APPENDIX 9.3
VISUALISATIONS AND ZTV STUDIES

Appendix 9.3: ZTV Studies

ZTV Studies

ZTV studies are prepared using the ESRI ArcGIS Viewshed routine. This creates a raster image that indicates the visibility (or not) of the points modelled. LDA Design undertake a ZTV study that is designed to include visual barriers from settlements and woodlands (with heights derived from NEXTMAP 25 surface mapping data). If significant deviations from these assumed heights are noted during site visits, for example young or felled areas of woodland, or recent changes to built-form, the features concerned will be adjusted within the model or the adoption of a digital surface model will be used to obtain actual heights for these barriers. In this instance, NEXTMap 25 data has been used to include buildings and vegetation in the ZTV model to reflect the baseline conditions of the Site.

The model is also designed to take into account both the curvature of the earth and light refraction, informed by the SNH guidance. LDA Design undertake all ZTV studies with observer heights of 2m.

The ZTV analysis begins at 1m from the observation feature and will work outwards in a grid of the set resolution until it reaches the end of the terrain map for the project.

For all plan production LDA Design will produce a ZTV that has a base and overlay of the 1:50,000 Ordnance Survey Raster mapping or better. The ZTV will be reproduced at a suitable scale on an A3 template to encompass the study area.

Ground model accuracy

Depending on the project and level of detail required, different height datasets may be used. Below is listed the different data products and their specifications:

Product	Distance Between Points	Vertical RMSE Error
LiDAR	50cm – 2m	up to +/- 5cm
Photogrammetrically Derived Heights	2m – 5m	up to +/- 1.5m
Ordnance Survey OS terrain 5	5 m	up to +/- 2.5m
NextMap25 DTM	25 m	+/- 2.06m
Ordnance Survey OS terrain 50	50 m	+/- 4m

Site-specific topographical survey data may also be used where available.