



Craig y Perthi Solar Farm

Environmental Statement

Appendix 5.1 Technical Information for the LVIA

Prepared for



JBM Solar Projects 25 Limited

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Document Control

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5.1 Introduction

5.1.1 The interpretation of the magnitude of impact and the level and significance of effect of the Proposed Development was determined with the assistance of specialist computer generated information.

5.1.2 The Landscape Institute 'Technical Guidance Note 06/19, Visual Representation of Development Proposals, 17th September 2019 was referenced for the creation and presentation of the landscape and visual technical graphic information, to accompany and inform the landscape and visual impact assessment (LVIA). It was also referenced for guidance on the use of the camera and photography.

5.2 Zone of Theoretical Visibility (ZTV)

5.2.1 The creation of a computer-generated Zone of Theoretical Visibility (ZTV) was the first step in the assessment of effects.

5.2.2 The ZTV is shown on a 1:50,000 map base and plotted at A3 size at 1:50,000 scale for graphic interpretation.

5.2.3 The ZTV helps to inform judgements on the effects of the Proposed Development and provides information on:

- i) Where visibility is theoretically likely to occur (calculated to the maximum height of the solar panels).
- ii) Extent and pattern of visibility.

5.2.4 A ZTV represents a theoretical area from which the Proposed Development or part of the Proposed Development may be seen.

5.2.5 The ZTV does not convey the magnitude of impact or level of effect. However, it forms an appropriate starting point for undertaking the LVIA.

5.2.6 The ZTV is also a useful basis for selecting potential viewpoints and photomontage locations.

5.3 Photographs

5.3.1 Photographs included in the assessment were taken when conducting the site survey.



- 5.3.2 The photographs were taken with a Nikon D610 camera with a Nikon AF-S Nikkor 50mm f/1.8g fixed lens.
- 5.3.3 The photographs were taken with the aid of a tripod with the head fixed on a vertical and horizontal axis also incorporating a spirit level to ensure 'level' photographs.
- 5.3.4 The photographs were taken in landscape format.
- 5.3.5 The camera was positioned at 1.5m above ground level, unless otherwise specified (such as a hedge, tree or other obstruction in the view).
- 5.3.6 GPS co-ordinates and height data (AOD), using a hand-held GPS device was taken at every photographic location. A compass bearing was taken to ensure the direction of view was correct. The horizontal field of view was also recorded.
- 5.3.7 The series of overlapping photographs were taken, with each photographic frame overlapping between 20-30% and stitched together using Adobe Photoshop software to provide panoramic views.

5.4 Viewpoints and Photomontages

Viewpoints

- 5.4.1 A number of viewpoints from which the Proposed Development may be visible were selected. These were issued and agreed with the Unitary Authority.
- 5.4.2 The viewpoint photographs were taken in fine weather with good visibility in August 2021 and October 2021.
- 5.4.3 Each viewpoint is illustrated as an annotated panoramic photograph.
- 5.4.4 The viewpoints meet the following criteria:
- i) A balance of viewpoints from the main directions of view;
 - ii) Provide a representative selection of views and receptors towards the Proposed Development; and
 - iii) For receptors most likely to experience the greatest change of view.

Photomontages

- 5.4.5 A photomontage is where a computer rendered image of the Proposed Development is superimposed onto the existing photographic view. Photomontages are a valuable tool for presenting an overall realistic impression of the Proposed Development in



the landscape from selected agreed viewpoints (where the Proposed Development has the potential to be perceived).

- 5.4.6 The finished image is a representation of the likely appearance of the Proposed Development only.
- 5.4.7 A 3D model of the Proposed Development, created in Sketch-up, was produced to establish scale and architectural form. Using Sketch-up, a camera was positioned at the photograph viewpoint location. Markers of key features (such as the existing buildings) were plotted in the model and a perspective view of the Proposed Development generated.
- 5.4.8 A 3D wireline terrain model was produced using Resoft Windfarm software. OS Terrain 50 height data was used to generate the terrain model. Markers at the locations of key features in the view were plotted in the software to identify site extents and key features. Viewpoint locations were plotted and wireline views generated.
- 5.4.9 Using Adobe Photoshop, the wireline view was overlaid on to the panorama image and features aligned to accurately position the Proposed Development within the view.
- 5.4.10 The perspective view of the Proposed Development was then overlaid onto the wireline and panorama image, aligning features and markers. A perspective match was achieved between the computer-generated panorama and the photographs by iterative adjustments until all key features were aligned satisfactorily. Foreground elements were identified in the images and brought forward in the views to mask the Proposed Development, where applicable.
- 5.4.11 Photomontages were produced to illustrate the view that would be experienced by the viewer at the selected viewpoint when facing towards the Proposed Development.
- 5.4.12 The photomontages are compliant to Type 4, with reference to the Landscape Institute TGN 06/19.
- 5.4.13 They are illustrated at significant time during the life of the Proposed Development and could include:



- i) Existing view - presented as a 90° angle of view, with the approximate extent of the Proposed Development illustrated on the view.
- ii) Proposed view (Year 1) – to illustrate the ‘worst-case’ immediately following completion of the construction of the Proposed Development. This is presented as a 90° angle of view.
- iii) Proposed view (Year 10) – to illustrate the growth of the proposed landscape mitigation measures over time. This is presented as a 90° angle of view.

5.4.14 For all photomontages:

- i) There is an element of judgement. While the base data is factual (DTM/photograph) within established parameters, the finished image is a representation of the likely appearance of the Proposed Development.
- ii) Each photograph incorporates the lighting and conditions as seen. The photomontage upon which it is based therefore only represents the appearance of the Proposed Development as it would have appeared at that time, on that day and at that time of year.

