AVR07 - St Mary's Garden

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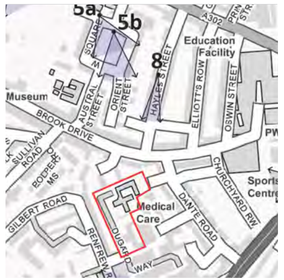
EXISTING



AVR08 - Hayle Street

AVR
LONDON

PROPOSED

AVR08 - Hayle Street

AVR09 - Renfrew Road

AVR09 - Renfrew Road

AVR
LONDON

EXISTING

AVR
LONDON

PROPOSED

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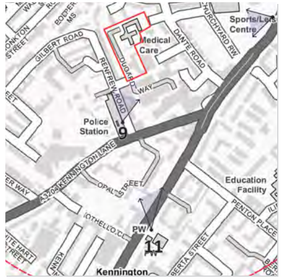

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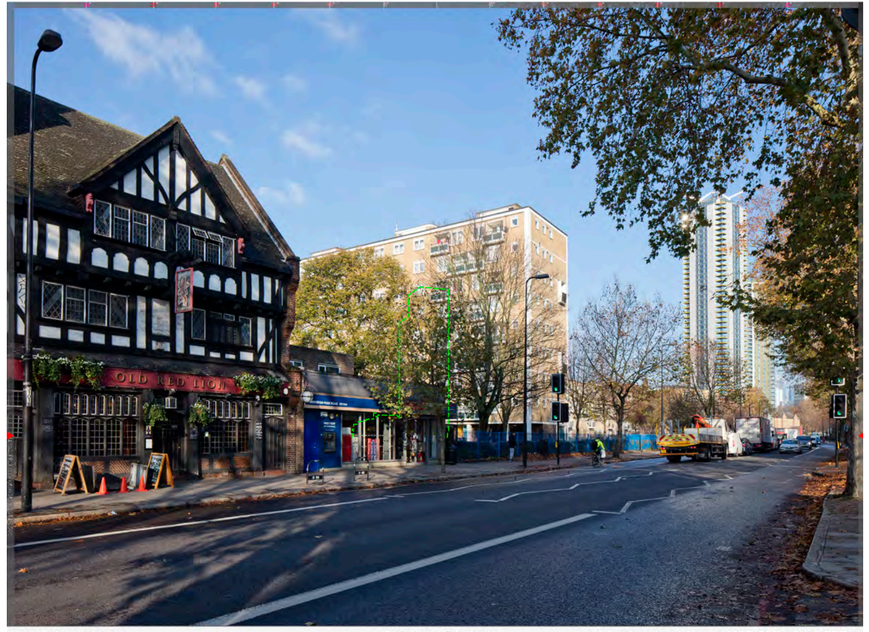

AVR12 - St Mary's Churchyard

AVR12 - St Mary's Churchyard


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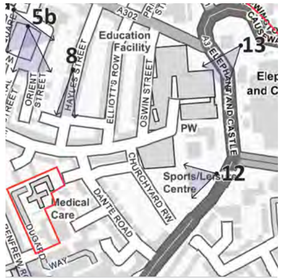
Preliminary Alignment
1.6 m above ground
10:58 01 April 2019


5b
8
13
12
Education Facility
ELLIOTTS ROW
OSWIN STREET
PW
Sports/Leisure Centre
Medical Care
CHURCHYARD RW
DANTE ROAD
ORDNANCE WAY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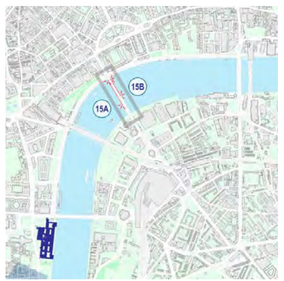
Preliminary Alignment
1.6 m above ground
10:58 01 April 2019

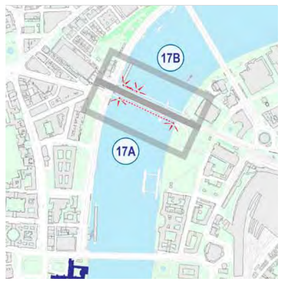
LVMF 4A.1 - Primrose Hill: the summit - looking toward St Paul's Cathedral

LVMF 4A.1 - Primrose Hill: the summit - looking toward St Paul's Cathedral



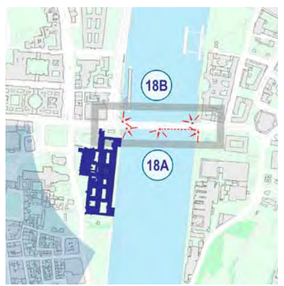
LVMF 15A.2 - Waterloo Bridge: upstream – close to the Westminster bank

LVMF 15A.2 - Waterloo Bridge: upstream – close to the Westminster bank



LVMF 17A.2 - Golden Jubilee/Hungerford Footbridges: upstream - close to the Westminster bank

LVMF 17A.2 - Golden Jubilee/Hungerford Footbridges: upstream - close to the Westminster bank



LVMF 18A.3 - Westminster Bridge: upstream – at the Westminster bank

LVMF 18A.3 - Westminster Bridge: upstream – at the Westminster bank

LVMF 20A.1 - Victoria Embankment: between Westminster and Hungerford Bridges – axial to County Hall

LVMF 20A.1 - Victoria Embankment: between Westminster and Hungerford Bridges – axial to County Hall

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Project Methodology - Kennington Stage, Dugard Way, SE11 4TH

AVR London were commissioned to produce a number of verified views of proposals for the Kennington Stage in London Borough of Lambeth. The positions were identified by the townscape consultant, Turley.

2D plans, Ordnance Survey Mapping, local survey data, and a 3D model were provided by Rolfe Judd Architects, these were used by AVR London to verify the proposal for the selected viewing positions.

Surveying

Control stations were established at each camera position and easily and clearly identifiable static points within the view were identified by the qualified land surveyor on site and marked as an overlay on the photograph from that position.

A line of sight, two station baseline was established, coordinated and levelled by real time kinetic GPS observations, usually with one of the stations being the camera location. The eastings and northings are aligned to the Ordnance Survey National Grid (OSGB36) and elevation to Ordnance Survey Datum (OSD) using the OSTN15 GPS transformation program.

Once the baseline is established, a bearing was determined and a series of clearly identifiable static points across the photograph were observed using the total station. These are throughout the depth of field of the photograph and at differing heights within the image.

The survey control stations are resected from the OS base mapping and wherever possible, linked together to form a survey network. This means that survey information is accurate to tolerances quoted by GPS survey methods in plan and commensurate with this in level.

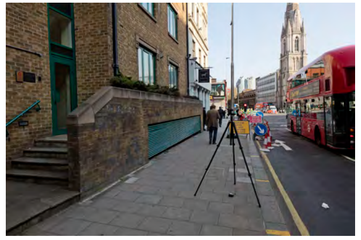
Horizontal and vertical angle observations from the control stations allow the previously identified points within the view to be surveyed using line of sight surveying and the accurate coordination of these points determined using an intersection program, these points are then related back to the Ordnance Survey grid and provided in a spreadsheet format showing point number, easting, northing and level of each point surveyed. together with a reference file showing each marked up image.

The required horizon line within the image is established using the horizontal collimation of the theodolite (set to approximatley 1.60m above the ground) to identify 3 or 4 features that fall along the horizon line.

Surveying equipment used:

Leica Total Station Electronic Theodolite which has 1" angle measuring accuracy and 2mm + 2ppm distance accuracy.
Leica Smart Rover RTK GPS system.
Wild/Leica NAK2 automatic level which a standard deviation of +/- 0.7mm/km

POINT I.D	EASTING	NORTHING	HEIGHT	POINT DESCRIPTION	VIEW NO.
2	**531083.428**	**179495.745**	**4.027**		**2**
201	531093.198	179491.608	5.167	Top right corner of vent	2
202	531087.999	179492.500	3.965	Near right corner of cover	2
203	531088.019	179489.934	3.633	Near left corner of road marking	2
204	531085.958	179487.305	3.718	Near left corner of road marking	2
205	531084.415	179484.101	3.689	Point road marking arrow	2
206	531150.667	179458.008	14.924	End television aerial	2
207	531229.812	179385.976	18.279	Top right corner window lintel	2
208	531192.206	179407.450	20.212	Top left corner window lintel	2
209	531164.680	179419.258	7.482	Bottom right concrete panel	2
210	531152.689	179419.642	10.159	Top Right lower right ashlar surround	2
211	531152.692	179419.237	33.735	Arch head, spire window	2
212	531155.861	179417.938	63.697	Spire top	2
213	531155.110	179403.021	9.819	Top left (inner) conc opening	2
214	531159.991	179354.583	24.555	Far right corner of roof	2
215	531102.076	179451.234	20.112	Top left corner of cornice	2
216	531091.141	179464.835	23.733	Top right, ashlar block	2
217	531092.987	179466.272	9.410	Bottom left of sign	2
218	531088.149	179471.057	13.274	Top left of window	2
219	531085.965	179473.246	6.440	Traffic sensor	2
220	531096.609	179490.273	10.607	Top right of window	2
221	531096.524	179490.320	16.439	Top right of window	2



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Photography

Each scene was photographed using a plumb line over a survey pin to accurately position the view location. The centre of the camera lens was positioned at a height of 1.60 metres above the ground to simulate average viewing height. Each view was taken with a lens that gave approximately a 68 degree field of view, either in landscape or portrait format, a standard which has emerged for verified architectural photography. The nature of digital photography means that a record of the time and date of each photograph is embedded within the file; this metadata allows accurate lighting timings to be recreated within the computer model.

In professional architectural photography, having the camera horizontal is desirable in order to prevent any 3 point perspective being introduced to the image and ensure the verticals within the photographed scene remain parallel. Within architectural photography this is standard practice and more realistically reflects the viewing experience. The camera used by the photographer has the ability to shift the digital capture chip with respect to the centre of the camera lens, allowing for the horizon in the image to be above, below or centrally within the image whilst maintaining the parallel nature of verticals previously mentioned.

Using the surveyed horizon points as a guide, each photograph is checked and rotated, if necessary, in proprietary digital image manipulation software to ensure that the horizon line on the photograph is level and coincident with the information received from the surveyor.

Accurate Visual Representation Production Process

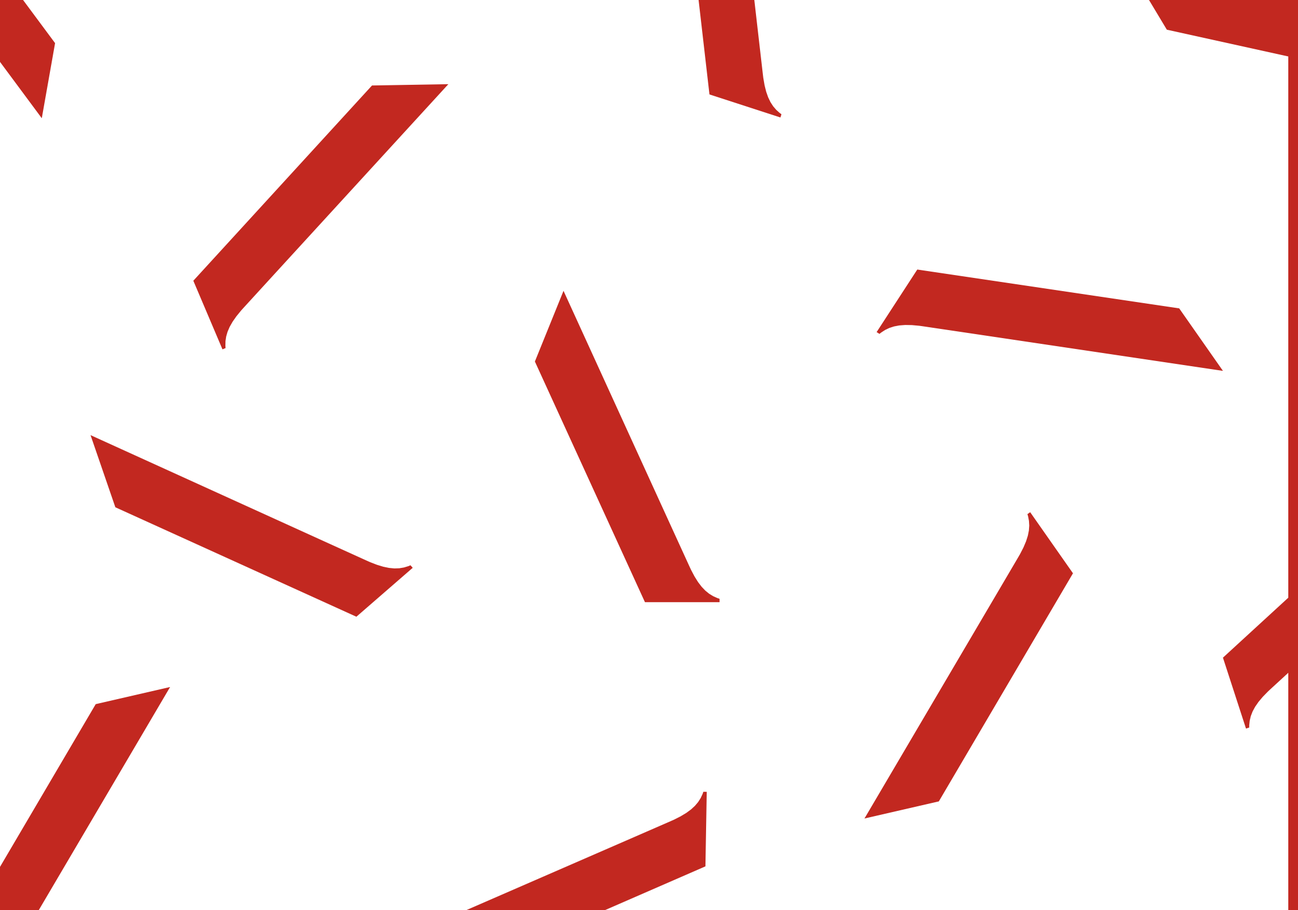
The 3D computer model was precisely aligned to a site plan on the OS coordinate grid system.

Within the 3D software a virtual camera was set up using the coordinates provided by the surveyor along with the previously identified points within the scene. The virtual camera was verified by matching the contextual surveyed points with matching points within the overlaid photograph. As all the surveyed points, virtual camera and 3D model all relate to the same 3-dimensional coordinate system then there is only one position, viewing direction and field of view where all these points coincide with the actual photograph from site. The virtual camera is now verified against the site photograph.

For the fully rendered views a lighting simulation (using accurate latitude, longitude and time) was established within the proprietary 3D modeling software matching that of the actual site photograph. Along with the virtual sunlight, virtual materials were applied to the 3D model to match those advised by the architects. The proprietary 3D modeling software then uses the verified virtual camera, 3D digital model, lighting and material setup to produce a computer generated render of the proposed building.

The proposal was masked where is was obscured behind built form or street furniture.

Using the surveyed information and verification process described above, the scale and position of a proposal with a scene can be objectively calculated. However, using proprietary software currently available the exact response of proposed materials to their environment is subjective so the exact portrayal of a proposal is a collaboration between illustrator and architect. The final computer generated image of the proposed building is achieved by combining the computer generated render and the site photography within proprietary digital compositing software.



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