

Industrial Building at Davy Way, Llay Industrial Estate, Wrexham

Landscape and Visual Impact Assessment

Appendix E:

Photomontages

September 2022

Prepared for:



Verified View Methodology

Type 3 | AVR Level 3

Overview

This document has been prepared to explain the process of generating verified views (also referred to as accurate visual representations (AVR)) for the proposed development at H-Pac, Llay, Wrexham.

Rob Lockhart Studios use a methodology that is compliant with relevant sections of The Landscape Institute/IEMA Guidelines for Landscape and Visual Impact Assessment and the Landscape Institute Technical Guidance Note 06/19 (Visual Representation of Development Proposals).

High quality digital photographs were taken from the agreed locations as instructed by Randall Thorp. Visible features were used and recorded to locate the exact location of the camera and GPS coordinates were taken. Development 3D models were imported to correct geographical co-ordinates. With a known camera position, orientation and visible features the development 3D model were accurately aligned to the photograph.

Photography

For each agreed photo viewpoint location, photographs were taken with a high resolution digital SLR camera. The locations at which the photographs were taken were recorded by supplementary photographs and the GPS coordinates were recorded. At each point, where possible, a visual feature on the ground that could be identified from geo located aerial photography was used. Where necessary, measurements were taken from visible points with a laser measure to locate the camera’s position. The camera was mounted on a tripod with a pano head and levelled horizontally and laterally by means of integrated and additional spirit levels. The camera height from ground level was measured and recorded. Panoramic photos were required by the client. A sufficient overlap of shots was used for the panoramic photography which were centred by a number of principal shots to capture the development for individual photomontage images.

- Equipment Used for Photography:
- Nikon Z6ii Digital SLR
 - Nikkor Z S-Line 50mm Lens
 - Remote shutter release
 - Tripod with indexed pano head
 - Spirit levels
 - Plumb line
 - Leica DISTO D210
 - 2nd camera to record position and setup of equipment

Post Production

Each photo viewpoint photograph was processed from a RAW data file in 16bit colour space using Adobe Camera Raw. The individual shots were stitched together using a method of cylindrical projection to form a panorama. Standard (digital) photographic post production techniques were used to create a corrected final 16bit file to be used as the basis for each photomontage.

The Proposed 3D Development Model

A 3D model and CAD drawings were provided by the architect. The model was checked and amended for accuracy and consistency with supplied plans and elevations. It was aligned in the correct position and height above ordnance datum to the OSGB36 coordinate system. Finishes and materials were applied in accordance with those specified in the design documents.

The Verification Process

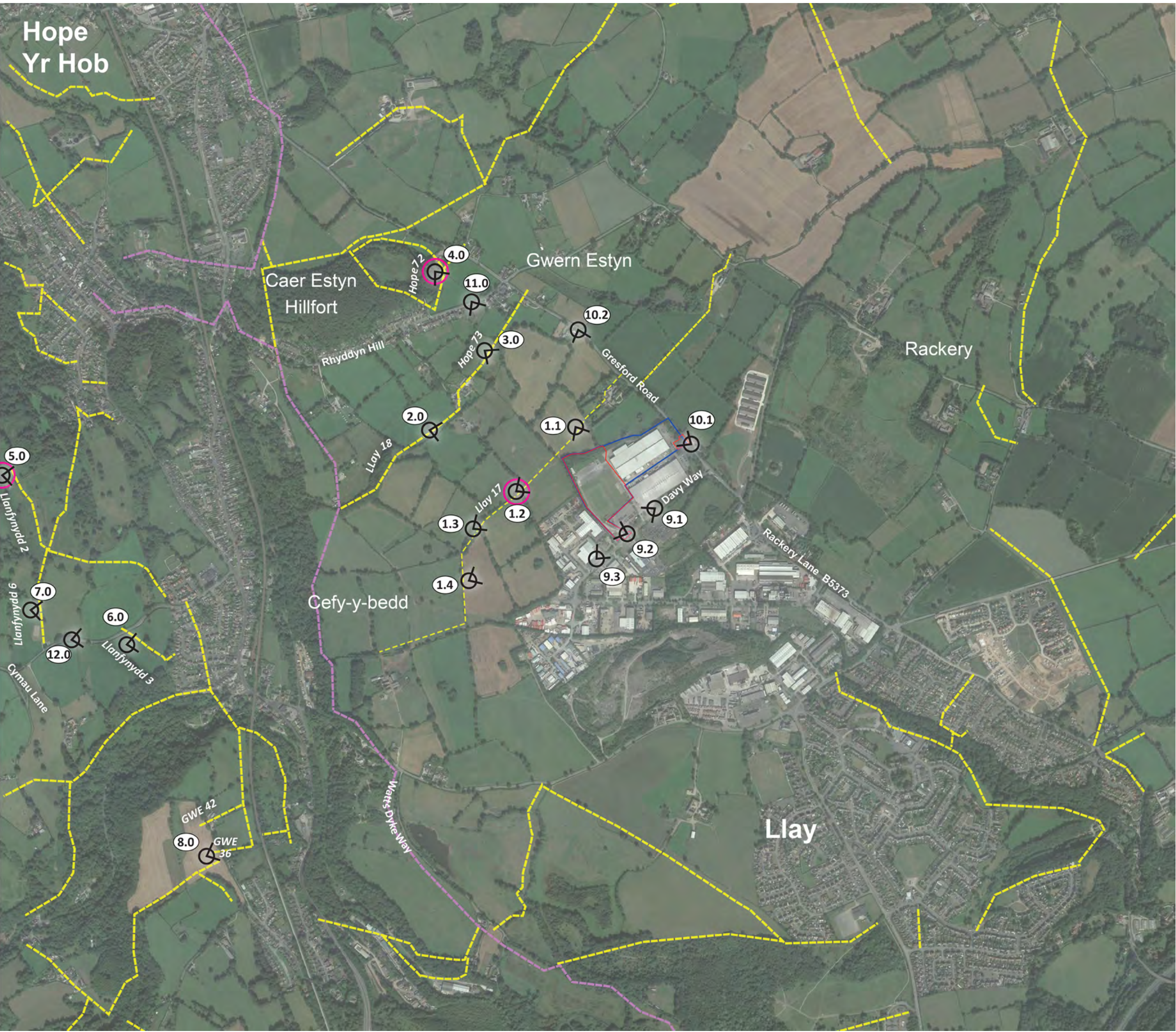
LiDAR DSM topography with a 1m resolution and height accuracy of 5cm was imported into the scene with the 3D development model relative to the OSGB36 coordinate system. A geo located aerial photograph with a resolution of 12.5cm was applied to the topography. At each location a virtual camera was created based on the real lens information from the EXIF data of each photograph. The cameras were positioned in the 3D model using visual references, site measurements and known heights above the LiDAR data. The likely level of location accuracy is better than 1m. The cameras were matched by aligning the LiDAR DSM topography and aerial photograph and known features on the landscape with the photo viewpoint photographs. For each viewpoint an exact lighting system was setup using the geographic location and the date and time in the EXIF data of each photograph. This process mimics the real life sun and atmospheric environmental lighting at the point the photograph was captured. Some fine tuning is sometimes necessary to allow for any effects of cloud cover variations and better match the the resultant lighting and shadows in the base photograph.

Post Production

The 3D model of the proposed development was rendered for each viewpoint to create a set of image files. Using a photo editing package the rendered images were photomontaged with the corresponding photographs. On each viewpoint the rendered image of the development was masked behind buildings, structures, trees and terrain where it would be obscured from sight in the photo. Adjustments in colour, tone and saturation are then made to the rendered image to create a close impression of how the finishes of the building and structures would look like in context with the photographic image.

Applications Used

Adobe Photoshop CC
Adobe Lightroom CC
Autodesk 3ds Max 2021
Chaos Group Vray 6
PTGui Pro 12.13
Google Earth Pro



Visual Receptors - Key Views

Supplied by Randall Thorp

KEY:

Site boundary

Land under ownership of the applicant

Existing public right of way/ bridleway

Existing national walking routes

Viewpoint location

Viewpoint location for verified photomontages



HFOV 129.2°

Photo Captured | 16/08/2022 @ 16:41
Camera Location | E 332001, N 356808 @ 99.854m AOD
Camera's Nodal Point Height From Ground | 1.6m
Direction of View | 90° from N
Distance to Nearest Site Boundary | 180m
Camera Model | Nikon Z6ii, Full Frame Sensor
Camera Lens | Nikon Nikkor Z S-Line 50mm



HFOV 129.2°

Photo Captured | 16/08/2022 @ 16:41
Camera Location | E 332001, N 356808 @ 99.854m AOD
Camera's Nodal Point Height From Ground | 1.6m
Direction of View | 90° from N
Distance to Nearest Site Boundary | 180m
Camera Model | Nikon Z6ii, Full Frame Sensor
Camera Lens | Nikon Nikkor Z S-Line 50mm

Viewpoint 1.2 | Principal Photo A | Type 3 | AVR Level 3

Proposed



VFOV 27°

Enlargement 100% at A1 sheet size

Existing



HFOV 39.6°

Photo Captured | 16/08/2022 @ 16:41
Camera Location | E 332001, N 356808 @ 99.854m AOD
Camera's Nodal Point Height From Ground | 1.6m
Direction of View | 81° from N
Distance to Nearest Site Boundary | 180m
Camera Model | Nikon Z6ii, Full Frame Sensor
Camera Lens | Nikon Nikkor Z S-Line 50mm



Camera Location

Viewpoint 1.2 | Principal Photo B| Type 3 | AVR Level 3

Proposed



VFOV 27°

Existing



HFOV 39.6°

Enlargement 100% at A1 sheet size

Photo Captured | 16/08/2022 @ 16:41
Camera Location | E 332001, N 356808 @ 99.854m AOD
Camera's Nodal Point Height From Ground | 1.6m
Direction of View | 96° from N
Distance to Nearest Site Boundary | 180m
Camera Model | Nikon Z6ii, Full Frame Sensor
Camera Lens | Nikon Nikkor Z S-Line 50mm



Camera Location