of five wind turbines of the Proposed Development, appearing between the folds of the intervening foothills. Blade movement would be discernible but distant, and in the context of the much closer Dersalloch wind turbines to the west of the viewpoint. The visible wind turbines would be barely perceptible. The application Craiginnmoddie Windfarm and the in-scoping Knockcronal Windfarm would not be visible from this viewpoint. It is considered that there would be no significant effects on visitors to the Dark Sky Observatory and it is not assessed further.</p>

Table 5.3.5 Visitor Attractions

## 5.7 Cumulative Context

- In accordance with GLVIA3, paragraph 7.5 and SNH guidance on Assessing Cumulative Impacts of Onshore Wind Energy Developments (2012), paragraph 33, the cumulative assessment should focus on any likely significant cumulative impacts which are reasonably foreseeable. The cumulative assessment considers the additional changes to the landscape character and visual amenity caused by the Proposed Development in conjunction with other similar developments.
- An initial map (**Figure 5.8 Cumulative Sites Location Plan 45km Search Area** of the EIAR) of cumulative wind turbine developments was produced for a 45km radius from the Proposed Development so that a full understanding of the pattern of windfarm development in the landscape could be gained. This map includes all existing, under construction, consented, application and pre application windfarm developments as of 16 July 2021.
- Through study of the pattern of windfarm development, topography and visibility of the Proposed Development it is considered that the probability of significant cumulative effects between the Proposed Development in addition to any cumulative windfarm developments beyond approximately 30km of the Proposed Development is very unlikely. Therefore, all cumulative windfarm developments that lie substantially beyond 30km have been excluded from the cumulative assessment and have not been considered further.
- Through a further sieving process using combined ZTVs, windfarms within the east south east of the 30km Study Area including Glenshimmeroch and Shepherds Rig Windfarms were considered to have no potential to create



significant simultaneous or sequential cumulative effects due to distance and very contained ZTVs which do not overlap with the Proposed Development. These windfarms are not considered further in the assessment.

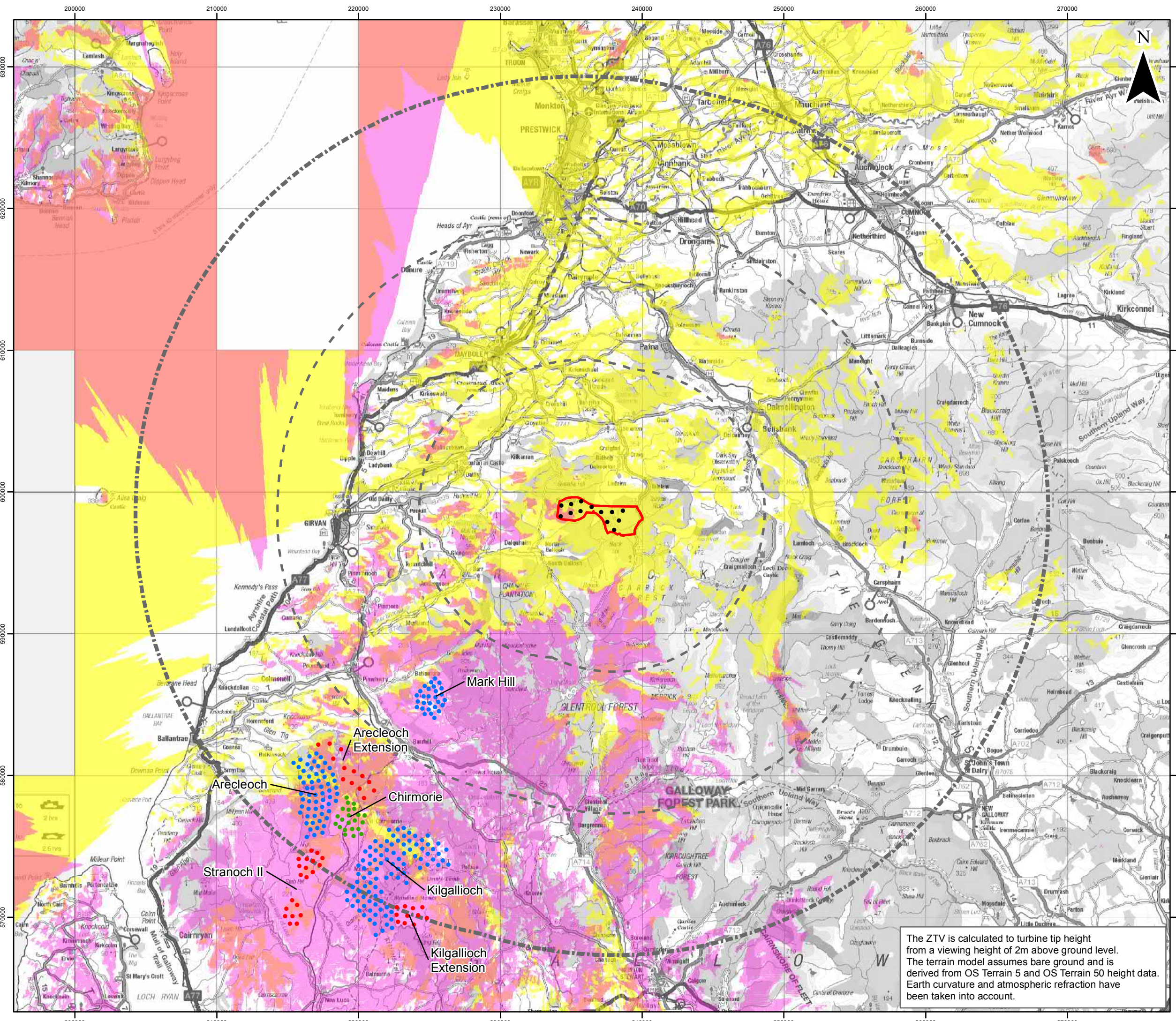
14. The cumulative assessment focuses primarily on those within 10km of the Site, and the clusters of windfarms to the north east and south west within 30km where considering sequential or successional cumulative impacts. Cumulative windfarm developments within the 30km Study Area are shown on EIAR **Figure 5.9 Cumulative Sites Location Plan 30km Study Area** of the EIAR. The cumulative ZTVs (CZTVs) of the operational, consented and application windfarms with the Proposed Development in the north, north east and south west of the Study Area are presented as part of this appendix as **Figures 5.3.1-5.3.5**.

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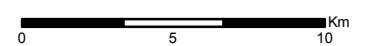




**Legend**

- Site Boundary
- 10 Km radius buffers
- 30 Km radius Study Area
- Proposed Wind Turbine
- Application Wind Turbine
- Consented Wind Turbine
- Operational Wind Turbine
- South West Windfarm Group Theoretical Visibility
- Proposed Development Theoretical Visibility
- Combined Theoretical Visibility

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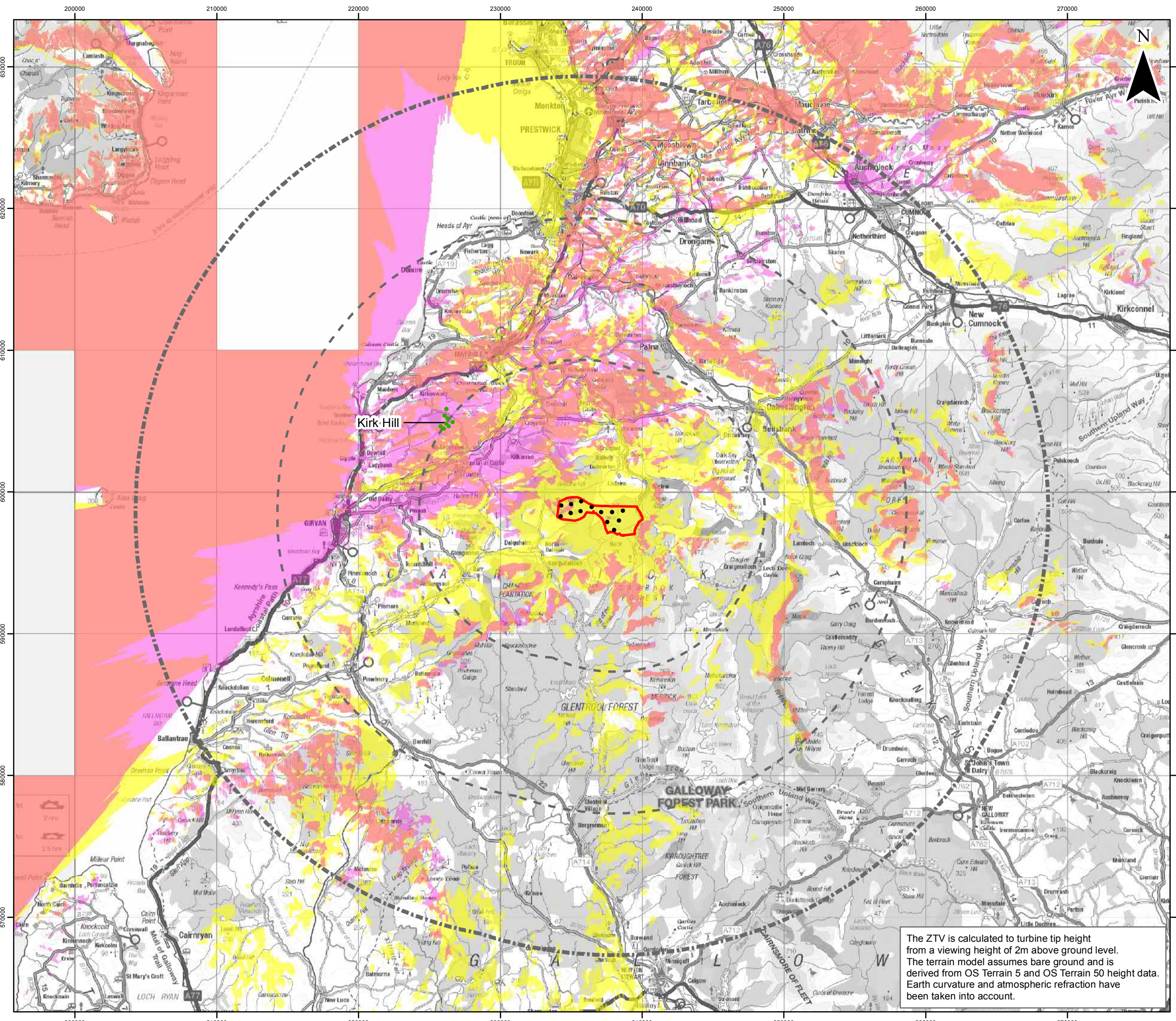
Rev	Date	By	Comment
C	04/10/2021	MAL	Third Issue.
B	25/11/2020	PM	Second Issue.
A	02/11/2020	PM	First Issue.



**Carrick Windfarm**  
 Figure 5.3.1: Cumulative ZTV – South West Group and Proposed Development

<b>Drq No</b>	CARRICK-WSP-I-126
<b>Rev</b>	C
<b>Date</b>	21/10/2021
<b>Scale</b>	1:250,000 @ A3

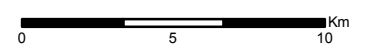
The ZTV is calculated to turbine tip height from a viewing height of 2m above ground level. The terrain model assumes bare ground and is derived from OS Terrain 5 and OS Terrain 50 height data. Earth curvature and atmospheric refraction have been taken into account.



**Legend**

- Site Boundary
- 10 Km radius buffers
- 30 Km radius Study Area
- Proposed Wind Turbine
- Consented Wind Turbine
- Theoretical Visibility: Kirk Hill
- Proposed Development Theoretical Visibility
- Combined Theoretical Visibility

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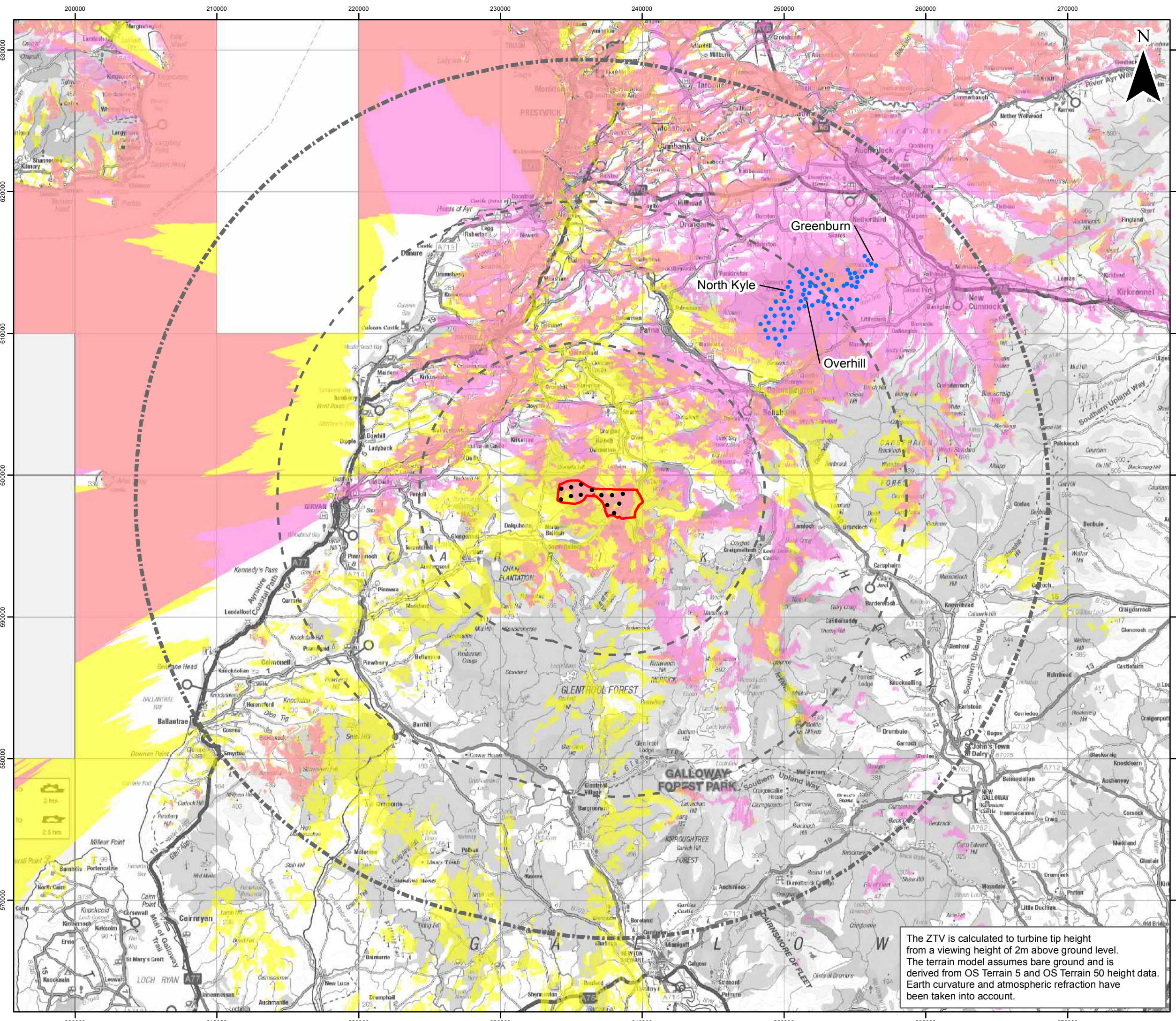
Rev	Date	By	Comment
C	04/10/2021	MAL	Third Issue.
B	25/11/2020	PM	Second Issue.
A	02/11/2020	PM	First Issue.



**Carrick Windfarm**  
Figure 5.3.2: Cumulative ZTV - Kirk Hill and Proposed Development

The ZTV is calculated to turbine tip height from a viewing height of 2m above ground level. The terrain model assumes bare ground and is derived from OS Terrain 5 and OS Terrain 50 height data. Earth curvature and atmospheric refraction have been taken into account.

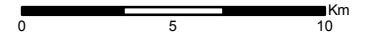
Drq No	CARRICK-WSP-I-127
Rev	C
Date	21/10/2021
Scale	1:250,000 @ A3



**Legend**

- Site Boundary
- 10km radius buffers
- 30km radius Study
- Proposed Wind Turbine
- Application Wind Turbine
- North East Windfarm Group Theoretical Visibility
- Proposed Development Theoretical Visibility
- Combined Theoretical Visibility

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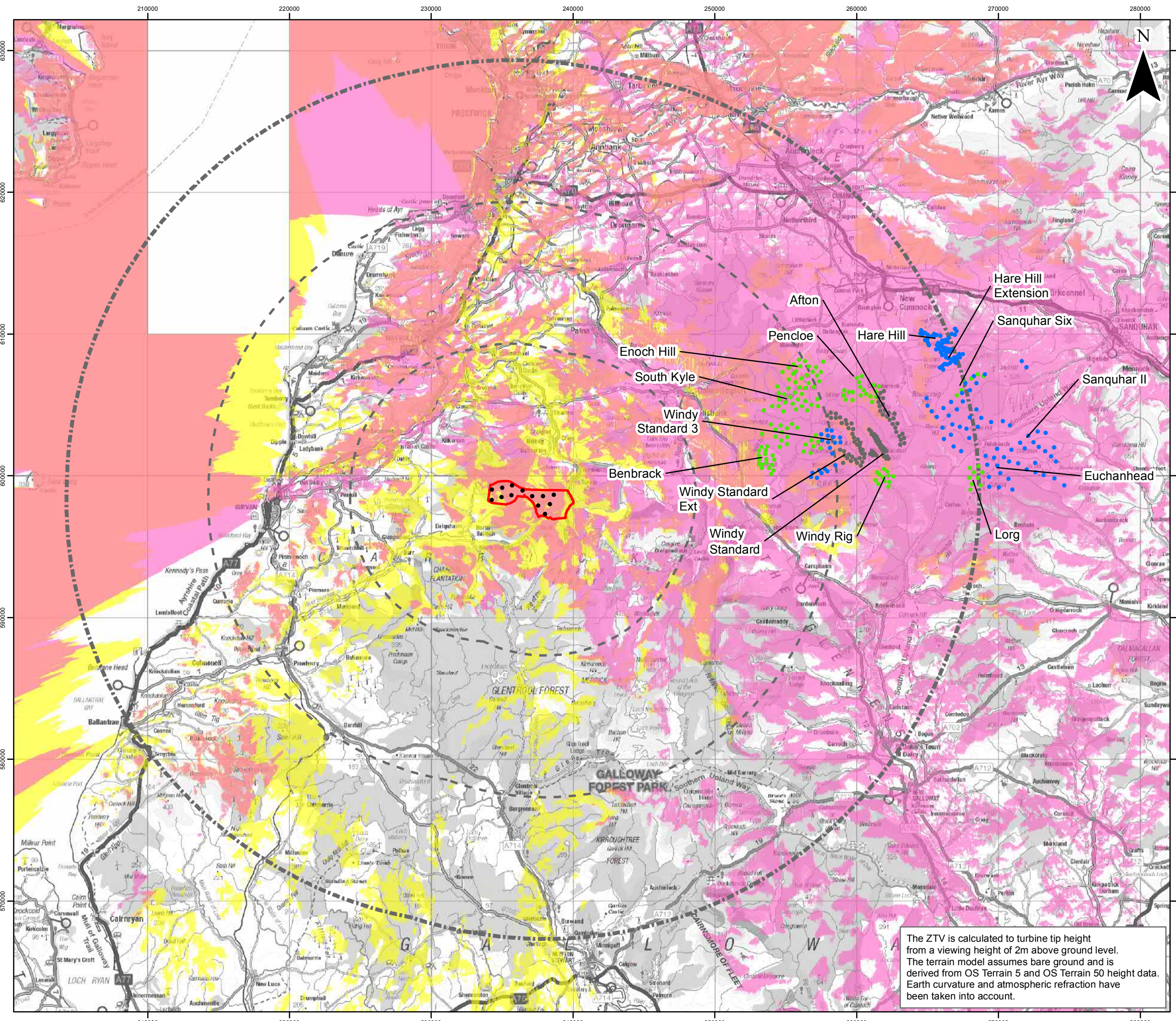
Rev	Date	By	Comment
C	18/10/2021	GC	Third Issue.
B	25/11/2020	PM	Second Issue.
A	11/11/2020	PM	First Issue.



**Carrick Windfarm**  
Figure 5.3.3: Cumulative ZTV – North East Group and Proposed Development

The ZTV is calculated to turbine tip height from a viewing height of 2m above ground level. The terrain model assumes bare ground and is derived from OS Terrain 5 and OS Terrain 50 height data. Earth curvature and atmospheric refraction have been taken into account.

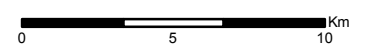
<b>Drq No</b>	CARRICK-WSP-I-128
<b>Rev</b>	C
<b>Date</b>	21/10/2021
<b>Scale</b>	1:250,000 @ A3



**Legend**

- Site Boundary
- 10km radius buffers
- 30km radius Study
- Proposed Wind Turbine
- Application Wind Turbine
- Consented Wind Turbine
- Operational Wind Turbine
- East Windfarm Group Theoretical Visibility
- Proposed Development Theoretical Visibility
- Combined Theoretical Visibility

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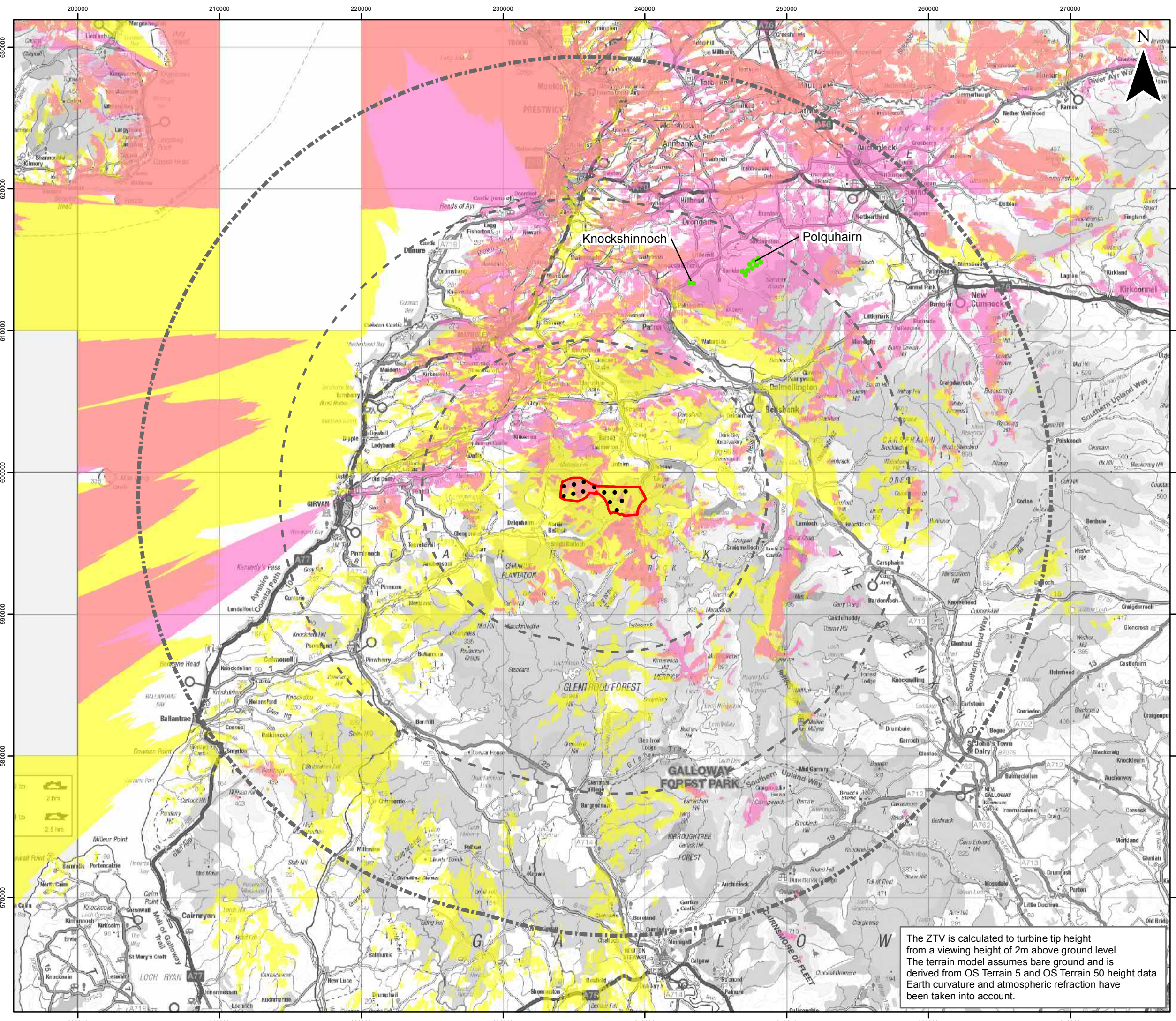
Rev	Date	By	Comment
C	18/10/2021	GC	Third Issue.
B	25/11/2020	PM	Second Issue.
A	02/11/2020	PM	First Issue.



**Carrick Windfarm**  
Figure 5.3.4: Cumulative ZTV – East Group and Proposed Development

The ZTV is calculated to turbine tip height from a viewing height of 2m above ground level. The terrain model assumes bare ground and is derived from OS Terrain 5 and OS Terrain 50 height data. Earth curvature and atmospheric refraction have been taken into account.

<b>Drq No</b>	CARRICK-WSP-I-129
<b>Rev</b>	C
<b>Date</b>	21/10/2021
<b>Scale</b>	1:250,000 @ A3



**Legend**

- Site Boundary
- 10 Km radius buffers
- 30 Km radius Study Area
- Proposed Wind Turbine
- Consented Wind Turbine
- Theoretical Visibility: Polquhaim and Knockshinnoch
- Proposed Development Theoretical Visibility
- Combined Theoretical Visibility

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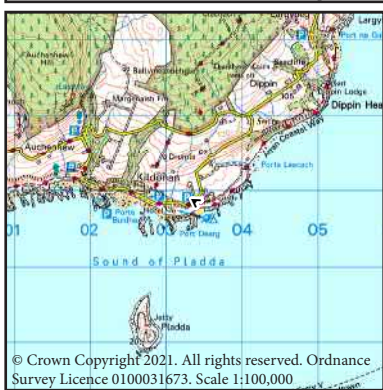
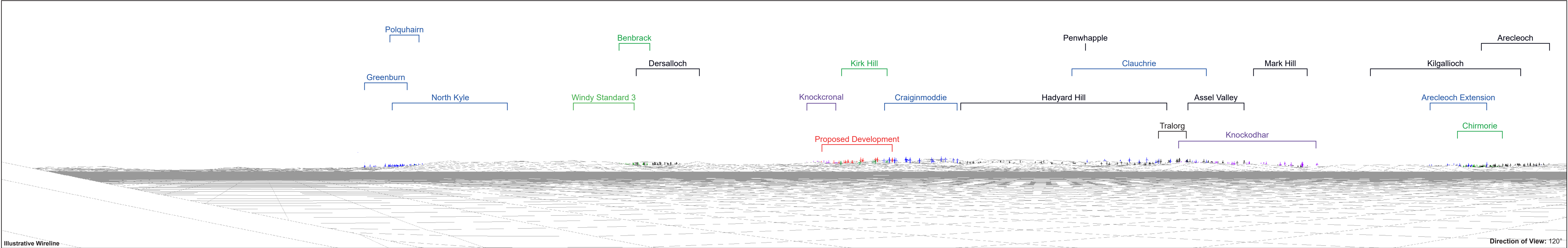
Rev	Date	By	Comment
B	18/10/2021	MAL	Second Issue.
A	27/11/2020	CE	First Issue.



**Carrick Windfarm**  
Figure 5.3.5: Cumulative ZTV – North Group and Proposed Development

<b>Drq No</b>	CARRICK-WSP-I-201
<b>Rev</b>	B
<b>Date</b>	21/10/2021
<b>Scale</b>	1:250,000 @ A3

The ZTV is calculated to turbine tip height from a viewing height of 2m above ground level. The terrain model assumes bare ground and is derived from OS Terrain 5 and OS Terrain 50 height data. Earth curvature and atmospheric refraction have been taken into account.

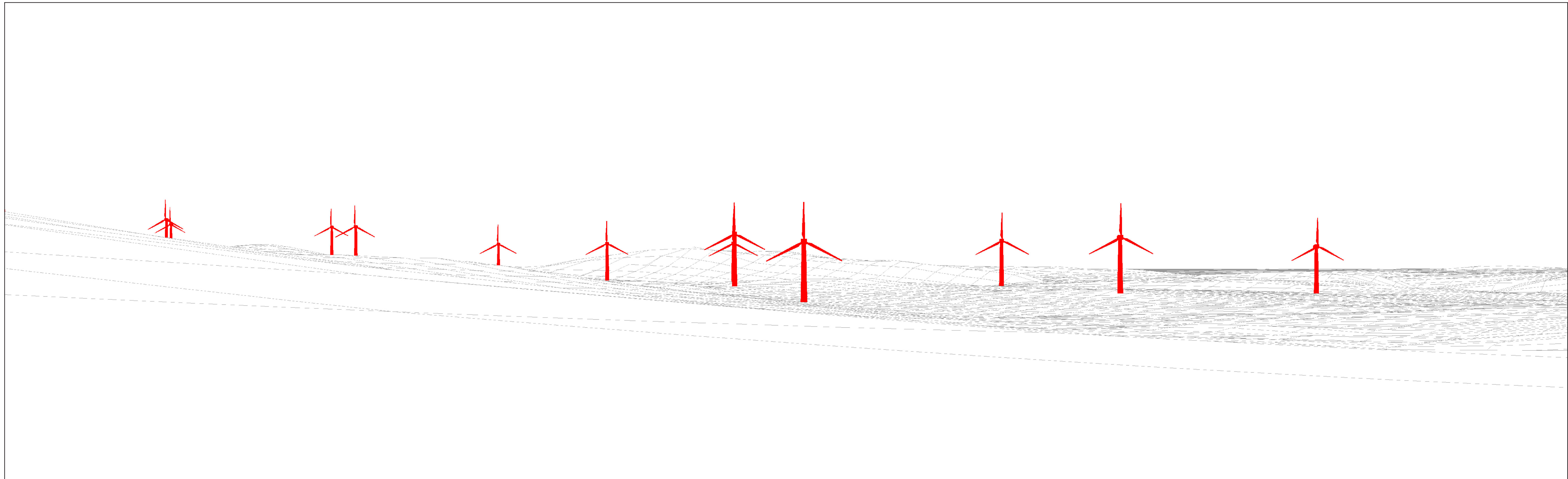


Viewpoint Location Plan

Viewpoint OS Grid Reference: 203377, 620862	Horizontal Field of View: 90° (cylindrical projection)	Paper Size: 841 x 297mm	Legend:		
Eye Level: 1.5m	Nearest Turbine: 37.83km	Image Size: 820 x 130mm	Proposed Development	Consented Windfarms	Scoping Windfarms
	Principal Viewing Distance: 812.5mm		Operational Windfarms	Application Windfarms	

Figure 5.3.6  
Illustrative Viewpoint : Kildonan, Arran  
**Carrick Windfarm**

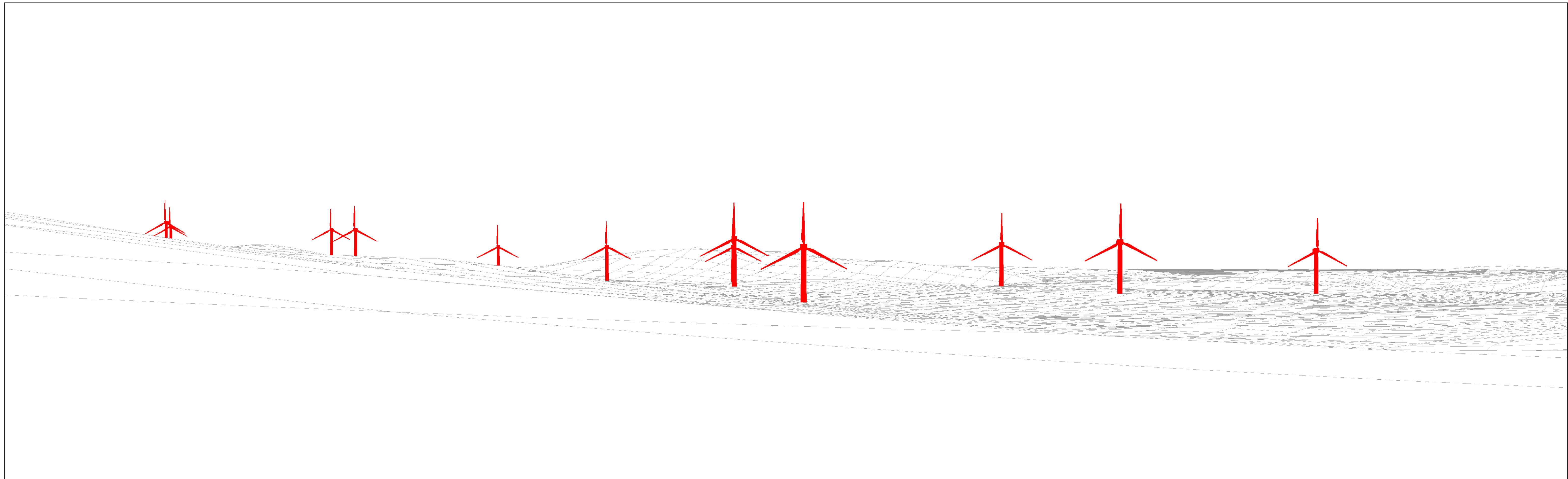




**Wireline: 150m rotor diameter (125m hub height and 200m blade-tip height)**

Viewpoint OS Grid Reference: 239431, 594817	Horizontal Field of View: 53.5° (planar projection)	Paper Size: 841 x 297mm
Eye Level: 397.5m	Nearest Turbine: 2.88km	Image Size: 820 x 260mm
Direction of View: 330°	Principal Viewing Distance: 812.5mm	

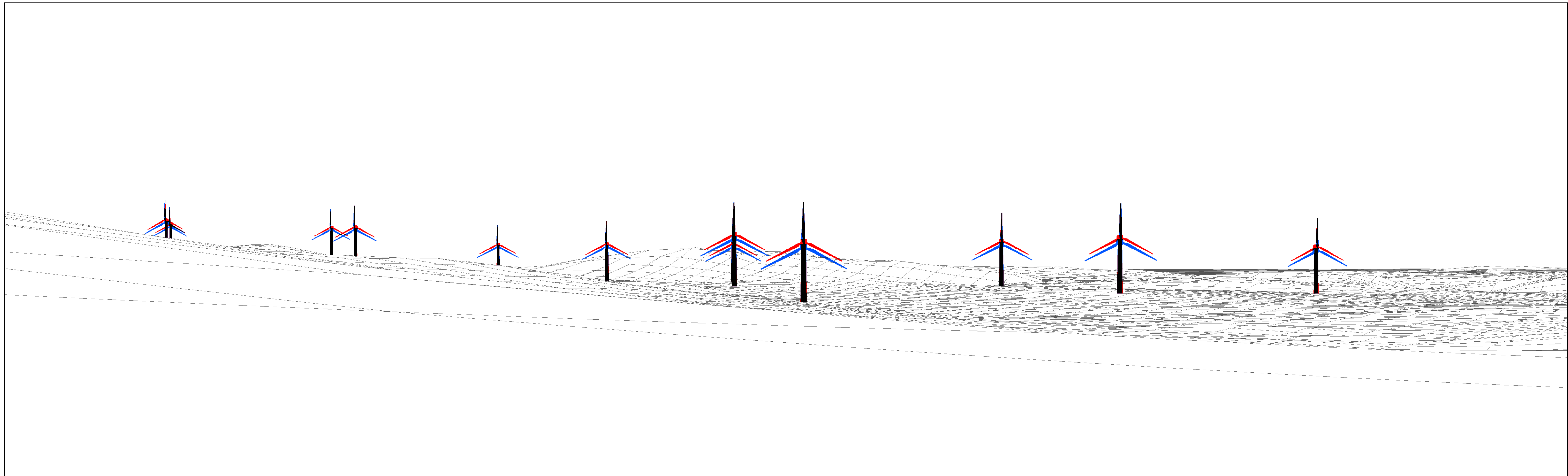
Figure 5.3.7a  
 Turbine Comparison - Viewpoint 1: Minor Road near Cornish Hill  
**Carrick Windfarm**



**Wireline: 150m rotor diameter (115m hub height and 200m blade-tip height)**

Viewpoint OS Grid Reference:	239431, 594817	Horizontal Field of View:	53.5° (planar projection)	Paper Size:	841 x 297mm
Eye Level:	397.5m	Nearest Turbine:	2.88km	Image Size:	820 x 260mm
Direction of View:	330°	Principal Viewing Distance:	812.5mm		

Figure 5.3.7b  
 Turbine Comparison - Viewpoint 1: Minor Road near Cornish Hill  
**Carrick Windfarm**



**Wireline: Comparison 150m rotor diameter (Red) and 170m rotor diameter (Blue)**

Viewpoint OS Grid Reference: 239431, 594817	Horizontal Field of View: 53.5° (planar projection)	Paper Size: 841 x 297mm
Eye Level: 397.5m	Nearest Turbine: 2.88km	Image Size: 820 x 260mm
Direction of View: 330°	Principal Viewing Distance: 812.5mm	