HydroGlen

Supporting Environmental Information Report

Appendix C: Landscape & Visual Appraisal

Visualisations

Glensaugh, Hydroglen

Landscape and Visual Appraisal - Visualisations

November 2023

brindley ASSOCIATES

creative • environmental

For ITP Energised on behalf of James Hutton Institute

Contents

Front cover photograph created based on Viewpoint 01.

Methodology Statement

Visualisations Introduction

All photography and visualisations contained within this document have been produced in accordance with the Visual Representation of WindFarms guidance (Version 2.2, NatureScot (formerly SNH), February 2017) and TGN 06/19 Visual Representation of development proposals (Landscape Institute, September 2019).

Visualisations Introduction

A photomontage is an illustration of a Proposed Development that is as accurate as feasibly possible within the limits of the equipment and software used. Although it is never possible to be completely accurate due to minor errors in survey data and photograph distortion, implementation of a robust methodology based on accurate survey and proposal information will result in a negligible degree of error.

It should be borne in mind that the visual character of the Proposed Development will undoubtedly appear differently when viewed in varying weather and / or lighting conditions. It must also be noted that photomontage cannot accurately convey a view as experienced on site. They should therefore be treated as an artist's impression of the Proposed Development rather than as a true representation. Wireframe representations, in particular, can overemphasise the Proposed Development, making it appear more prominent than it would in the landscape.

Photography

Viewpoints are locations where visibility of the Proposed Development is theoretically available and are representative of specific conditions and / or receptors. They are useful for assessing specific views from sensitive locations and a diverse number of receptor groups, and are selected to be representative of visibility patterns in the study area. They are also useful in illustrating indirect landscape effects. Viewpoints are, by their nature, static representations located in publicly accessible areas such as roads, tracks and footpaths, which in reality tend to be experienced by receptors moving through the landscape together with other views.

A total of 8 LVA viewpoints were considered to be representative of visiibilty patterns within the Study Area (See Figure 01 for viewpoint locations). These viewpoints are located in publicly accessible areas such as road, tracks and footpaths. As previously agreed with the Aberdeenshire council, photography from Viewpoint 8 was not taken due to potential health and safety concerns in obtaining the photography during winter months in combination with the fact that this viewpoint is unlikely to experience a noticeable change in the view.

Site photography for the assesment images was undertaken in October 2023. All viewpoints were micro-sited on-site to ensure worst case visibility of the Proposed Development from the representative location and to avoid foreground objects, where possible.

In line with best practice guidance, photography utilised for the preperation of images was taken with a digital SLR camera with full frame (35mm) sensor, using a 50mm focal length prime lens, mounted on a level tripod with a levelled panoramic head. The centre of the camera lens was positioned at a height of 1.5m to 1.65m above ground level. All photography was taken in landscape format.

Survey

In the production of accurate visualisations, location data is required for camera viewpoints and a number of reference points which are used to accurately match the digital model to the photograph. The reference points are details within the view that are easily identifiable and are commonly features such as terrain, buildings and telegraph poles. Ordnance Survey (OS) grid coordinates of the camera tripod location were obtained using a hand-help GPS unit. As there is a margin of error with hand-held GPS units, viewpoint coordinates were adjusted slightly where required, based on aerial imagery and OS data. OS Terrain data was used in combination with OS mapping and GIS aerial imagery to provide reference points for accurately aligning the digital model and the photograph.

Photography Post-Production

Where possible, it was ensured that the entire evelopment was visible within the image whilst providing sufficient landscape and visual context. Some fine-tuning of the photgraphy settings has been used during post-production to reduce distant haze or improve the lighting conditions making the image clearer, however this was kept to a minimum.

In order to produce panoramic base photography, several single frame images were 'stitched' together in cylindrical format using PTGui software. To ensure the minimum of optical distortion and parallax error, the following precautions were taken:

- When taking the photography, a tripod with a panoramic head was used. The levelling plate, set between the tripod and the tripod head, ensured that the plane of rotation of the camera was exactly horizontal. This avoids 'stepping' – the result effect of misaligned adjacent frames of photography;
- To eliminate parallax error, a sliding plate on the tripod head was used. This allowed the camera to be positioned so that the nodal point of the lens was positioned over the axis of rotation;
- The photographs were taken in 15° increments, to allow for an overlap of 50% between adjacent frames in the photography stitching software. This means that each panorama is constructed using only the central 50% of each photograph, discarding the areas with the greatest amount of lens distortion;
- The photography stitching software automatically generates control points for aligning the photographs to each other. These control points were refined manually, removing inaccurate points and adding additional ones where necessary to ensure the final image was subject to the minimum level of distortion; and
- The stitched photograph's vanishing point was adjusted to match the camera in the 3D model.

Construction of Digital Model

All graphics and visual representations of the proposed wind turbine utilised to support field work and illustrate our assessment work have been prepared by visualisation technicians employed directly by Brindley Associates Ltd using 'WindFarm R5' software produced by ReSoft. Within the software a digital terrain model was created using a combination of OS Terrain 5 and OS Terrain 50 data. OS Terrain 5 DTM utilised covered a 20km x 20km area centred on the Proposed Development, whilst OS Terrain 50 was utilised for the wider landscape.

The Proposed Development was modelled by inputting the information in Table 1 below into the software:

Table 1: Turbine Location and Parameters

Turbine Number	Easting	Northing	AOD (m)	Blade Tip (m)	Hub Height (m)	Rotor Diameter (m)
1	367630	779983	308	76	50	52

Cumulative development models were created using the same process, based on cumulative research which was carried out up to 14th September 2023, utilising local authority planning portals. Each turbine was plotted as accurately as possible; operational sites were plotted using high-resolution aerial imagery where visible whilst all other sites were plotted using co-ordinates within the planning documents in the majority of cases

The associated proposed access track, electrical overhead cabling, solar development and hydrogen development have also been included in the digital modelling and visualisations as they are predicted to be partially visible from some viewpoints.

The models of these proposals were created using digital modelling software '3DS Max', utilising information received from the client regarding design, location, and textures. The models were then set on the Terrain 5 data to ensure they would appear at the correct elevation in the output CGI renders. Realistic textures were applied to these models and daylight systems were applied to ensure accurate shading in the CGI renders.

Construction of Wireframe Views

All of the wireframe visualisations illustrate the visible cumulative developments which meet the cumulative assessment parameters; all known wind turbine developments within 5km of the Proposed Turbine and all known wind turbine developments above 70m to tip within 25km of the Proposed Turbine. It should be noted that in some of the more distant viewpoints, small-scale operational wind turbines are visible in the photography which did not meet the above parameters, and are therefore not illustrated on the associated wireframes.

All wireframe views illustrate the turbines facing the viewpoint with one turbine blade pointing straight up, to demonstrate the worst-case scenario. The wirelines include curvature of the Earth and light refraction in their generation.

Construction of Photomontage Views

The wireframes were accurately matched to each photograph using the OS terrain data and appropriate reference points to determine the scale and position of the wireframe within the photograph. The wireframe was never distorted to fit the photograph. As all the above survey and photography methodology had been undertaken, a good fit between photograph and wireframe was possible by simply scaling and positioning the wireframe, together with some minor rotation of the panoramic photograph to correct slight levelling errors.

Wireframes were initially aligned to the 90° photography in cylindrical format, in order to produce baseline photography to accurate match the baseline wireframe. The 90° photography was then cropped to 53.5° and converted to planar projection to produce base photography for the photomontages.

Once the 53.5° planar wireframe had been aligned satisfactorily to the base photography, realistic CGI renders of the proposed models were exported at the calculated image size. These images are based upon viewpoint and camera details recorded during site work and have been rendered to match the time of day and lighting conditions in the photograph to provide a realistic image. The turbines were rendered facing the viewpoint, with the blades set to random angles (in most cases) to give a more realistic impression of the view. In viewpoints where the proposed turbine is almost completely screened from view by existing features, a blade rotation angle has been manually input to ensure the final photomontage does not disenguinely show no visibility which may have occurred if a random angle was used.

Finally the photomontage was completed by masking those parts of the CGI image which would be hidden by foreground objects. This aspect of the work was undertaken using Photoshop CC software, with reference made to the digital model in instances where there was any uncertainty regarding which elements of the photograph screen the proposals. The CGI was then further adjusted to ensure proposed materials shown match the surroundings in terms of lighting. In some cases, the contrast between the background and proposed turbine was increased to ensure that the portrayal of the potential effect is not underestimated and that 'worst-case scenario' is achieved.

VP01b also contains an AVR Level 0 visualisation which displays the full physical extents of the solar and hyrodgen proposals within the view, including areas which are screened by existing features in the photomontage. This is created using the same process as above, with a colour-coded overlay applied to the CGI and with no masking undertaken.

Construction of Visualisations Package

In accordance with NatureScot guidance, photograph, wireframe and photomontage visualisations have been presented in a combination of cylindrical and planar projection to ensure best-case representation of the Proposed Development at the recommended viewing distance. Cylindrical projection has been used for the baseline panorama and wireline images, whilst planar projection has been used for the images for visual assessment.

In all instances using planar projection, the images must be viewed at a comfortable arm's length and image size, indicated on each individual visualisation in order to obtain an accurate representation of the view.

All of the photographs, wirelines and photomontages have been produced to retain the horizontal, vertical and diagonal field of view detailed below in Table 2:

Table 2: Visualisation Types and Focal Lengths

Visualisation Type	Projection	Horizontal Field of View (°)	Vertical Field of View (°)	Size of Image
Baseline panorama and wireline	Cylindrical	90.0	14.2	820mm x 130mm on A1 sheet
Wireline	Planar	53.5	18.2	820mm x 260mm on A1 sheet
Photomontage	Planar	53.5	18.2	820mm x 260mm on A1 sheet

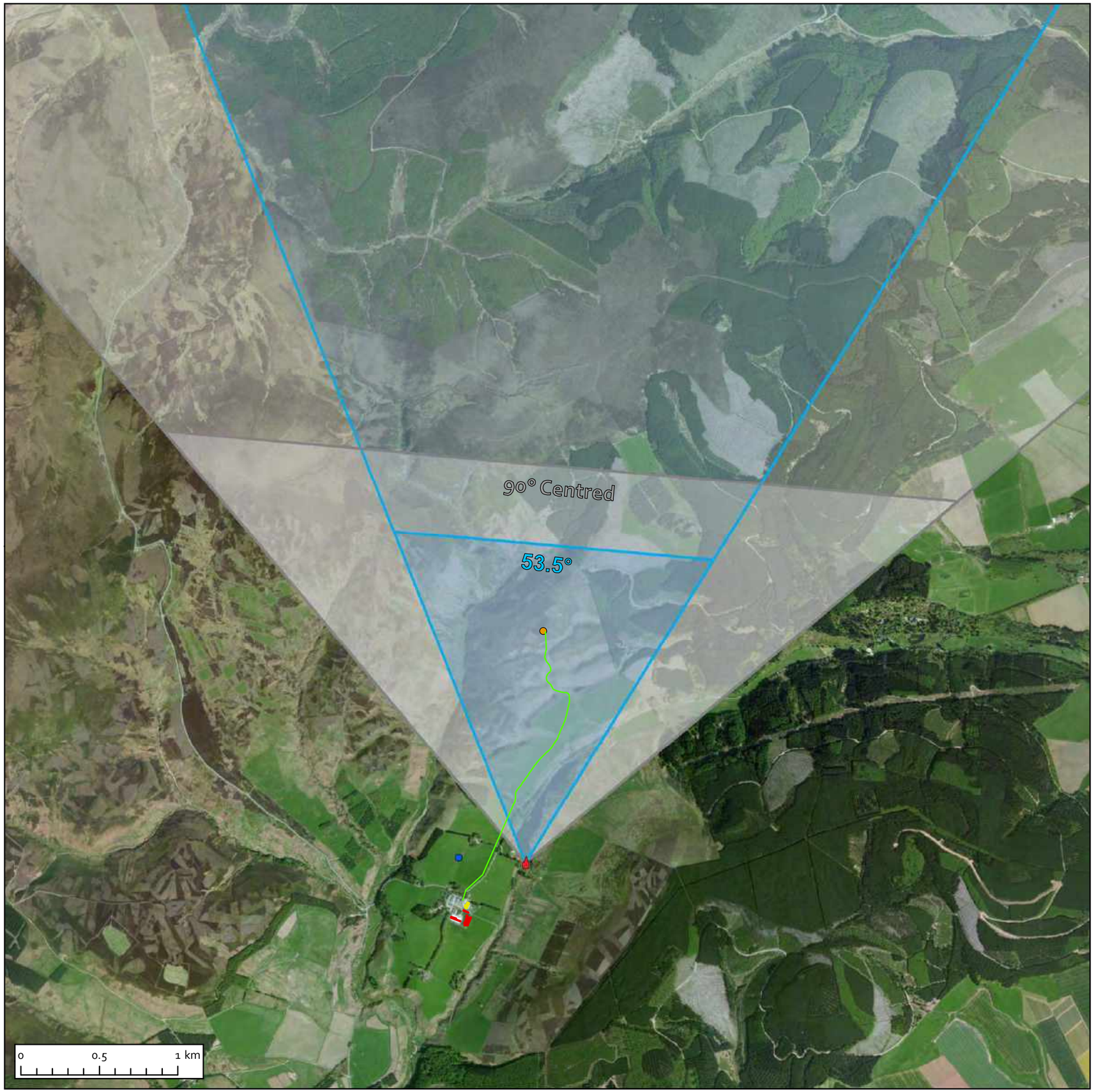
In line with NatureScot guidance, the appropriate instructions for viewing the visualisations can be found on each figure and are taken directly from the aforementioned guidance. In addition, the visualisations also state that the technical information requested, such as distance to nearest turbine, which details the mathematical calculations determined within the 'WindFarm R5' software produced by ReSoft, photography metadata and recorded field notes. It should be noted that the distance to the nearest turbine and the direction of view stated is based on the 12 digit grid coordinates of the viewpoint and the centre of the turbine.

An A3 viewpoint location plan has also been prepared for each viewpoint to be assessed to identify clearly the position, distance and horizontal angle of view between the viewpoint and the Proposed Development. This also includes a count of the number of cumulative turbines theoretically visible in the view, however it should be noted that this number relates to the full 360° view from the viewpoint.

Summary Tables

Photography	Response
Method used to establish the camera location	Hand-held GPS on site, adjusted where required based on aerial photography & OS data
Likely level of accuracy of location	Better than 3m
Coordinate system used	OS Grid
Camera make and model	Canon 6D
Lens make and model	Canon EF 50mm
Panoramic head make and model	Manfrotto panoramic head and leveller
Photography orientation	Landscape
3D Model	**Response**
Source of topographic height data	Topographic Survey in combination with OS Terrain 5 & OS Terrain 50
How have the model and the camera locations been placed in the software?	Hand-held GPS coordinates / topographic survey data in combination with GIS aerial mapping
Elements in the view used as target points to check the horizontal alignment	OS Terrain 5 & OS Terrain 50
Elements in the view used as target points to check the vertical alignment	OS Terrain 5 & OS Terrain 50
3D modelling and rendering software (Proposed access track, overhead electrical cabling and solar & hydrogen developments)	3DS Max and Vray Next
3D modelling and rendering software (Proposed Wind Turbine)	WindFarm R5

External Information Utilised in Preparation of Supporting Photomontages		
Drawing Reference and Title	Drawing Date/ Date Received	Provided By
Solar & hydrogen development layouts	12th October	ITP Energised
Access track extents	17th October 2023	ITP Energised
D6721-PM-0006 A2 - Site Elevations	24th October 2023	ITP Energised
Overhead Electrical Cabling Route	17th November 2023	ITP Energised



Legend

- Proposed turbine location
- Viewpoint location
- Operational turbines
- Proposed solar panel development
- Proposed hydrogen development
- Proposed overhead cabling location

VP01a: Loch Saugh

Viewpoint OS reference:	367513, 778502
Viewpoint elevation:	126m
Direction of view:	005°
Distance to proposed turbine:	1.5km

Predicted theoretical visibility

Proposed turbine - tip:	Y
Proposed turbine - hub:	Y
All cumulative sites - tip	0
All cumulative sites - hub	0

Tripod Location Photograph

Project: Glensaugh	Client: ITP Energised
Drawing Title: VP01a: Viewpoint Location Plan	
Scale: 1:25,000 @ A3	Date: 24 / 11 / 2023
Figure No: 12a	Status: Planning
Drawn by: R Moore	Checked by: S Hyde

north

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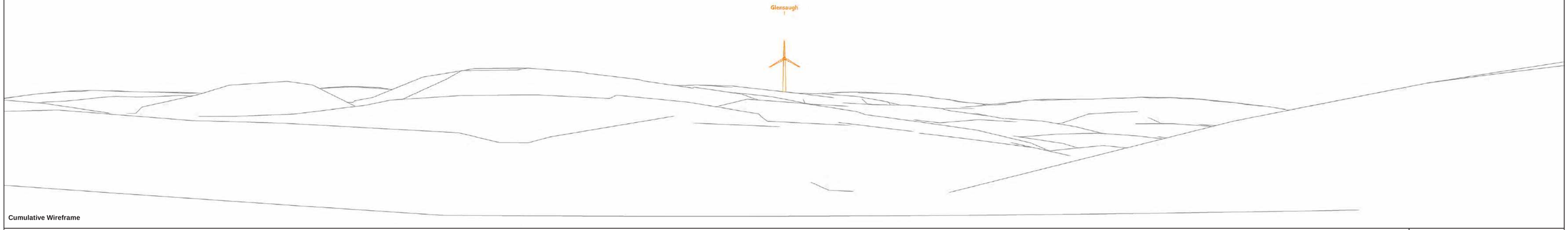
Extent of central 50mm frame used to construct panorama
Extent of 53.5 ° planar wireframe



Cumulative Wireframe

Figure Number: 12b
VP01a: Loch Saugh

Drawn by: R Moore - Checked by: S Hyde
Date: 24 / 11 / 2023

Colour Coding for Cumulative Sites
- Glensaugh
- Operational
- Consented

Viewpoint OS reference:	367513, 778502
Viewpoint elevation:	167m AOD
Direction of view:	005°
Distance to proposed turbine:	1.5km

Horizontal field of view:	90° (cylindrical projection)
Vertical field of view:	14.2°
Principle distance:	522mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 130mm

Camera:	Canon EOS 6D (full frame)
Lens:	Canon EF 50mm
Camera height:	1.5m AGL
Date:	31 / 10 / 2023
Time:	11:50 am

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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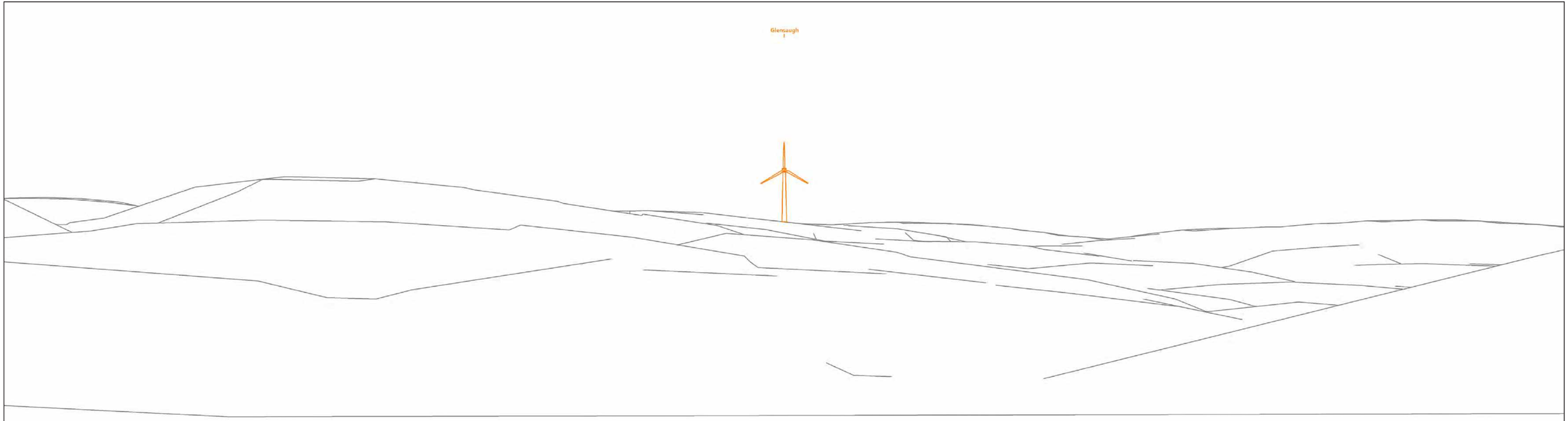

Cumulative Wireframe

View flat at a comfortable arm's length

If viewing this image on a screen, enlarge to full screen height

Figure Number: 12c

VP01a: Loch Saugh

Drawn by: R Moore - Checked by: S Hyde

Date: 24 / 11 / 2023

Colour Coding for Cumulative Sites

- Glensaugh
- Operational
- Consented

Viewpoint OS reference:	367513, 778502
Viewpoint elevation:	167m AOD
Direction of view:	005°
Distance to proposed turbine:	1.5km

Horizontal field of view:	53.5° (planar projection)
Vertical field of view:	18.2°
Principle distance:	812.5mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 260mm

Camera:	NA
Lens:	NA
Camera height:	1.5m AGL

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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Figure Number: 12d
VP01a: Loch Saugh

Drawn by: R Moore - Checked by: S Hyde
Date: 24 / 11 / 2023

Viewpoint OS reference:	367513, 778502
Viewpoint elevation:	167m AOD
Direction of view:	005°
Distance to proposed turbine:	1.5km

Horizontal field of view:	53.5° (planar projection)
Vertical field of view:	18.2°
Principle distance:	812.5mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 260mm

Camera:	Canon EOS 6D (full frame)
Lens:	Canon EF 50mm
Camera height:	1.5m AGL
Date:	31 / 10 / 2023
Time:	11:50 am

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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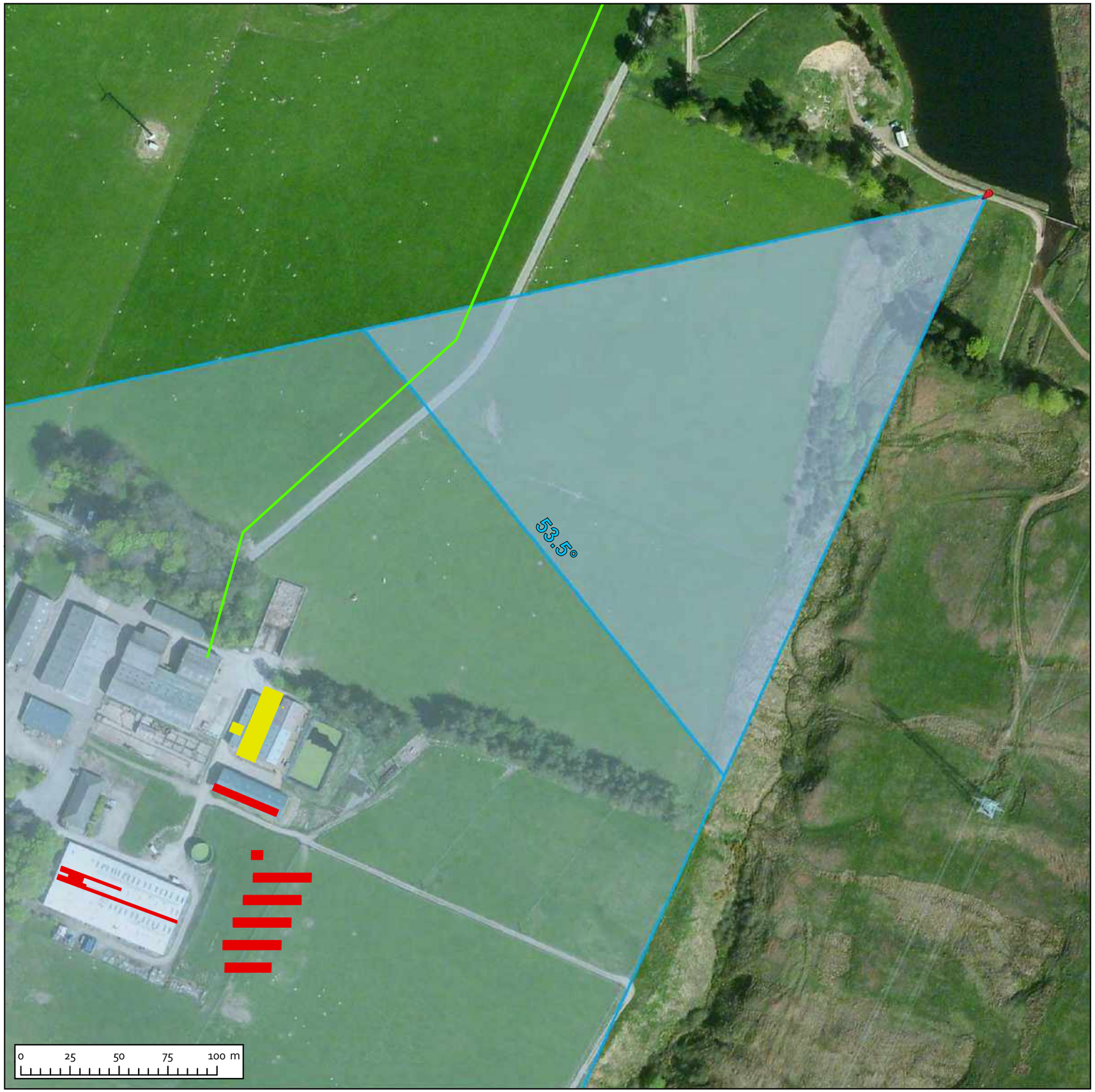

Legend

- Proposed hydrogen development location
- Proposed solar development
- Proposed hydrogen development
- Proposed overhead cabling

VP01a: Loch Saugh

Viewpoint OS reference:	367513, 778502
Viewpoint elevation:	126m
Direction of view:	231°
Distance to proposed solar / hydrogen development:	440m

Tripod Location Photograph

Project: Glensaugh	Client: ITP Energised
Drawing Title: VP01b: Viewpoint Location Plan	
Scale: 1:2,000 @ A3	Date: 24 / 11 / 2023
Figure No: 12e	Status: Planning
Drawn by: R Moore	Checked by: S Hyde

north

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Baseline Photograph

View flat at a comfortable arm's length

If viewing this image on a screen, enlarge to full screen height

Figure Number: 12f
VP01b: Loch Saugh

Drawn by: R Moore - Checked by: S Hyde
Date: 24 / 11 / 2023

Viewpoint OS reference:	367513, 778502
Viewpoint elevation:	167m AOD
Direction of view:	231°
Distance to proposed solar / hydrogen development:	440m

Horizontal field of view:	53.5° (planar projection)
Vertical field of view:	18.2°
Principle distance:	812.5mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 260mm

Camera:	Canon EOS 6D (full frame)
Lens:	Canon EF 50mm
Camera height:	1.5m AGL
Date:	31 / 10 / 2023
Time:	11:50 am

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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Figure Number: 12g
VP01b: Loch Saugh

Drawn by: R Moore - Checked by: S Hyde
Date: 24 / 11 / 2023

Legend for AVR 0 Visualisation

- Proposed solar development
- Proposed hydrogen development
- Proposed overhead electrical cabling

Viewpoint OS reference:	367513, 778502
Viewpoint elevation:	167m AOD
Direction of view:	231°
Distance to proposed solar / hydrogen development:	440m
Horizontal field of view:	53.5° (planar projection)
Vertical field of view:	18.2°
Principle distance:	812.5mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 260mm
Camera:	Canon EOS 6D (full frame)
Lens:	Canon EF 50mm
Camera height:	1.5m AGL
Date:	31 / 10 / 2023
Time:	11:50 am
Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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Figure Number: 12h
VP01b: Loch Saugh

Drawn by: R Moore - Checked by: S Hyde
Date: 24 / 11 / 2023

Viewpoint OS reference:	367513, 778502
Viewpoint elevation:	167m AOD
Direction of view:	231°
Distance to proposed solar / hydrogen development:	440m

Horizontal field of view:	53.5° (planar projection)
Vertical field of view:	18.2°
Principle distance:	812.5mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 260mm

Camera:	Canon EOS 6D (full frame)
Lens:	Canon EF 50mm
Camera height:	1.5m AGL
Date:	31 / 10 / 2023
Time:	11:50 am

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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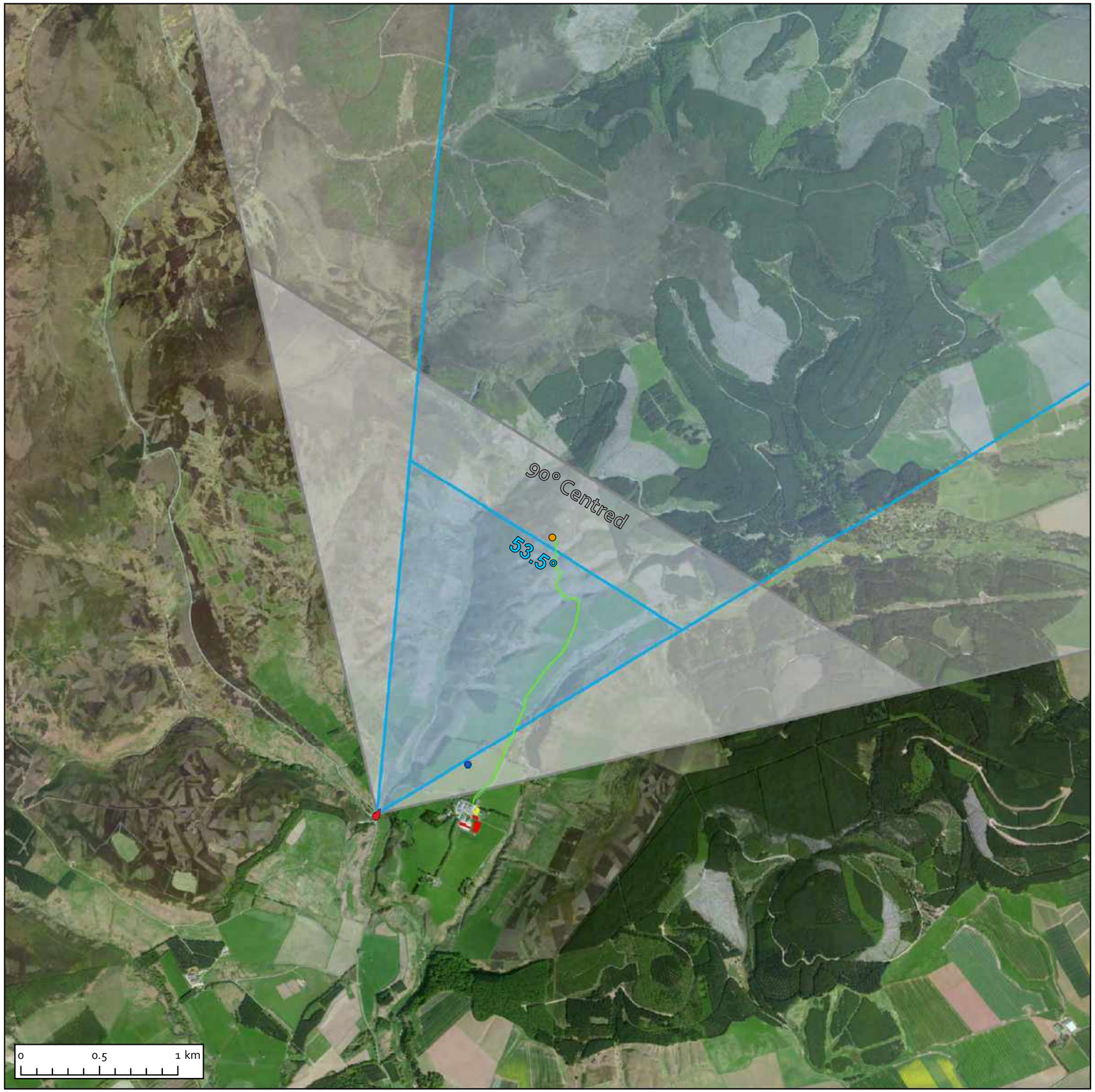

Legend

- Proposed turbine location
- Viewpoint location
- Operational turbines
- Proposed solar panel development
- Proposed hydrogen development
- Proposed overhead cabling location

VP02: Junction of Old Military Road and C-Class Road

Viewpoint OS reference:	366508, 778216
Viewpoint elevation:	126m
Direction of view:	032°
Distance to proposed turbine:	2.1km

Predicted theoretical visibility

Proposed turbine - tip:	Y
Proposed turbine - hub:	Y
All cumulative sites - tip	1
All cumulative sites - hub	0

Tripod Location Photograph

Project: Glensaugh	Client: ITP Energised
Drawing Title: VP02: Viewpoint Location Plan	
Scale: 1:25,000 @ A3	Date: 24 / 11 / 2023
Figure No: 13a	Status: Planning
Drawn by: R Moore	Checked by: S Hyde

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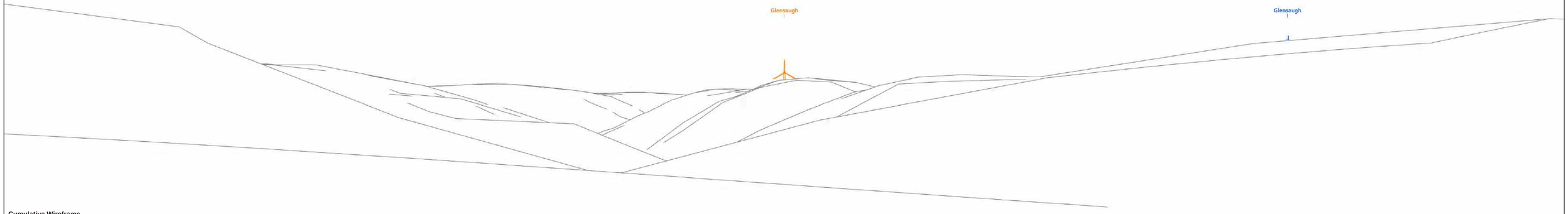
north

Extent of central 50mm frame used to construct panorama

Extent of 53.5 ° planar wireframe



Cumulative Wireframe

Figure Number: 13b

VP02: Junction of Old Military Road and C-Class Road

Drawn by: R Moore - Checked by: S Hyde

Date: 24 / 11 / 2023

Colour Coding for Cumulative Sites

- Glensaugh
- Operational
- Consented

Viewpoint OS reference:	366508, 778216
Viewpoint elevation:	126m AOD
Direction of view:	032°
Distance to proposed turbine:	2.1km

Horizontal field of view:	90° (cylindrical projection)
Vertical field of view:	14.2°
Principle distance:	522mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 130mm

Camera:	Canon EOS 6D (full frame)
Lens:	Canon EF 50mm
Camera height:	1.5m AGL
Date:	31 / 10 / 2023
Time:	15:15 pm

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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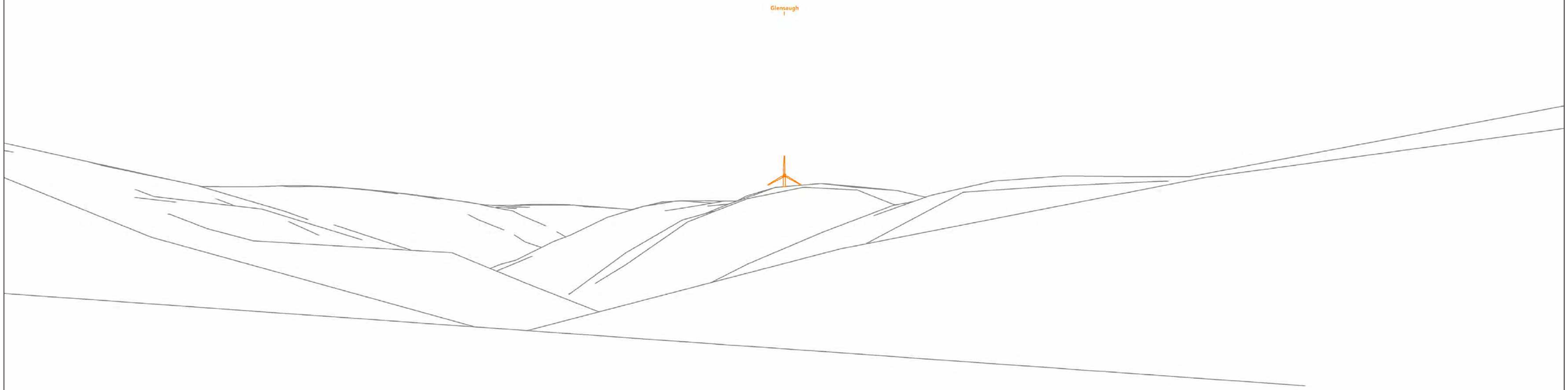

Cumulative Wireframe

View flat at a comfortable arm's length

If viewing this image on a screen, enlarge to full screen height

Figure Number: 13c

VP02: Junction of Old Military Road and C-Class Road

Drawn by: R Moore - Checked by: S Hyde

Date: 24 / 11 / 2023

Colour Coding for Cumulative Sites

- Glensaugh
- Operational
- Consented

Viewpoint OS reference:	366508, 778216
Viewpoint elevation:	126m AOD
Direction of view:	032°
Distance to proposed turbine:	2.1km

Horizontal field of view:	53.5° (planar projection)
Vertical field of view:	18.2°
Principle distance:	812.5mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 260mm

Camera:	NA
Lens:	NA
Camera height:	1.5m AGL

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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Photomontage (Type 3 AVR Level 3)

View flat at a comfortable arm's length

If viewing this image on a screen, enlarge to full screen height

Figure Number: 13d

VP02: Junction of Old Military Road and C-Class Road

Drawn by: R Moore - Checked by: S Hyde

Date: 24 / 11 / 2023

Viewpoint OS reference:	366508, 778216
Viewpoint elevation:	126m AOD
Direction of view:	032°
Distance to proposed turbine:	2.1km

Horizontal field of view:	53.5° (planar projection)
Vertical field of view:	18.2°
Principle distance:	812.5mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 260mm

Camera:	Canon EOS 6D (full frame)
Lens:	Canon EF 50mm
Camera height:	1.5m AGL
Date:	31 / 10 / 2023
Time:	15:15 pm

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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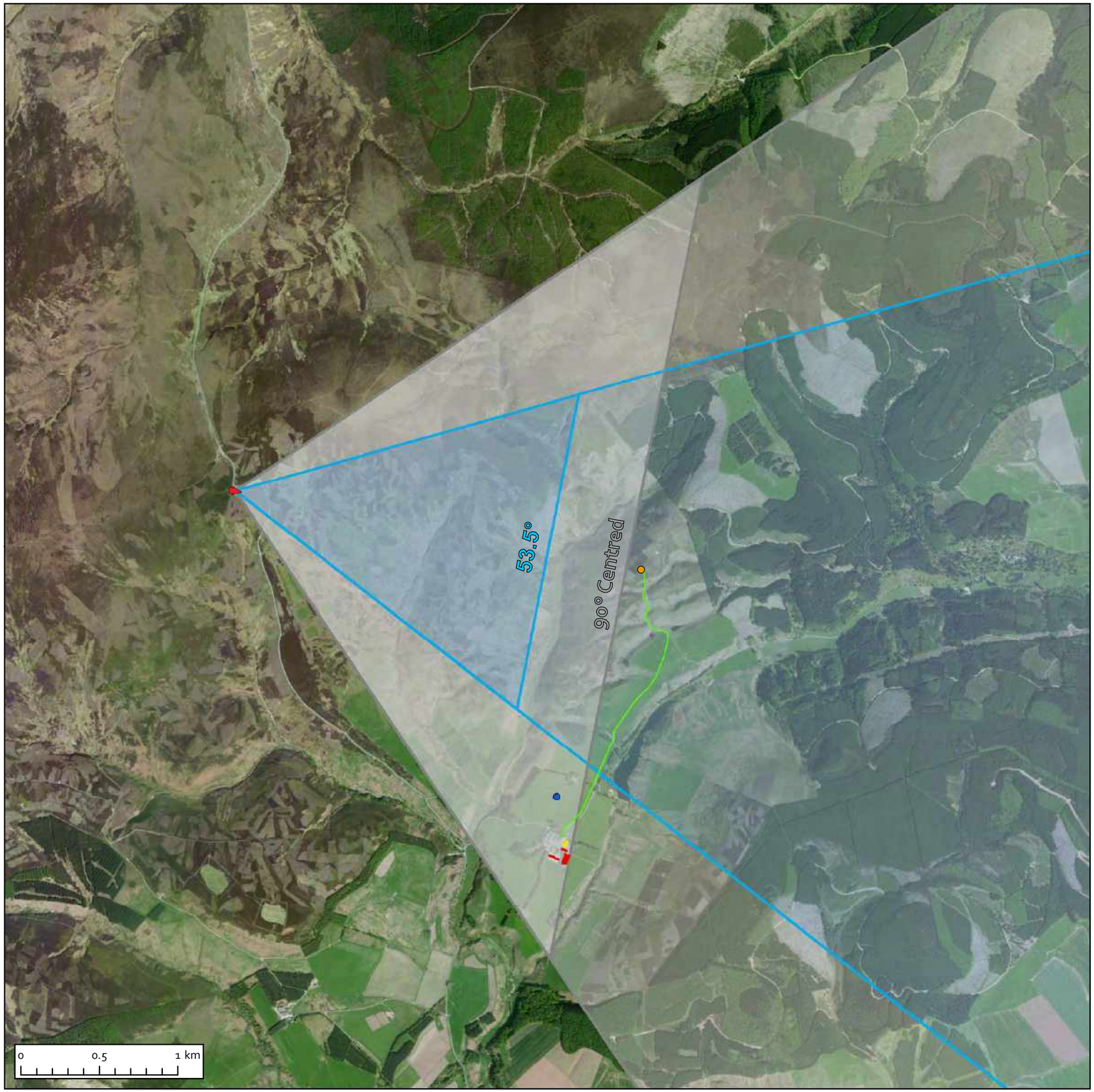

Legend

- Proposed turbine location
- Viewpoint location
- Operational turbines
- Proposed solar panel development
- Proposed hydrogen development
- Proposed overhead cabling location

VP03: Cairn o' Mount

Viewpoint OS reference:	365039, 780484
Viewpoint elevation:	423m
Direction of view:	101°
Distance to proposed turbine:	2.6km

Predicted theoretical visibility

Proposed turbine - tip:	Y
Proposed turbine - hub:	Y
All cumulative sites - tip	59
All cumulative sites - hub	41

Tripod Location Photograph

Project: Glensaugh	Client: ITP Energised
Drawing Title: VP03: Viewpoint Location Plan	
Scale: 1:25,000 @ A3	Date: 24 / 11 / 2023
Figure No: 14a	Status: Planning
Drawn by: R Moore	Checked by: S Hyde

north

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Extent of central 50mm frame used to construct panorama
Extent of 53.5 ° planar wireframe

Droop Hill
Herscha Hill
Glensaugh
Wairds of Alpity
Cluseburn
St. John's Hill
Millplough Farmhouse
Upper Pitforthie
Wardhead
Brownieleys
Nether Tulloch
Glensaugh
Paul Matthew Hill
Mains of Bridgeton
Tullo

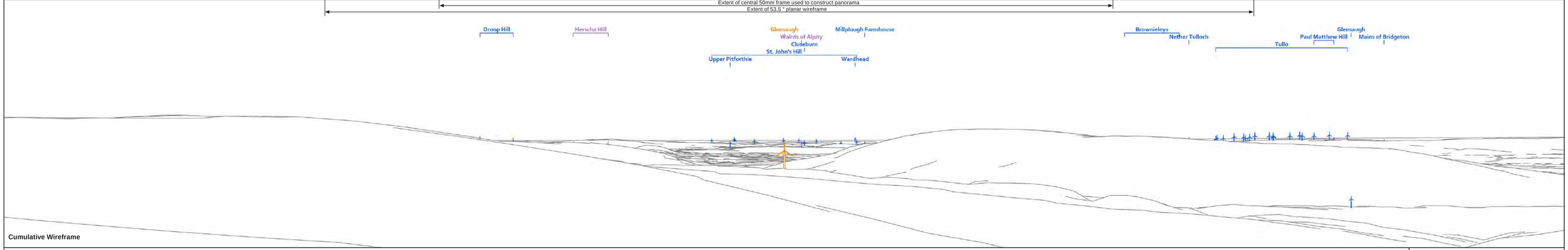

Figure Number: 14b
VP03: Cairn o' Mount

Drawn by: R Moore - Checked by: S Hyde
Date: 24 / 11 / 2023

Colour Coding for Cumulative Sites
- Glensaugh
- Operational
- Consented

Viewpoint OS reference:	365039, 780484
Viewpoint elevation:	423m AOD
Direction of view:	101°
Distance to proposed turbine:	2.6km

Horizontal field of view:	90° (cylindrical projection)
Vertical field of view:	14.2°
Principle distance:	522mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 130mm

Camera:	Canon EOS 6D (full frame)
Lens:	Canon EF 50mm
Camera height:	1.5m AGL
Date:	31 / 10 / 2023
Time:	14:51 pm

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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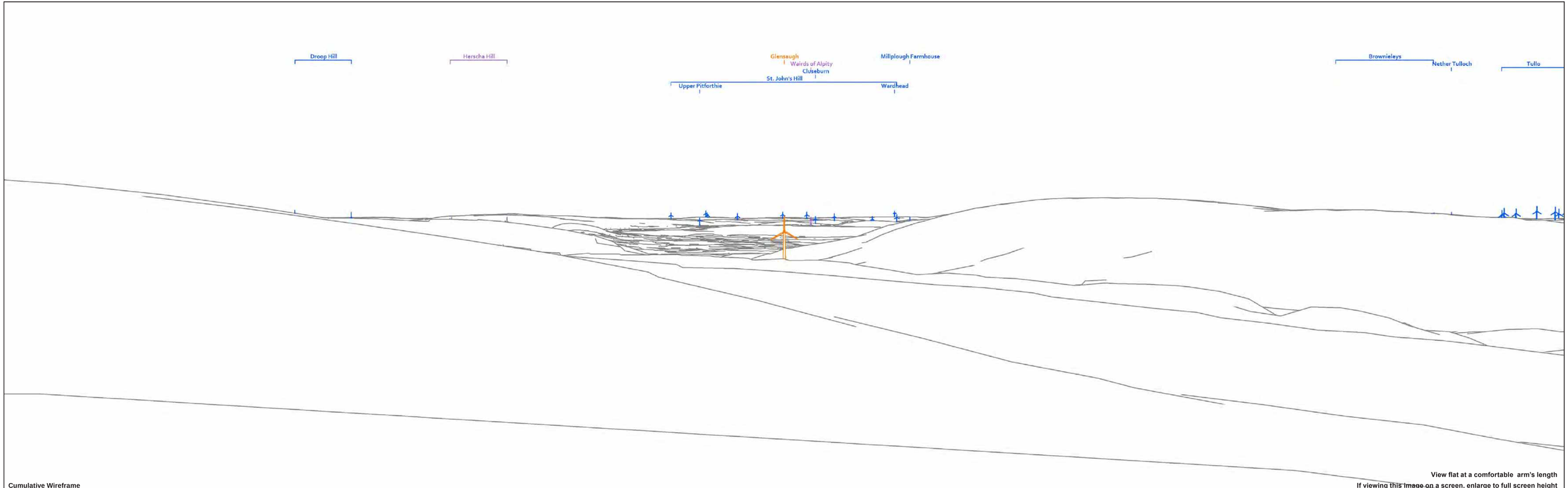

Cumulative Wireframe

View flat at a comfortable arm's length
If viewing this image on a screen, enlarge to full screen height

Figure Number: 14c
VP03: Cairn o' Mount

Drawn by: R Moore - Checked by: S Hyde
Date: 24 / 11 / 2023

Colour Coding for Cumulative Sites
- Glensaugh
- Operational
- Consented

Viewpoint OS reference:	365039, 780484
Viewpoint elevation:	423m AOD
Direction of view:	101°
Distance to proposed turbine:	2.6km

Horizontal field of view:	53.5° (planar projection)
Vertical field of view:	18.2°
Principle distance:	812.5mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 260mm

Camera:	NA
Lens:	NA
Camera height:	1.5m AGL

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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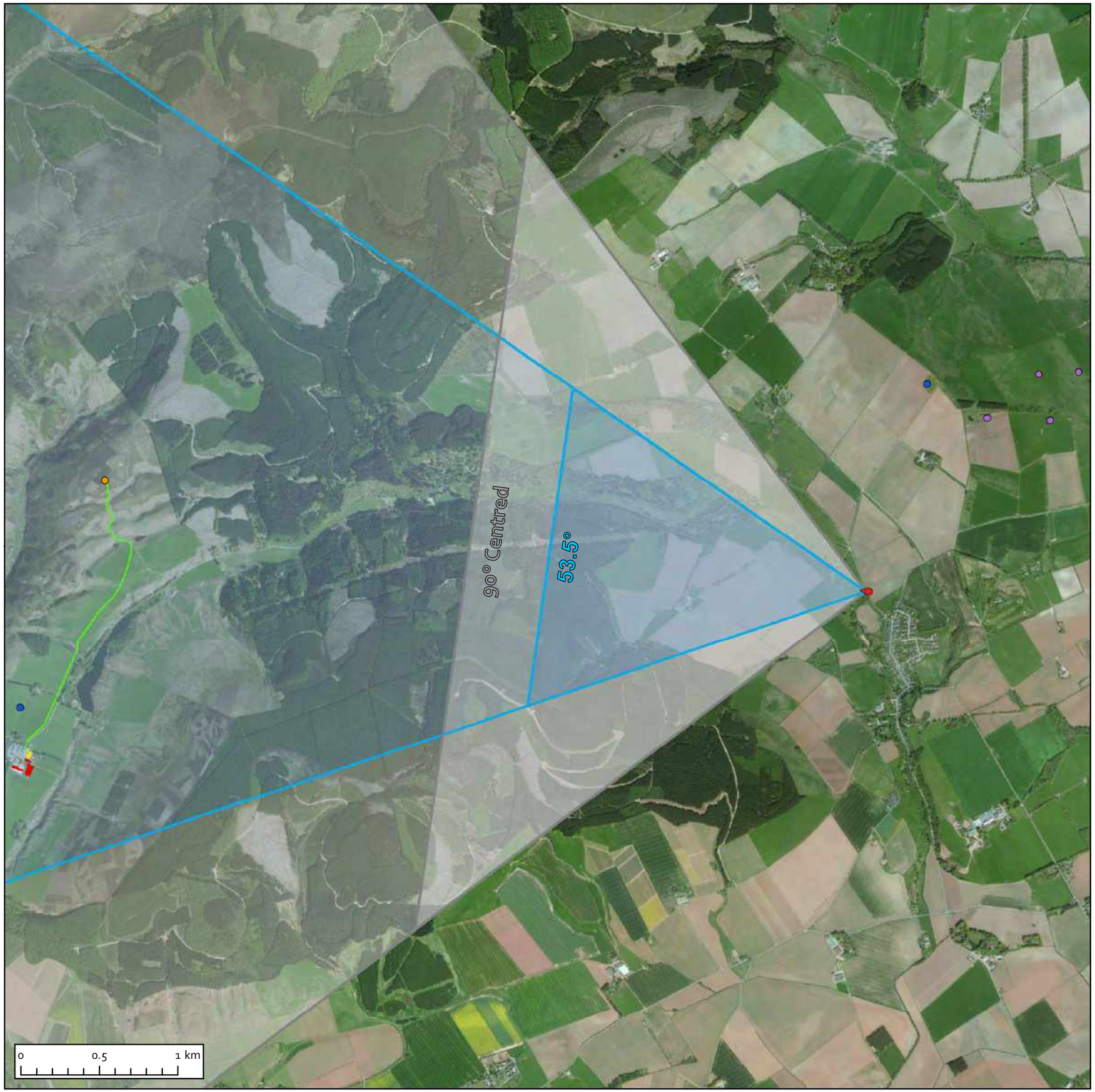

Legend

- Proposed turbine location
- Viewpoint location
- Operational turbines
- Consented turbines
- Proposed solar panel development
- Proposed hydrogen development
- Proposed overhead cabling location

VP04: Glen Road, north-west of Auchenblae

Viewpoint OS reference:	372475, 779273
Viewpoint elevation:	118m
Direction of view:	278°
Distance to proposed turbine:	4.9km

Predicted theoretical visibility

Proposed turbine - tip:	Y
Proposed turbine - hub:	Y
All cumulative sites - tip	51
All cumulative sites - hub	45

Tripod Location Photograph

Project: Glensaugh	Client: ITP Energised
Drawing Title: VP04: Viewpoint Location Plan	
Scale: 1:25,000 @ A3	Date: 24 / 11 / 2023
Figure No: 15a	Status: Planning
Drawn by: R Moore	Checked by: S Hyde

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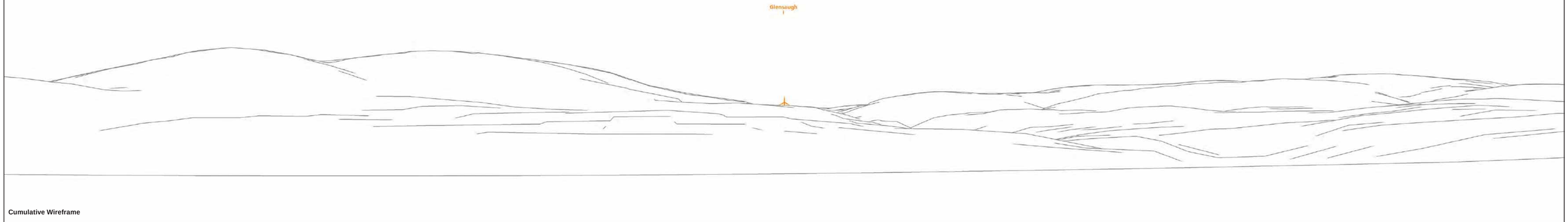
north

Extent of central 50mm frame used to construct panorama

Extent of 53.5 ° planar wireframe



Cumulative Wireframe

Figure Number: 15b
VP04: Glen Road, north-west of Auchenblae

Drawn by: R Moore - Checked by: S Hyde
Date: 24 / 11 / 2023

Colour Coding for Cumulative Sites
- Glensaugh
- Operational
- Consented

Viewpoint OS reference:	372475, 779273
Viewpoint elevation:	118m AOD
Direction of view:	278°
Distance to proposed turbine:	4.9km

Horizontal field of view:	90° (cylindrical projection)
Vertical field of view:	14.2°
Principle distance:	522mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 130mm

Camera:	Canon EOS 6D (full frame)
Lens:	Canon EF 50mm
Camera height:	1.5m AGL
Date:	31 / 10 / 2023
Time:	14:58 pm

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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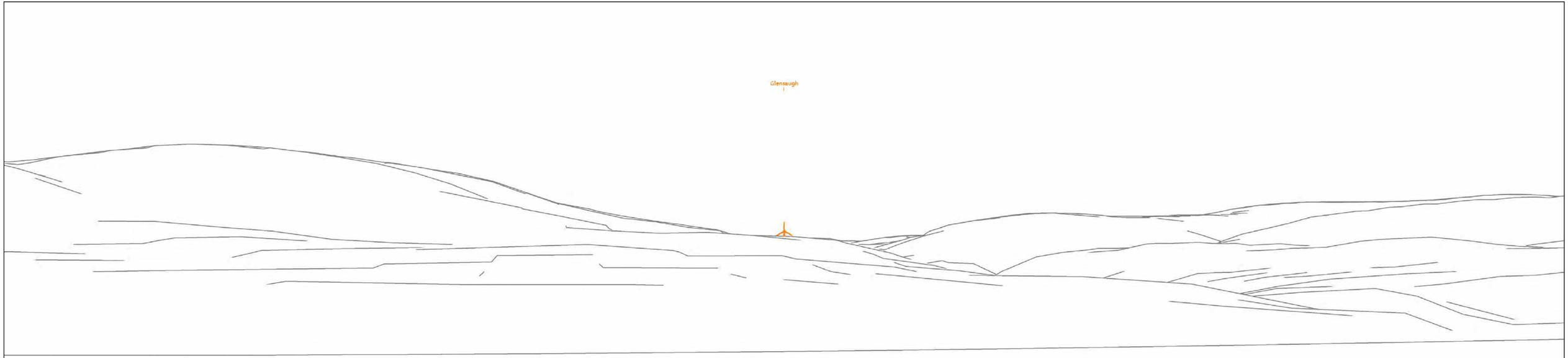

Cumulative Wireframe

View flat at a comfortable arm's length

If viewing this image on a screen, enlarge to full screen height

Figure Number: 15c

VP04: Glen Road, north-west of Auchenblae

Drawn by: R Moore - Checked by: S Hyde

Date: 24 / 11 / 2023

Colour Coding for Cumulative Sites

- Glensaugh
- Operational
- Consented

Viewpoint OS reference:	372475, 779273
Viewpoint elevation:	118m AOD
Direction of view:	278°
Distance to proposed turbine:	4.9km

Horizontal field of view:	53.5° (planar projection)
Vertical field of view:	18.2°
Principle distance:	812.5mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 260mm

Camera:	NA
Lens:	NA
Camera height:	1.5m AGL

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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Figure Number: 15d
VP04: Glen Road, north-west of Auchenblae

Drawn by: R Moore - Checked by: S Hyde
Date: 24 / 11 / 2023

Viewpoint OS reference:	372475, 779273
Viewpoint elevation:	118m AOD
Direction of view:	278°
Distance to proposed turbine:	4.9km

Horizontal field of view:	53.5° (planar projection)
Vertical field of view:	18.2°
Principle distance:	812.5mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 260mm

Camera:	Canon EOS 6D (full frame)
Lens:	Canon EF 50mm
Camera height:	1.5m AGL
Date:	31 / 10 / 2023
Time:	14:58 pm

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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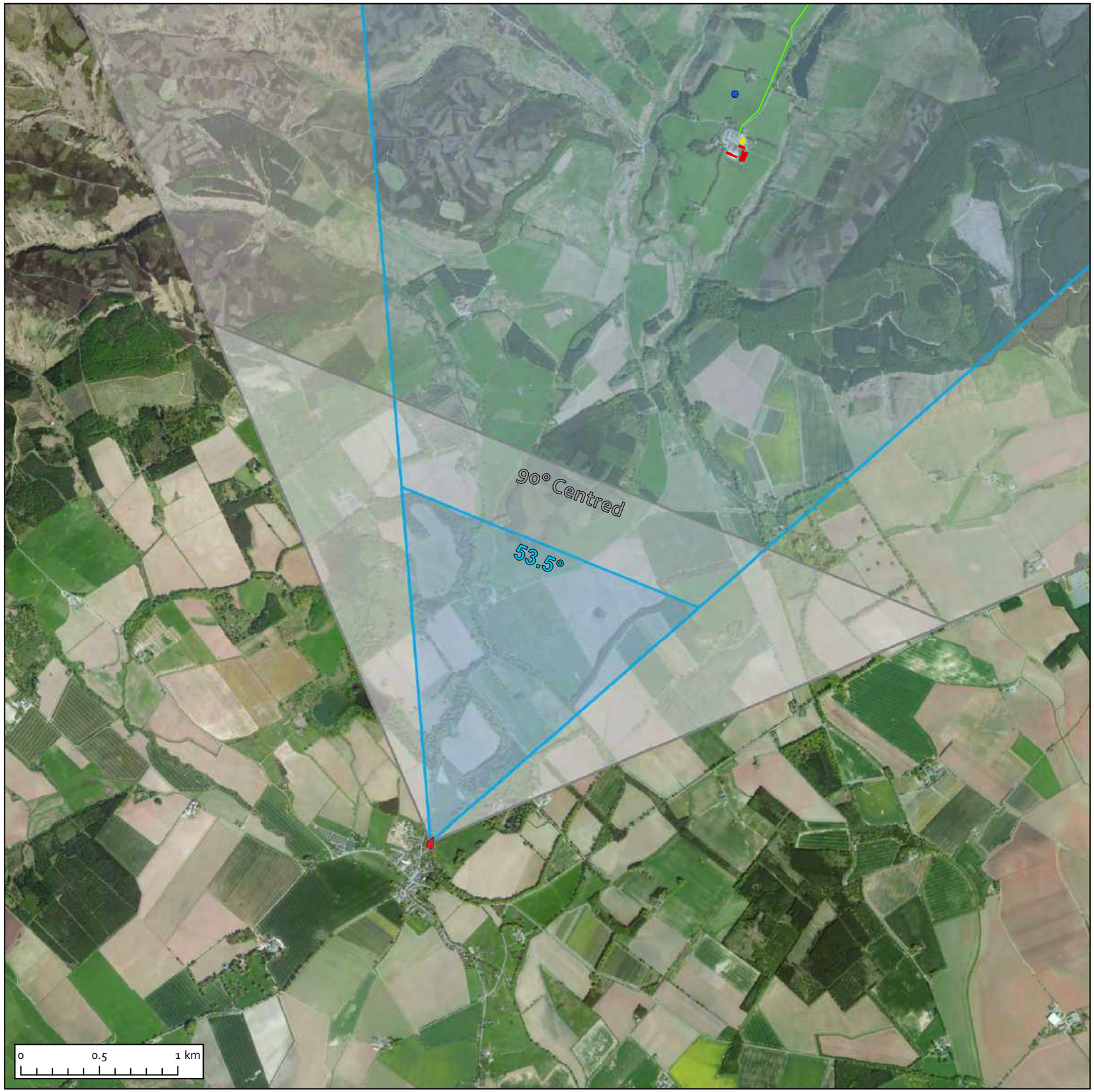

Legend

- Proposed turbine location
- Viewpoint location
- Operational turbines
- Proposed solar panel development
- Proposed hydrogen development
- Proposed overhead cabling location

VP05: Fettercairn

Viewpoint OS reference:	365147, 773756
Viewpoint elevation:	68m
Direction of view:	022°
Distance to proposed turbine:	6.7km

Predicted theoretical visibility

Proposed turbine - tip:	Y
Proposed turbine - hub:	Y
All cumulative sites - tip	40
All cumulative sites - hub	26

Tripod Location Photograph

Project: Glensaugh	Client: ITP Energised
Drawing Title: VP05: Viewpoint Location Plan	
Scale: 1:25,000 @ A3	Date: 24 / 11 / 2023
Figure No: 16a	Status: Planning
Drawn by: R Moore	Checked by: S Hyde

north

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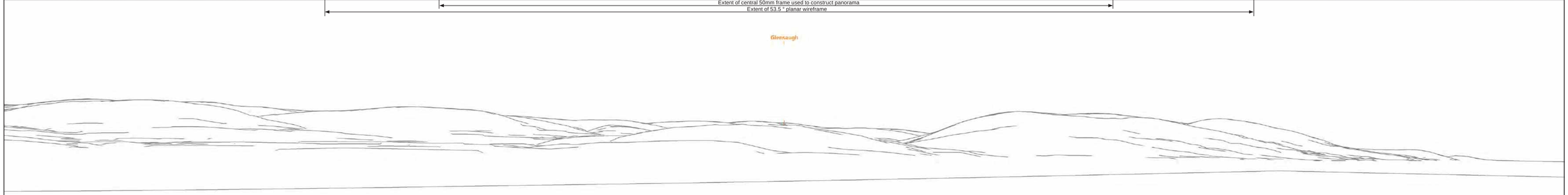
Extent of central 50mm frame used to construct panorama
Extent of 53.5 ° planar wireframe



Cumulative Wireframe

Figure Number: 16b
VP05: Fettercairn

Drawn by: R Moore - Checked by: S Hyde
Date: 24 / 11 / 2023

Colour Coding for Cumulative Sites
- Glensaugh
- Operational
- Consented

Viewpoint OS reference:	365147, 773756
Viewpoint elevation:	68m AOD
Direction of view:	022°
Distance to proposed turbine:	6.7km

Horizontal field of view:	90° (cylindrical projection)
Vertical field of view:	14.2°
Principle distance:	522mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 130mm

Camera:	Canon EOS 6D (full frame)
Lens:	Canon EF 50mm
Camera height:	1.5m AGL
Date:	31 / 10 / 2023
Time:	13:39 pm

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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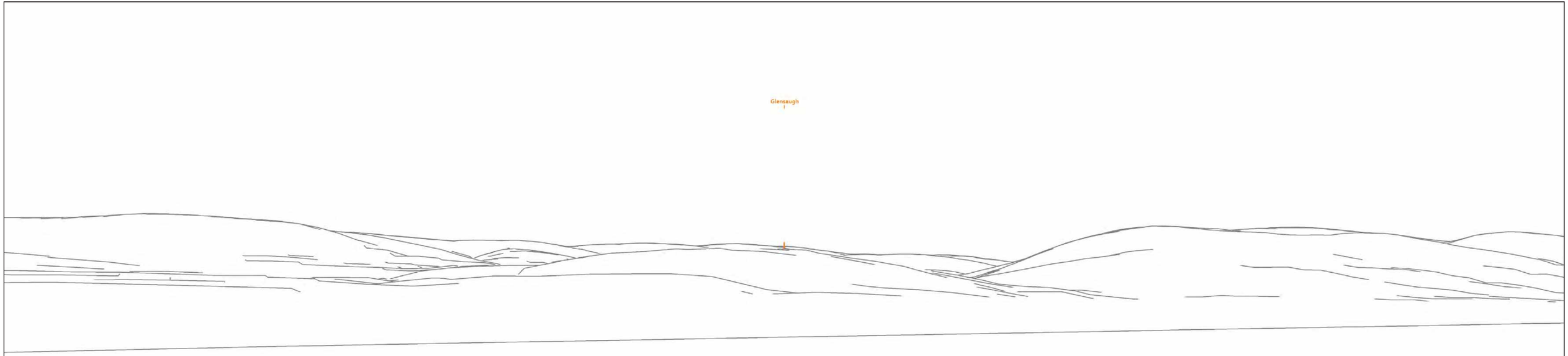

Cumulative Wireframe

View flat at a comfortable arm's length

If viewing this image on a screen, enlarge to full screen height

Figure Number: 16c
VP05: Fettercairn

Drawn by: R Moore - Checked by: S Hyde
Date: 24 / 11 / 2023

Colour Coding for Cumulative Sites
- Glensaugh
- Operational
- Consented

Viewpoint OS reference:	365147, 773756
Viewpoint elevation:	68m AOD
Direction of view:	022°
Distance to proposed turbine:	6.7km

Horizontal field of view:	53.5° (planar projection)
Vertical field of view:	18.2°
Principle distance:	812.5mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 260mm

Camera:	NA
Lens:	NA
Camera height:	1.5m AGL

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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Photomontage (Type 3 AVR Level 3)

View flat at a comfortable arm's length

If viewing this image on a screen, enlarge to full screen height

Figure Number: 16d
VP05: Fettercairn

Drawn by: R Moore - Checked by: S Hyde
Date: 24 / 11 / 2023

Viewpoint OS reference:	365147, 773756
Viewpoint elevation:	68m AOD
Direction of view:	022°
Distance to proposed turbine:	6.7km

Horizontal field of view:	53.5° (planar projection)
Vertical field of view:	18.2°
Principle distance:	812.5mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 260mm

Camera:	Canon EOS 6D (full frame)
Lens:	Canon EF 50mm
Camera height:	1.5m AGL
Date:	31 / 10 / 2023
Time:	13:39 pm

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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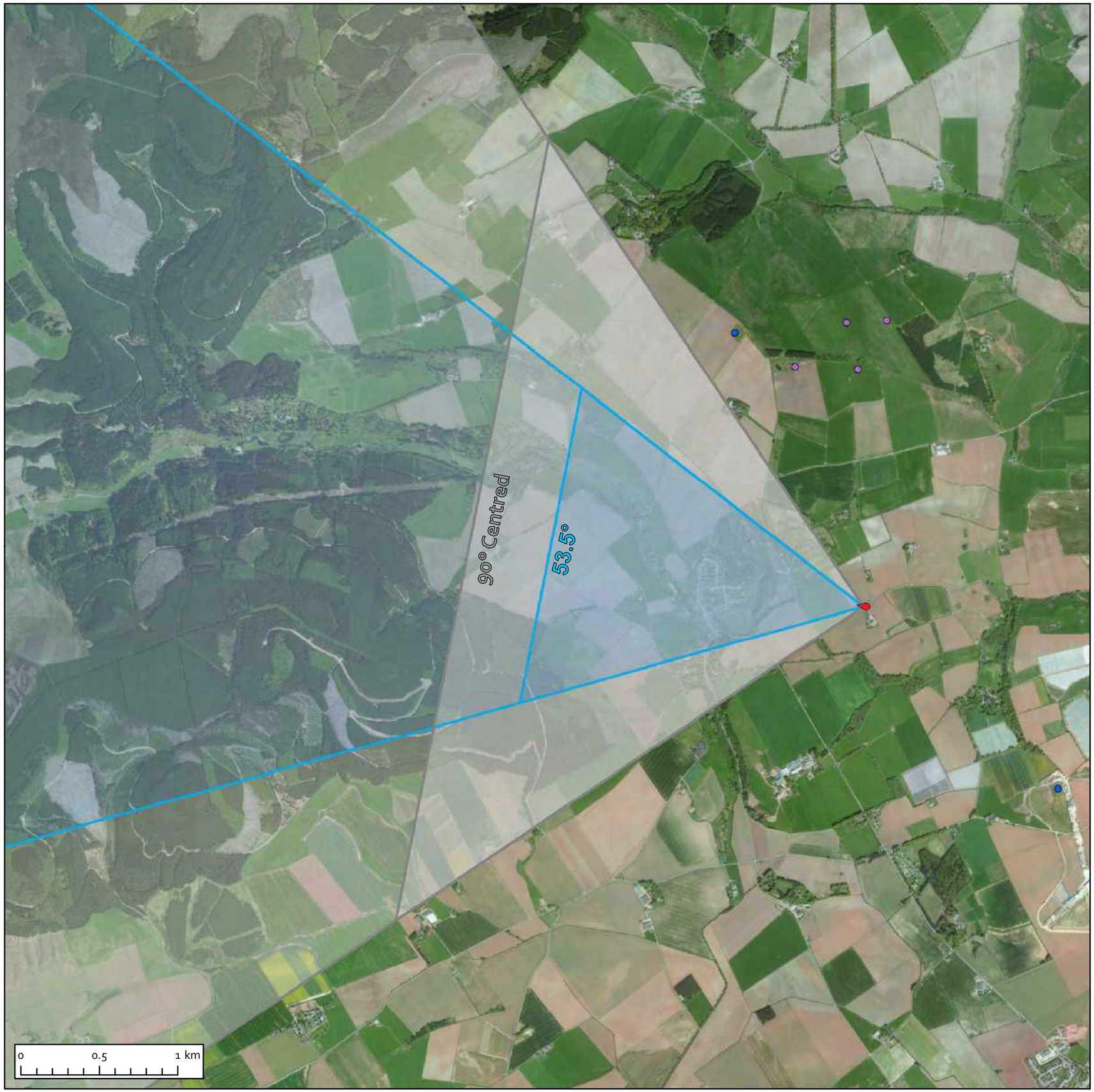

Legend

- Proposed turbine location
- Viewpoint location
- Operational turbines
- Consented turbines

VP06: Minor road east of Auchenblae

Viewpoint OS reference:	373684, 778852
Viewpoint elevation:	113m
Direction of view:	281°
Distance to proposed turbine:	6.2km

Predicted theoretical visibility

Proposed turbine - tip:	Y
Proposed turbine - hub:	Y
All cumulative sites - tip	54
All cumulative sites - hub	43

Tripod Location Photograph

north

Project: Glensaugh	Client: ITP Energised
Drawing Title: VP06: Viewpoint Location Plan	
Scale: 1:25,000 @ A3	Date: 24 / 11 / 2023
Figure No: 17a	Status: Planning
Drawn by: R Moore	Checked by: S Hyde

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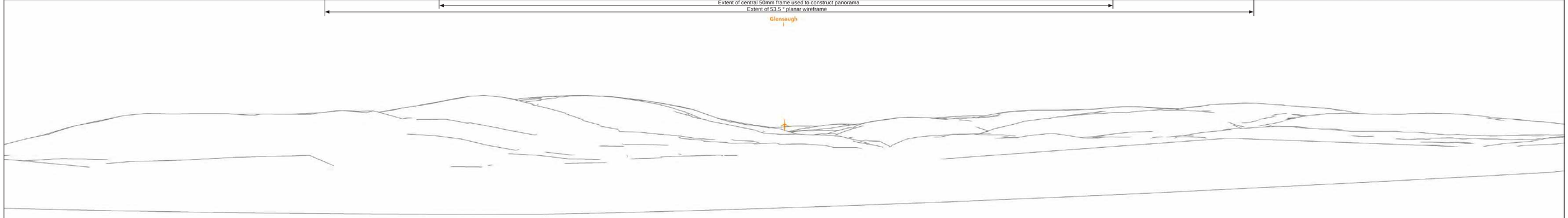
Extent of central 50mm frame used to construct panorama

Extent of 53.5 ° planar wireframe

Glensaugh



Cumulative Wireframe

Figure Number: 17b

VP06: Minor road east of Auchenblae

Drawn by: R Moore - Checked by: S Hyde

Date: 24 / 11 / 2023

Colour Coding for Cumulative Sites

- Glensaugh
- Operational
- Consented

Viewpoint OS reference:	373684, 778852
Viewpoint elevation:	113m AOD
Direction of view:	281°
Distance to proposed turbine:	6.2km

Horizontal field of view:	90° (cylindrical projection)
Vertical field of view:	14.2°
Principle distance:	522mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 130mm

Camera:	Canon EOS 6D (full frame)
Lens:	Canon EF 50mm
Camera height:	1.5m AGL
Date:	31 / 10 / 2023
Time:	12:31 pm

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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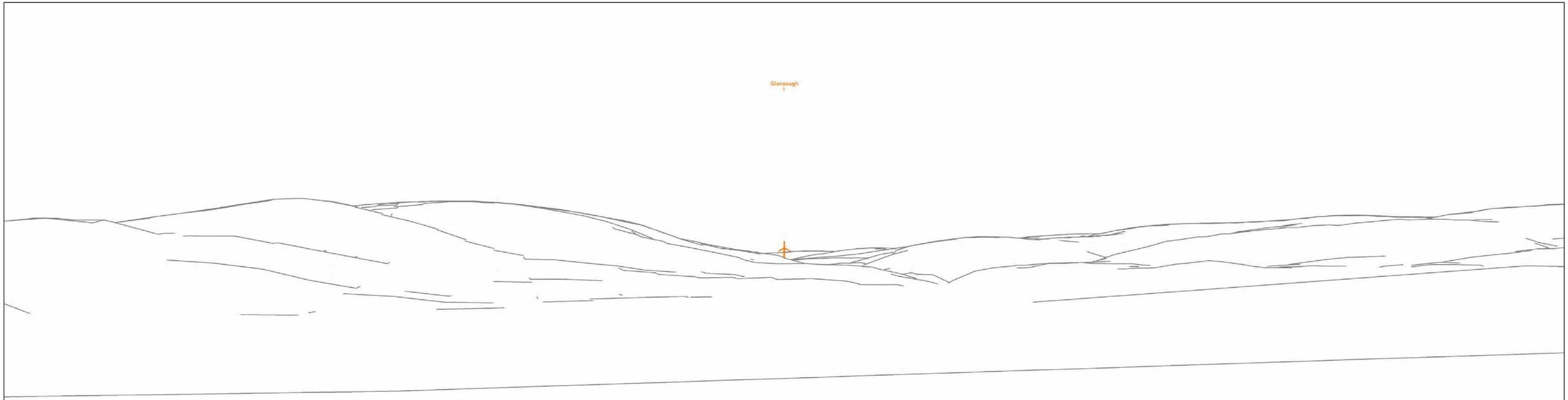

Cumulative Wireframe

View flat at a comfortable arm's length

If viewing this image on a screen, enlarge to full screen height

Figure Number: 17c

VP06: Minor road east of Auchenblae

Drawn by: R Moore - Checked by: S Hyde

Date: 24 / 11 / 2023

Colour Coding for Cumulative Sites

- Glensaugh
- Operational
- Consented

Viewpoint OS reference:	373684, 778852
Viewpoint elevation:	113m AOD
Direction of view:	281°
Distance to proposed turbine:	6.2km

Horizontal field of view:	53.5° (planar projection)
Vertical field of view:	18.2°
Principle distance:	812.5mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 260mm

Camera:	NA
Lens:	NA
Camera height:	1.5m AGL

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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Photomontage (Type 3 AVR Level 3)

View flat at a comfortable arm's length

If viewing this image on a screen, enlarge to full screen height

Figure Number: 17d

VP06: Minor road east of Auchenblae

Drawn by: R Moore - Checked by: S Hyde

Date: 24 / 11 / 2023

Viewpoint OS reference:	373684, 778852
Viewpoint elevation:	113m AOD
Direction of view:	281°
Distance to proposed turbine:	6.2km

Horizontal field of view:	53.5° (planar projection)
Vertical field of view:	18.2°
Principle distance:	812.5mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 260mm

Camera:	Canon EOS 6D (full frame)
Lens:	Canon EF 50mm
Camera height:	1.5m AGL
Date:	31 / 10 / 2023
Time:	13:39 pm

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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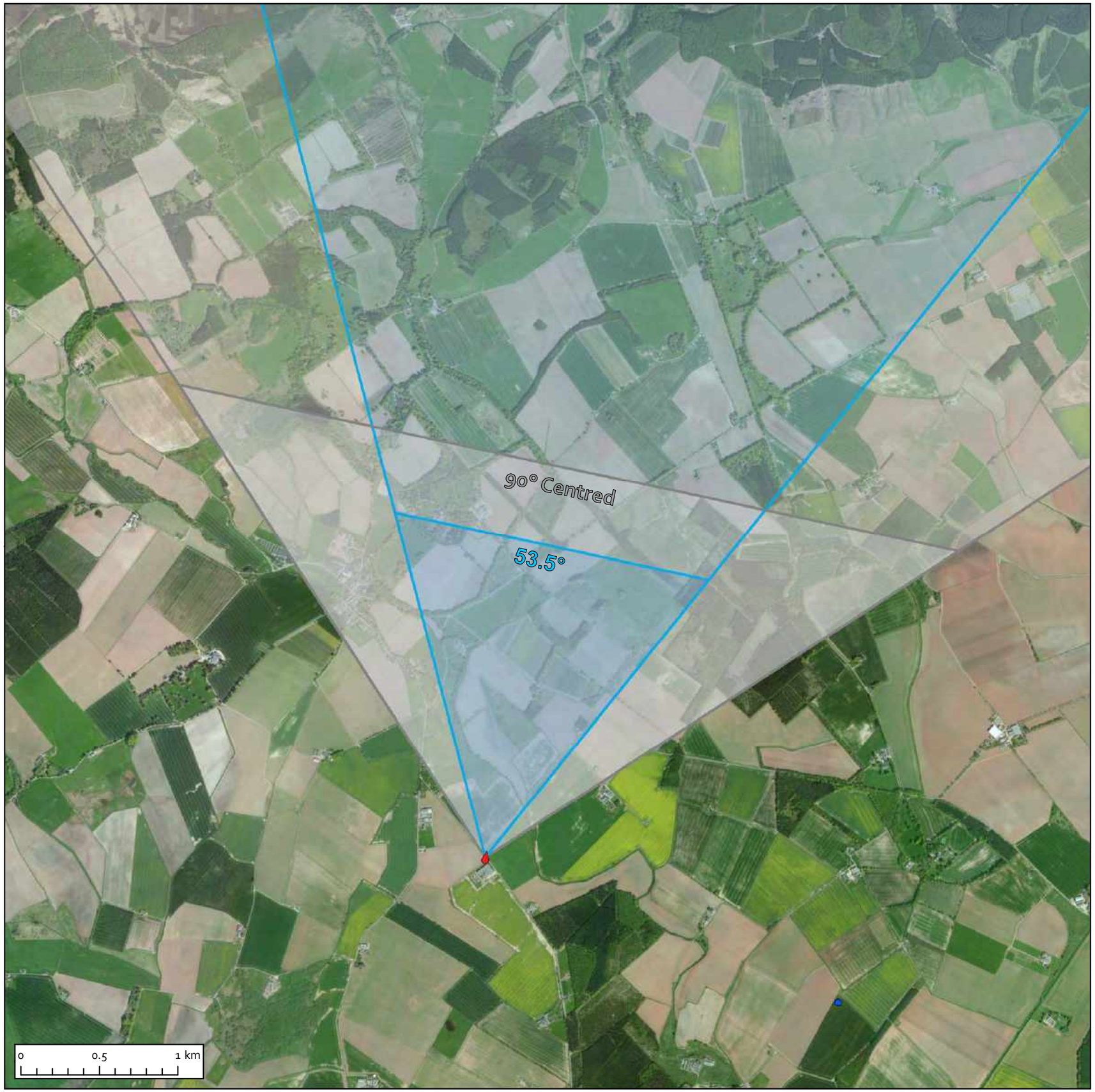

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Legend

- Viewpoint location
- Operational turbines
- Consented turbines

VP07: B974 south of Fettercairn

Viewpoint OS reference:	365873, 771821
Viewpoint elevation:	63m
Direction of view:	012°
Distance to proposed turbine:	8.3km

Predicted theoretical visibility

Proposed turbine - tip:	Y
Proposed turbine - hub:	Y
All cumulative sites - tip	43
All cumulative sites - hub	30

Tripod Location Photograph

north

Project: Glensaugh	Client: ITP Energised
Drawing Title: VP07: Viewpoint Location Plan	
Scale: 1:25,000 @ A3	Date: 24 / 11 / 2023
Figure No: 18a	Status: Planning
Drawn by: R Moore	Checked by: S Hyde

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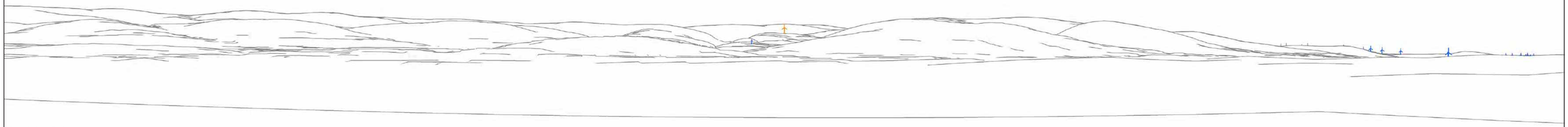
Extent of central 50mm frame used to construct panorama
Extent of 53.5 ° planar wireframe

Glensaugh Glensaugh Herschia Hill Droop Hill Jacksbank West Cairnbeg Clochnahill Hillhead of Auquhirie



Cumulative Wireframe

Figure Number: 18b
VP07: B974 south of Fettercairn

Drawn by: R Moore - Checked by: S Hyde
Date: 24 / 11 / 2023

Colour Coding for Cumulative Sites
- Glensaugh
- Operational
- Consented

Viewpoint OS reference:	365873, 771821
Viewpoint elevation:	63m AOD
Direction of view:	012°
Distance to proposed turbine:	8.3km

Horizontal field of view:	90° (cylindrical projection)
Vertical field of view:	14.2°
Principle distance:	522mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 130mm

Camera:	Canon EOS 6D (full frame)
Lens:	Canon EF 50mm
Camera height:	1.5m AGL
Date:	31 / 10 / 2023
Time:	12:58 pm

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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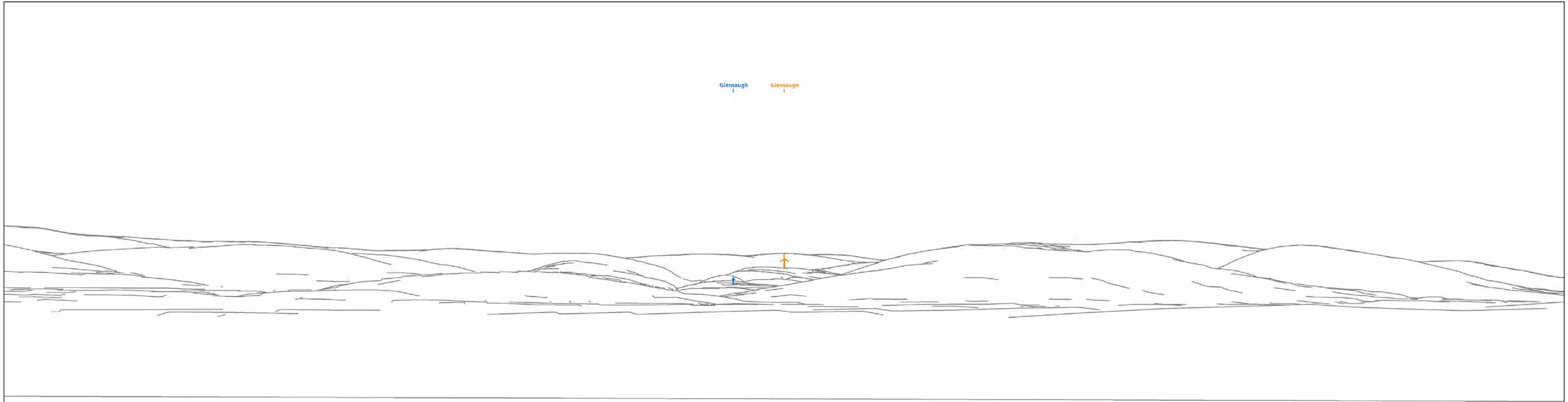

Cumulative Wireframe

View flat at a comfortable arm's length

If viewing this image on a screen, enlarge to full screen height

Figure Number: 18c
VP07: B974 south of Fettercairn

Drawn by: R Moore - Checked by: S Hyde
Date: 24 / 11 / 2023

Colour Coding for Cumulative Sites
- Glensaugh
- Operational
- Consented

Viewpoint OS reference:	365873, 771821
Viewpoint elevation:	63m AOD
Direction of view:	012°
Distance to proposed turbine:	8.3km

Horizontal field of view:	53.5° (planar projection)
Vertical field of view:	18.2°
Principle distance:	812.5mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 260mm

Camera:	NA
Lens:	NA
Camera height:	1.5m AGL

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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Photomontage (Type 3 AVR Level 3)

View flat at a comfortable arm's length

If viewing this image on a screen, enlarge to full screen height

Figure Number: 18d
VP07: B974 south of Fettercairn

Drawn by: R Moore - Checked by: S Hyde
Date: 24 / 11 / 2023

Viewpoint OS reference:	365873, 771821
Viewpoint elevation:	63m AOD
Direction of view:	012°
Distance to proposed turbine:	8.3km

Horizontal field of view:	53.5° (planar projection)
Vertical field of view:	18.2°
Principle distance:	812.5mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 260mm

Camera:	Canon EOS 6D (full frame)
Lens:	Canon EF 50mm
Camera height:	1.5m AGL
Date:	31 / 10 / 2023
Time:	12:58 pm

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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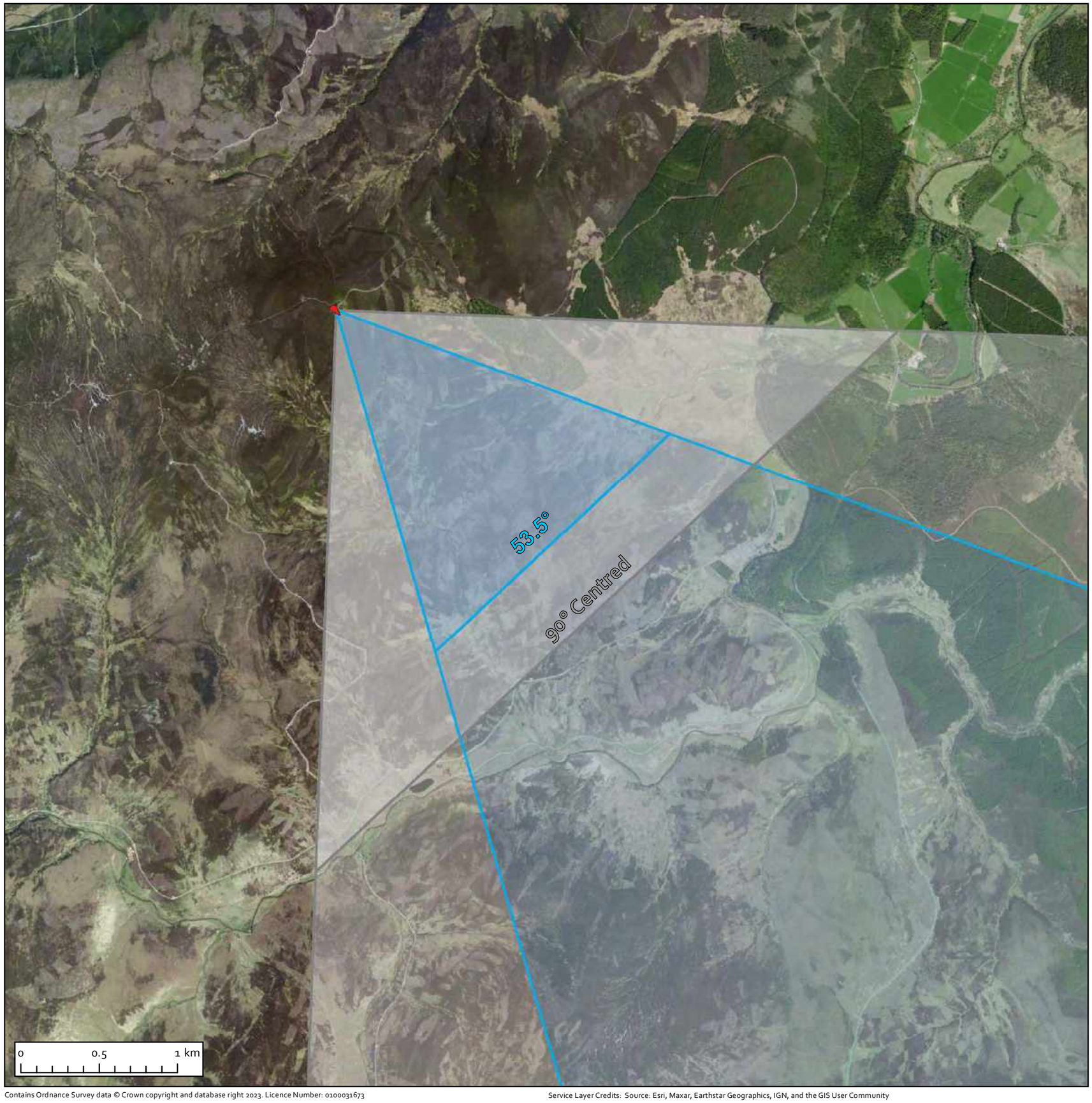

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, IGN, and the GIS User Community

Legend

Viewpoint location

VP08: Clachnaben

Viewpoint OS reference:	361535, 786472
Viewpoint elevation:	566m
Direction of view:	137°
Distance to proposed turbine:	8.9km

Predicted theoretical visibility

Proposed turbine - tip:	Y
Proposed turbine - hub:	N
All cumulative sites - tip	98
All cumulative sites - hub	70

north

Project: Glensaugh	Client: ITP Energised
Drawing Title: VP08: Viewpoint Location Plan	
Scale: 1:25,000 @ A3	Date: 24 / 11 / 2023
Figure No: 19a	Status: Planning
Drawn by: R Moore	Checked by: S Hyde

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Extent of central 50mm frame used to construct panorama
Extent of 53.5 ° planar wireframe

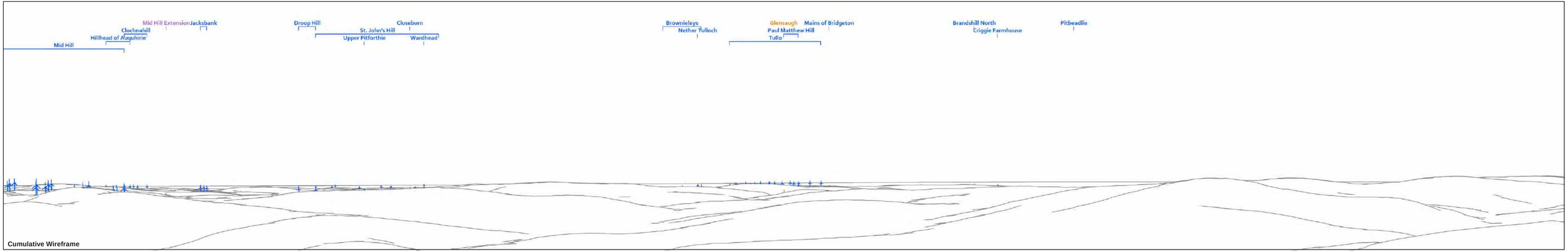

Figure Number: 19b
VP08: Clachnaben

Drawn by: R Moore - Checked by: S Hyde
Date: 24 / 11 / 2023

Colour Coding for Cumulative Sites
- Glensaugh
- Operational
- Consented

Viewpoint OS reference:	361535, 786472
Viewpoint elevation:	566m AOD
Direction of view:	137°
Distance to proposed turbine:	8.9km

Horizontal field of view:	90° (cylindrical projection)
Vertical field of view:	14.2°
Principle distance:	522mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 130mm

Camera:	NA
Lens:	NA
Camera height:	1.5m AGL

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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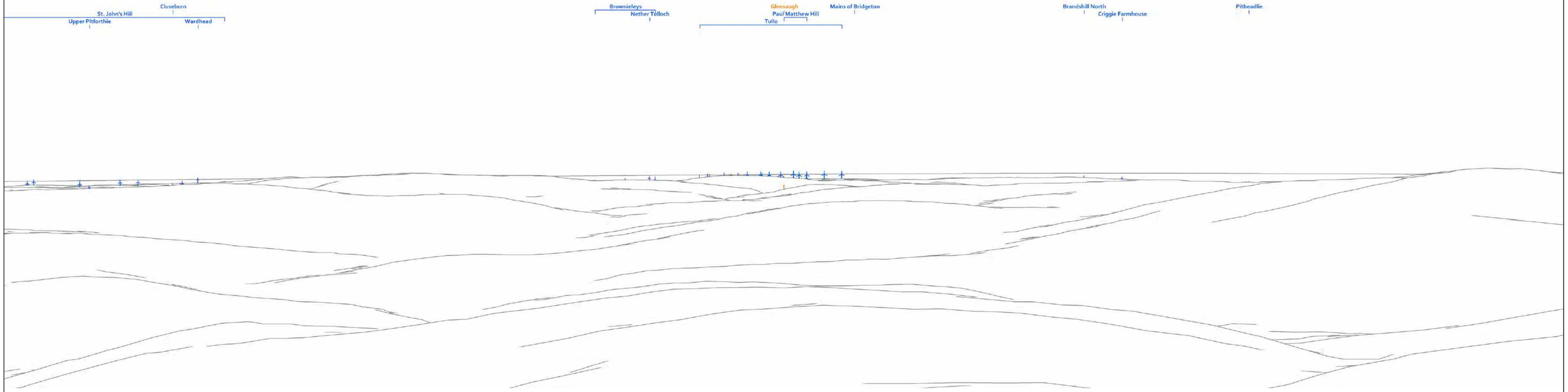

Cumulative Wireframe

View flat at a comfortable arm's length

If viewing this image on a screen, enlarge to full screen height

Figure Number: 19c
VP08: Clachnaben

Drawn by: R Moore - Checked by: S Hyde
Date: 24 / 11 / 2023

Colour Coding for Cumulative Sites
- Glensaugh
- Operational
- Consented

Viewpoint OS reference:	361535, 786472
Viewpoint elevation:	566m AOD
Direction of view:	137°
Distance to proposed turbine:	8.9km

Horizontal field of view:	53.5° (planar projection)
Vertical field of view:	18.2°
Principle distance:	812.5mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 260mm

Camera:	NA
Lens:	NA
Camera height:	1.5m AGL

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

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Photomontage (Type 3 AVR Level 3)

View flat at a comfortable arm's length

If viewing this image on a screen, enlarge to full screen height

Figure Number: 14d
VP03: Cairn o' Mount

Drawn by: R Moore - Checked by: S Hyde
Date: 24 / 11 / 2023

Viewpoint OS reference:	365039, 780484
Viewpoint elevation:	423m AOD
Direction of view:	102°
Distance to proposed turbine:	2.6km

Horizontal field of view:	53.5° (planar projection)
Vertical field of view:	18.2°
Principle distance:	812.5mm
Paper size:	841 x 297mm (half A1)
Correct printed image size:	820 x 260mm

Camera:	Canon EOS 6D (full frame)
Lens:	Canon EF 50mm
Camera height:	1.5m AGL
Date:	31 / 10 / 2023
Time:	14:51 pm

Project:	Glensaugh
Client:	ITP Energised
Document:	Landscape & Visual Appraisal

brindley ASSOCIATES