OUR STUDIO
APPENDIX 6.2 VISUALIZATION METHODOLOGY
2025

INTRODUCTION

This document outlines Our Studio's process for verified imagery. It describes the process from commission through to completion of wireline, massing and fully rendered views.

In drafting this methodology, guidance has been taken from relevant sections of the Landscape Institute Technical Guidance Note 06/19 - Visual Representation of Development Proposals. Where appropriate we have also taken guidance from the London Plan 2011 Implementation Framework (March 2012) London View Management Framework Supplementary planning Guidance: Appendix C: Accurate Visual Representations.

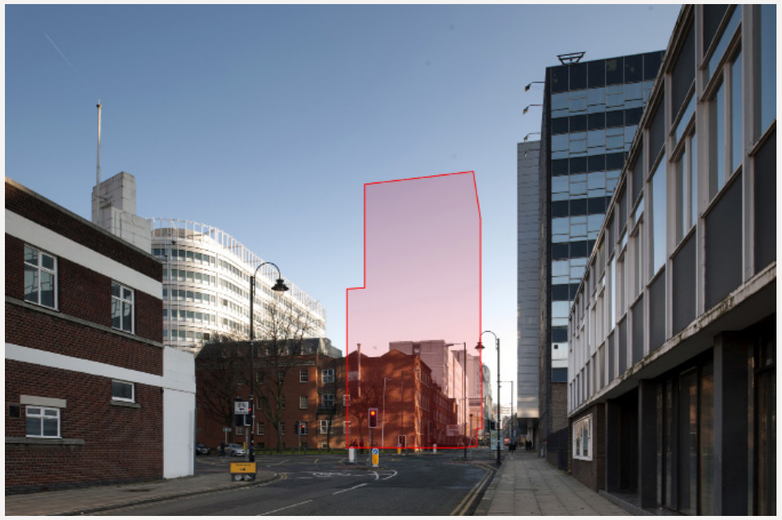
Prior to commencement, the series of views are chosen by the project team. This would usually be completed with the assistance of a townscape planning specialist - Our Studio would recommend that this is undertaken, especially if the views are intended to form part of an Environment Impact Assessment Report.

The disciplines employed are of the highest possible levels of accuracy and photo-realism which are achievable with today's standards of architectural photography and computer-generated models.

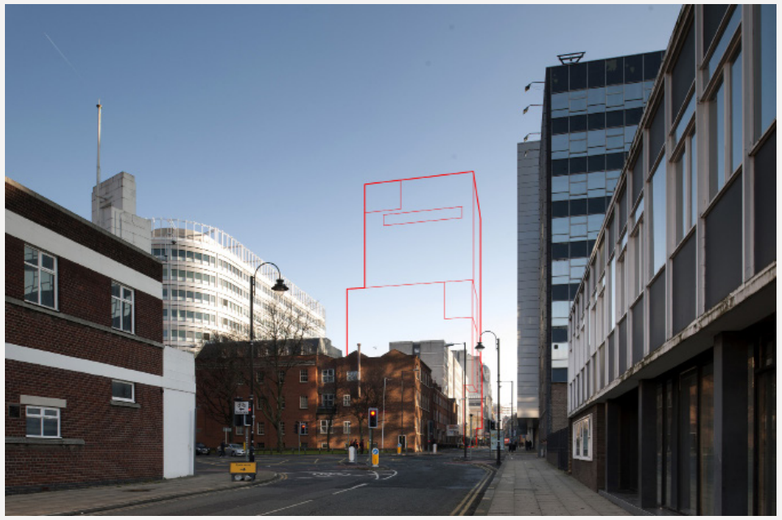
The process is divided into a number of stages, once the viewpoints have been chosen. These are summarised as follows:

Stage 1 - Commissioning of photography
Stage 2 - Commissioning of Survey
Stage 3 - 3D Modelling of scheme
Stage 4 - Integration of photography and survey data to form the alignment
Stage 5 - Adding scheme and rendering
Stage 6 - Completion of final image

AVR LEVELS RELATING TO TYPE 4 VISUALISATION



LEVEL 0 - Location and size of proposal



LEVEL 1 - Location, size and degree of visibility of proposal

LEVEL 2 - As level 1 + description of architectural form

LEVEL 3 - As level 2 + use of materials

STAGE 1
PHOTOGRAPHY

After consultation with the Local Authorities, the chosen views are typically scoped out in the form of draft photographs and marked on an Ordanance Survey (OS) map. Our Studio will then brief the professional photographer on each viewpoint.

At each of the chosen viewpoints, a photograph of the actual view is taken recording its position on the ground (by photography as well as inserting a survey pin into the ground). This assists the survey team with identifying the camera position and measuring co-ordinates.

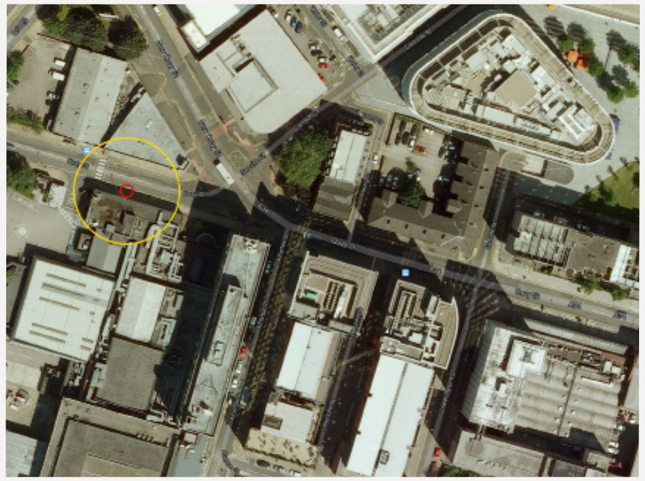
The Photography is taken using a full frame digital camera placed vertically above the chosen point at a standard height of 1.6m. This is typically achieved using a plumbline vertically beneath the centre of the lens.

Our photographer uses a lens with a known field-of-view (FOV) and sets the camera on a levelled tripod. High quality lenses are used to ensure minimum distortion. Within each study or series of images, the photographer will aim to use a consistent lens. This is typically a 24mm perspective control lens for a local view which equates to 73.7 degrees angle of view. However, for mid-distant views a 50mm lens may typically be used.

The Photographer notes the time and date of each shot (which is always captured in the EXIF metadata) - this enables any lighting conditions to be replicated later on in the process.

Our photographers use a range of full frame architectural cameras with the following high-resolution, digital lenses:
24mm, 28mm, 35mm, 50mm

Using perspective control shift may be required in Townscape views.
The digital chip dimensions are 36mm x 24mm.



Camera location map

Camera position

Final photo

STAGE 2
SURVEY

For each agreed photo viewpoint location an instructional document is released to the survey subcontractor. The surveyor is instructed (by means of a marked up photograph) to record a range of reference points that would enable a very high degree of accuracy.

These points should be centred on the location of the candidate scheme, and be varied throughout the depth of the view - ie near, mid-distant and far points. The points can then be measured by the survey team and will be recorded in terms of their Easting, Northing and height in relation to Ordanance Survey (OS datum)

The survey team also replicate the position of the camera in order to survey points on the horizon of the photograph. These can be used later in the process to remove any rotational errors in the photo.

Survey Equipment Required
• Global Positioning System (GPS)
• Total Station (with good reflectorless EDM range)

Field Survey Methodology
• Camera Locations - To establish the position of a viewpoint, the surveyor sets up a GPS on it and records enough points to ensure a high level of accuracy.
• Reference points - The surveyor sets up two temporary stations (TBMs) within view of each reference point and establishes their location using the GPS. Once these co-ordinates have been established, the surveyor sets up a Total Station on the TBMs and takes 3 reflectorless survey shots to the reference point in question.
Note: Where GPS positioning is not possible near to the required survey point – due to poor signal, for instance – the surveyor set up his TBMs at the nearest position possible and traversed traditionally to a position where he could survey the point.

Data Processing & Delivery
GPS data is processed through to acquire the surveyed points in the form of a delimited text file containing OSGB36 co-ordinates. Plus a 3D point cloud and camera position that can be imported into our 3D software.

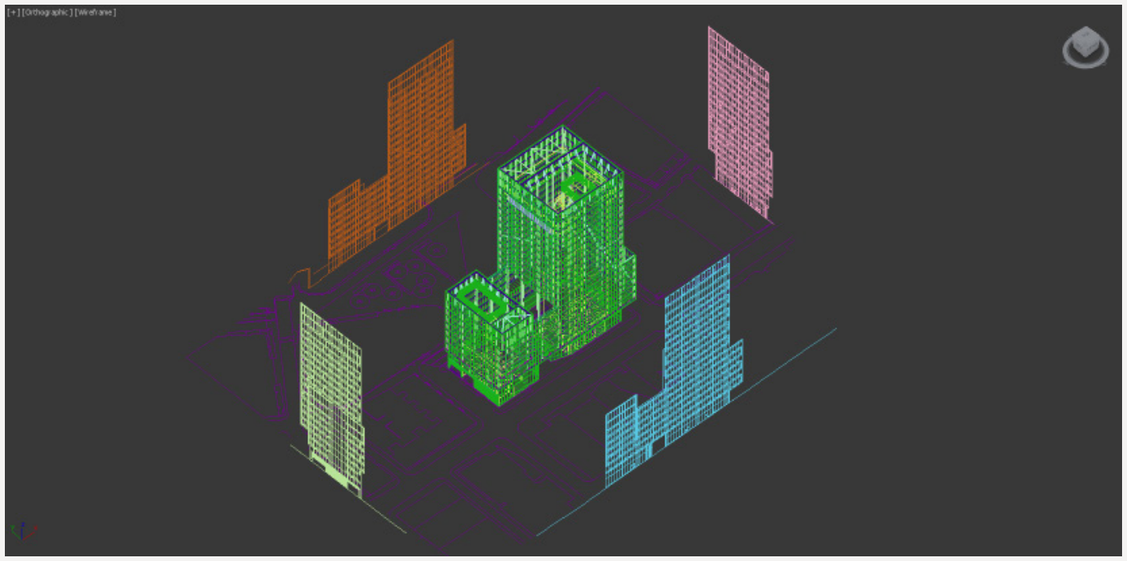
Survey points

STAGE 3
MODELLING OF THE SCHEME

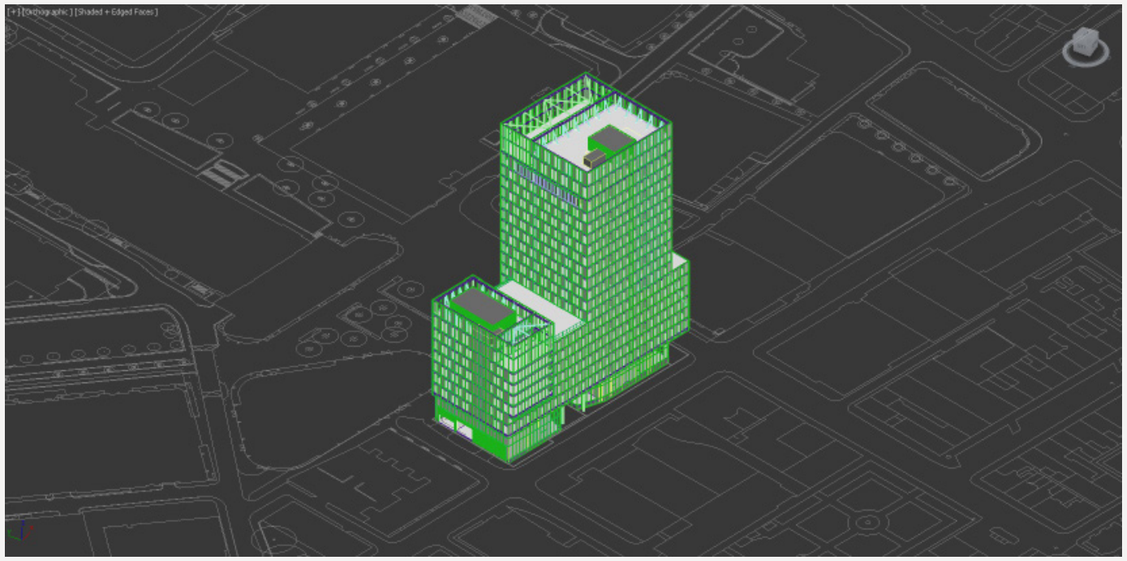
Within 3DSMax software, the scheme is either modelled from drawings supplied as dwgs by the architects or a detailed model will be supplied by the architect usually in the form of a Revit model. The model can be constructed in a number of ways dependent on the type of image being produced. The requirement is often for initial views, to study the form of the scheme and its impact on the surrounding environment - here, a block model is usually appropriate to allow all parties to assess the scheme.

From here a detailed model is often commissioned to progress to fully rendered certified imagery.

The model is setup in the 3D Virtual environment in relation to OS plan so that it can be integrated with the survey information.



DWG elevations and plans are imported to enable accurate modelling.



Orthographic view of detailed model

STAGE 4
INTEGRATION OF PHOTOGRAPHY, AND SURVEY DATA TO FORM THE ALIGNMENT

The first three stages are now brought together to create the alignment, within the 3D software.

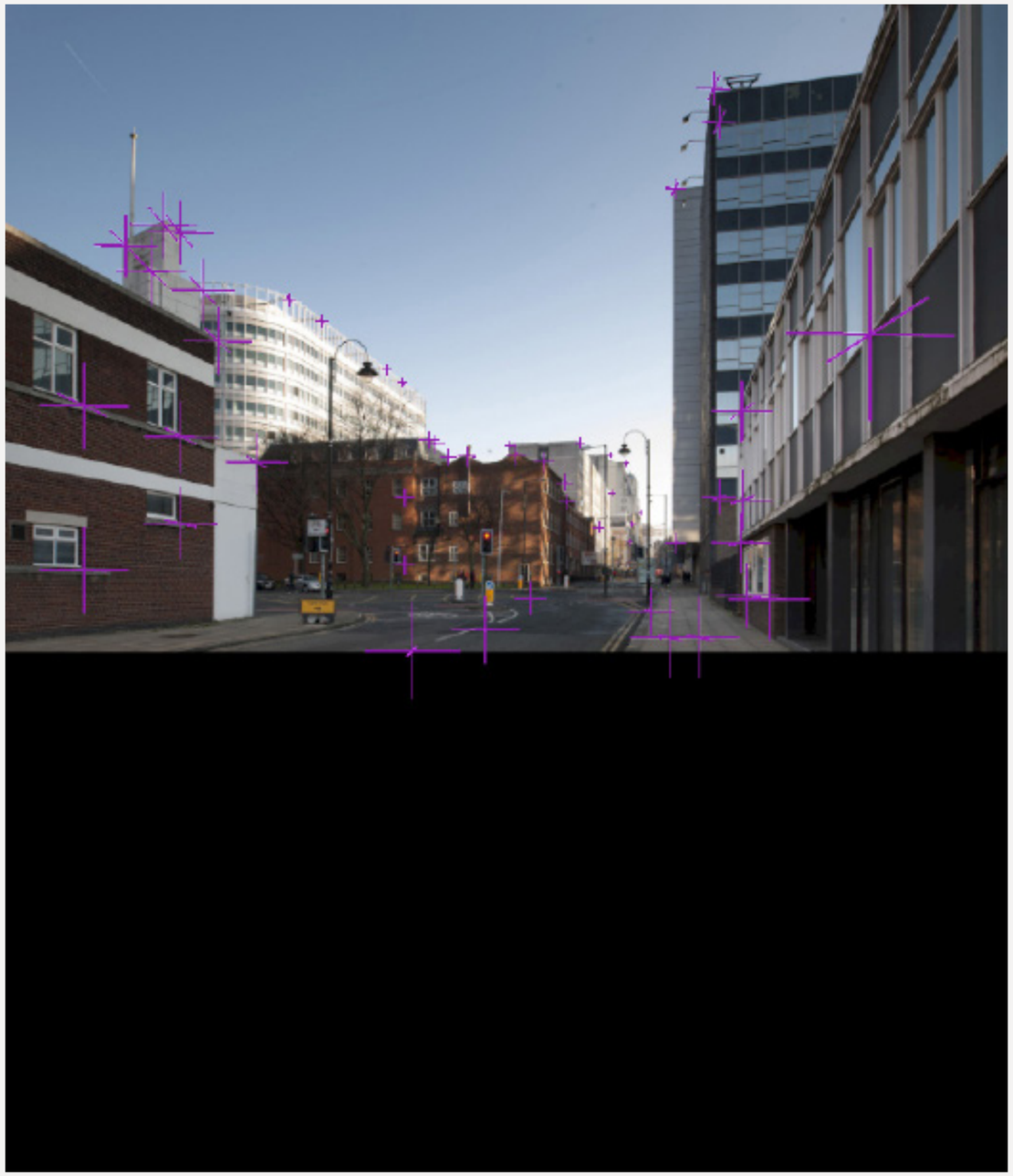
Firstly, the photography is brought into the 3D software, in the form of a background so that the surveyed information can be aligned to it ie camera-matching. A couple of stages are completed to accomplish this.

1. The photo is brought into ' Adobe Photoshop' editing software. Any rotational inaccuracies from the photo are removed. This is completed by using the surveyed horizon information and rotating the image accordingly.

2. Any 'shift' applied by the photographer using the perspective control lens needs to be addressed. Vertical shift is applied to allow the photographer to photograph tall buildings whilst keeping the camera level, and hence the verticals of the image vertical. It has the effect of 'shifting' the horizon off the centre of the image. To use the photography within the 3D software, the horizon has to be returned to the centre of the image - this is done by adding a blank area to the top or bottom.

Secondly, the survey data is brought into the 3D software. Returned to Our Studio as a database document, the Easting, Northing and height co-ordinates that can be imported so that they form points in 3-dimensional space. The virtual camera is also located, using the OS data reference returned to Our Studio.

Lastly, the camera is adjusted so that the surveyed points line up with the background photography. The field-of-view (FOV) is entered according to the lens the photographer used and the location of the camera's 'target' is adjusted in the X and Y plane (ie not vertically) so that the points align with the features surveyed.



3D software viewport showing background photography aligned with survey data points.

STAGE 5
ADDING SCHEME AND RENDERING

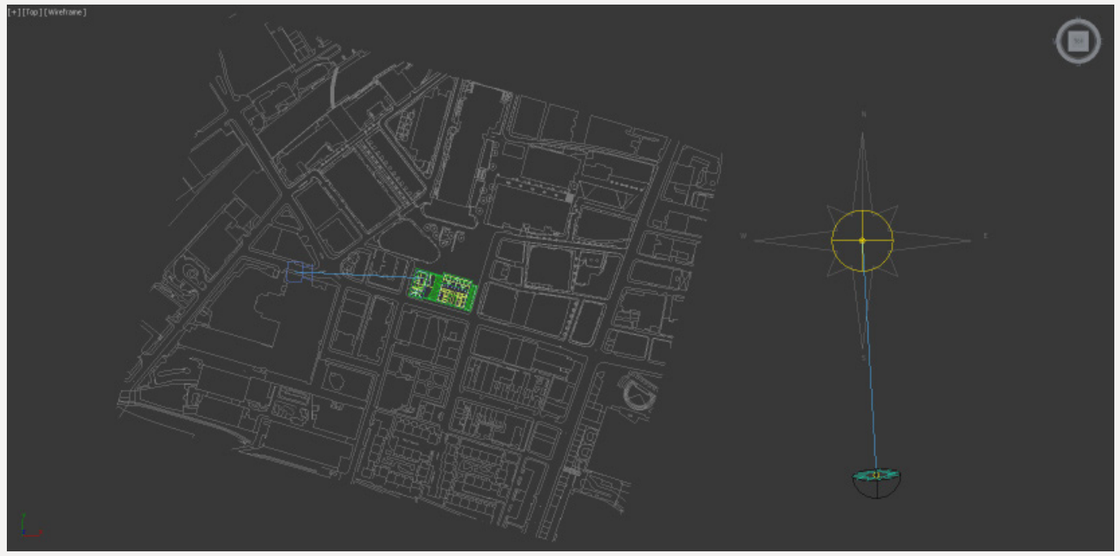
Upon completion of the camera alignment the 3D model (as described in stage 3) is brought into the 3D virtual environment in relation to OS datum.

Lighting is then setup in the 3D virtual environment to match the sunlight conditions at the time the source photograph was taken.

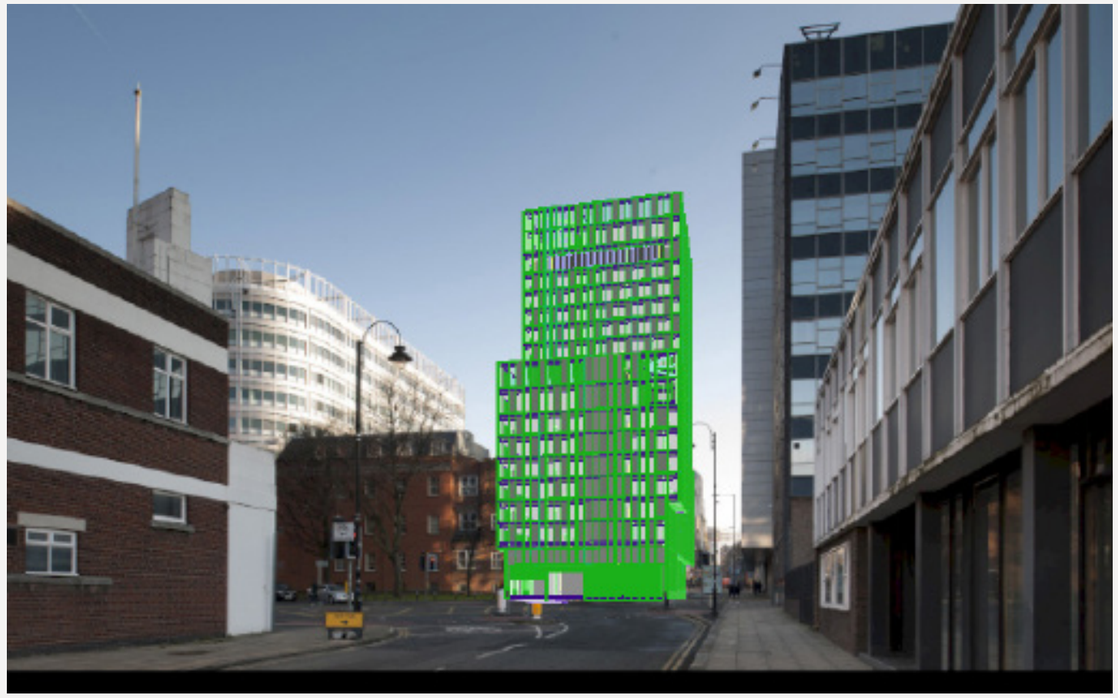
In order to assist a more qualitative assessment of the proposals, the output image needs to be a photo-realistic reflection of what the proposed scheme would look like once constructed. The process of transforming the wireframe 3D scheme model into one that can be used to create a photo-realistic image is called texturing.

Prior to rendering, Our Studio requires details from the architect regarding the proposed materials (e.g. type of glass, steel, aluminium etc.) to be utilised. This information is used to produce the appearance and qualities in the image that most closely relates to the real materials to be used.

The 3D model is then rendered in the 3D software at the same resolution as the photograph.



3d software showing top view of model aligned with OS plan including camera location and sunlight setup.



3d software showing view from camera with photo background and model in position.

OUR STUDIO
NORTHSPRING
SUITE 5D
70 SPRING GARDENS
MANCHESTER
M2 2BQ

Tel +44 161 237 1900
Email hello@ourstudioltd.com

OUR STUDIO