

## 11.0 References

### References

- Ref 1: Department for Communities and Local Government (2012); National Planning Policy Framework, ([www.communities.gov.uk](http://www.communities.gov.uk))
- Ref 2: Department for Communities and Local Government (2014); National Planning Practice Guidance (<http://planningguidance.planningportal.gov.uk/>)
- Ref 3: Historic England (2015); Historic England Advice Note 4: Tall Buildings. Historic England.
- Ref. 4: Mayor of London (2016); The London Plan – Spatial Development Strategy for Greater London, Consolidated with Alterations since 2011. Greater London Authority.
- Ref 5: Mayor of London (2012); London View Management Framework Supplementary Planning Guidance, Greater London Authority.
- Ref 6: Natural England (2011); London's Natural Signatures: The London Landscape Framework, Natural England.
- Ref 7: Royal Borough of Greenwich (2014); Royal Greenwich Local Plan: Core Strategy with Detailed Policies. Royal Borough of Greenwich.
- Ref 8: Royal Borough of Greenwich (2012); Charlton Riverside Masterplan SPD. Royal Borough of Greenwich.
- Ref 9: Royal Borough of Greenwich (2016); Royal Greenwich Local Plan Site Allocations (Issues and Options Consultations). Royal Borough of Greenwich.
- Ref 10: Royal Borough of Greenwich (2011); Tall Buildings Assessment. Royal Borough of Greenwich.
- Ref 11: Landscape Institute and Institute of Environmental Management and Assessment: IEMA (2013); Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA), London and New York: Routledge.
- Ref 12: Bridget Cherry and Nikolaus Pevsner (2002); The Buildings of England, London 2: South, Yale University Press.
- Ref 13: Ben Weinreb and Christopher Hibbert, Julia Keay, John Keay (2010); The London Encyclopaedia, Macmillan.
- Ref 14: Royal Borough of Greenwich (2016); Charlton Village Conservation Area Draft Character Appraisal. Royal Borough of Greenwich.

**PETER  
STEWART  
CONSULTANCY**

70 Cowcross Street  
London EC1M 6EJ  
November 2016

## Appendix A - Non Technical Methodology for AVRs

### Overview

The process of generating verified views (also referred to as accurate visual representations (AVR)) for the Proposed Development of Charlton Riverside was carried out by Troopers Hill.

Troopers Hill use a methodology that is compliant with relevant sections of: The Landscape Institute/IEEMA Guidelines for Landscape and Visual Impact Assessment (3rd edition 2013); The Landscape Institute Advice Note 01/11 Photography and Photomontage in Landscape and Visual Impact Assessment and The Revised SPG London View Management Framework (March 2012).

High quality/resolution photographs were taken from the agreed locations by Troopers Hill. An adequate number of visible features were subsequently surveyed, including the precise location and bearing of the camera. A development model was generated to correct geographical co-ordinates. With a known camera position and orientation, photographic and surveyed existing visible features, the development model was accurately aligned to the photograph.

### Site visit

Troopers Hill visited the site on the 20th July, 5th August 2016, 24th June, and 28th June 2016 to obtain viewpoint photography. The view positions were documented using photography of the exact positions (marked with paint) which was passed on to the surveyor who later visited the site to record the precise co-ordinates.

### Photography

For each agreed photoviewpoint location, a high resolution photograph was taken with a 35mm (full frame) digital SLR camera. The location at which the photograph was taken was marked (where possible) with a nail and / or spray paint to allow the surveyor to record the precise location on a subsequent visit. The camera was levelled horizontally and laterally by means of a tripod mounted levelling base and two camera mounted spirit levels. A tilt/shift or perspective control lens was used to allow vertical rise while avoiding convergence of vertical elements.

### Lens Selection Criteria

In order to capture the full extent of the proposed development and an appropriate amount of contextual built form a 24mm (73.7° horizontal field of view) and 17mm lens (93.3° horizontal field of view) was used.

### Equipment Used for Photography

- Canon 5D SR digital SLR camera (35mm)
- Canon TSe 17mm f/4L
- Canon TSe 24mm f/3.5L II
- Remote (cabled) shutter release
- Tripod indexed pan head
- Levelling base with bubble level
- Camera (hot shoe) mounted two axis spirit level
- Plumb bob
- Street marking paint
- Hilti nails

### Post Production

Each base photograph has had a level of basic colour correction applied to it so that it best represents the impression of the scene as the photographer experienced it in person.

This processing is predominately done to the 16bit RAW file using Adobe Camera Raw and Photoshop. It includes, but is not limited to, adjustments in; colour temperature and tint; levels such as exposure and contrast; shadow and highlight recovery; sky recovery through the use of gradient corrections; and other post processing effects such as sharpening and noise reduction.

### Survey

For each agreed photoviewpoint location an instructional document was released to the survey subcontractor. The surveyor was instructed (by means of a marked up photograph, map and tripod (in situ) photograph) to record a range of contextual reference points.

### Survey Equipment Required

- Leica GPS (either 1200 series or 500 series) with smartnet capability.
- Leica Total station (usually TCRP1201)

### Field Survey Methodology

- Camera Locations - Where possible the camera position and another survey station (to use as an RO) are fixed using the GPS. If local conditions don't allow this other survey stations are fixed and the control traversed to where required and the Camera position fixed by the total station. Multiple fixes are taken with the GPS to ensure accuracy.
- Reference points - From either the camera position, or somewhere more suitable, points on the photograph are co-ordinated using the reflectorless capability of the total station. Repeat measurements are taken on the long range shots to ensure accuracy and avoid interference from intermediate targets.

### Data Processing & Delivery

GPS data was processed through Leica Geo-Office to acquire the OSGB36 co-ordinate system information and then processed to produce co-ordinate information for the surveyed points in the form of a delimited text file.

### The Proposed Development

Troopers Hill imported a 3D model of the proposed development supplied by the project architect.

The model was checked for accuracy and subsequently aligned to the OSGB36 co-ordinate system.

### The Verification Process

The collected survey control point data and camera location data was imported into the 3D model environment from the delimited text file (relative to the OSGB36 co-ordinate system) by means of a proprietary script.

At each photoviewpoint location a virtual camera was set up in the 3D software using the coordinates provided by the surveyor. The 3D coordinates of the survey reference points were used to create an accurate 'point cloud' model of the contextual surveyed parts of the scene. The scene was verified by matching the contextual surveyed points to the photograph. To do this, for each photoviewpoint, two renders\* were made from the 3D model from the same virtual camera: one render showed only the development (in the chosen method of presentation); the other showed only the survey reference point data.

Using a photo editing package [Adobe Photoshop CC] the photography, survey reference point render and proposed development render were aligned.

With the rendered proposals aligned to the photography, masks were applied to the image to hide features of the proposed development that would be occluded by existing features.. This process was performed on all views.

*\* Rendering is the process of generating an image from a model (or models in what collectively could be called the 3D environment), by means of computer programs - specifically, in this case Chaos Group V-Ray 3.4 for Autodesk 3Ds Max 2015.*

## SOURCES OF AVR DATA

### SUPPLIED DATA

| Asset                      | Description                          | Supplier                 | Reference                             | Date     | Comment  |
|----------------------------|--------------------------------------|--------------------------|---------------------------------------|----------|--|
| Verification (survey) Data | Text file                            | AG Surveys               | 2793                                  | 11.08.16 | Imported using proprietary script. Complete point file and surveyors notes available on request.<br>Origin Shift -541146 E -221026 N |
| Planning Drawings          | Autocad DWG                          | Simpson Haugh & Partners | BUC001_PL_001 Site Plan.dwg           | 15.11.16 | Proposed plans and elevations.   |
| Development Model          | Autocad 3D Model                     | Simpson Haugh & Partners | 10046-Z0-G200-3.dwg                   | 17.11.16 | Proposed development model.  |
| Materials Reference        | Design and Access Statement          | Simpson Haugh & Partners | 10046_DAS_DRAFT_161115_HIGHRES_01.pdf | 17.11.16 |  |
| Landscape Proposals        | Landscape Design and Access Statment | Cameo & Partners         | C0034 DAS [REV 01] - HI res.pdf       | 18.11.16 | Reference for landscape proposals across site.   |

### GENERATED DATA (BY TROOPERS HILL)

| Asset    | Description   | Reference                            | Date     | Comment |
|----------|---|--------------------------------------|----------|---------|
| 3D Model | Scene file generated in 3Ds Max Design 2015 to combine supplied survey and modelled data. | RCKWL_CH_GRN_C231_AVR3_118.11.16.max | 30.11.16 |         |

### PHOTOGRAPHY DATA

| VP | Description  | Type | Method   | Easting   | Northing  | Height | Tripod Height | Camera      | Lens               | Focal Length | Rise | HFOV  | Date       | Time  | Post Processing       |
|----|--|------|----------|-----------|-----------|--------|---------------|-------------|--------------------|--------------|------|-------|------------|-------|-----------------------|
| 1  | Gallions Road/ Bugsby's Way  | AVR3 | Verified | 540875.52 | 178713.35 | 5.52   | 1.60          | Canon 5D SR | TS-E24mm f/3.5L II | 24mm         | +6mm | 73.7° | 20/07/2016 | 14:54 | Curves and sharpening |
| 2  | Atlas Gardens  | AVR3 | Verified | 541038.36 | 178890.78 | 3.49   | 1.60          | Canon 5D SR | TS-E17mm f/4L      | 17mm         | +6mm | 93.3° | 20/07/2016 | 15:30 | Curves and sharpening |
| 3  | Derrick Gardens  | AVR3 | Verified | 541025.38 | 178991.56 | 3.82   | 1.60          | Canon 5D SR | TS-E17mm f/4L      | 17mm         | +5mm | 93.3° | 20/07/2016 | 15:48 | Curves and sharpening |
| 4  | Woolwich Road roundabout   | AVR3 | Verified | 541400.95 | 178599.88 | 5.17   | 1.60          | Canon 5D SR | TS-E24mm f/3.5L II | 24mm         | +4mm | 73.7° | 20/07/2016 | 13:56 | Curves and sharpening |
| 5  | Herringham Road  | AVR3 | Verified | 541392.76 | 179190.86 | 2.57   | 1.60          | Canon 5D SR | TS-E24mm f/3.5L II | 24mm         | +4mm | 73.7° | 20/07/2016 | 12:35 | Curves and sharpening |
| 6  | Stone Lake Industrial Park   | AVR3 | Verified | 541415.95 | 178897.1  | 1.35   | 1.60          | Canon 5D SR | TS-E24mm f/3.5L II | 24mm         | +4mm | 73.7° | 05/08/2016 | 08:28 | Curves and sharpening |
| 7  | Anchor and Hope Lane (spur road)   | AVR3 | Verified | 541052.5  | 179108.43 | 5.34   | 1.60          | Canon 5D SR | TS-E24mm f/3.5L II | 24mm         | +4mm | 73.7° | 20/07/2016 | 16:41 | Curves and sharpening |
| 8  | Charlton Church Lane/ Woolwich Road  | AVR3 | Verified | 541112.27 | 178491.3  | 4.15   | 1.60          | Canon 5D SR | TS-E24mm f/3.5L II | 24mm         | +4mm | 73.7° | 24/06/2016 | 09:57 | Curves and sharpening |
| 9  | Charlton Train Station   | AVR3 | Verified | 541184.12 | 178376.75 | 11.25  | 1.60          | Canon 5D SR | TS-E24mm f/3.5L II | 24mm         | +4mm | 73.7° | 24/06/2016 | 08:55 | Curves and sharpening |
| 10 | Charlton Church Lane/ Nadine Street  | AVR1 | Verified | 541269.96 | 178154.36 | 24.26  | 1.60          | Canon 5D SR | TS-E24mm f/3.5L II | 24mm         | +3mm | 73.7° | 24/06/2016 | 15:44 | Curves and sharpening |
| 11 | Warren Court/ Church Lane  | AVR1 | Verified | 541355.35 | 178000.09 | 35.65  | 1.60          | Canon 5D SR | TS-E24mm f/3.5L II | 24mm         | +3mm | 73.7° | 28/06/2016 | 11:21 | Curves and sharpening |
| 12 | Harvey Gardens/ The Valley   | AVR1 | Verified | 541433.87 | 178461.7  | 4.15   | 1.60          | Canon 5D SR | TS-E24mm f/3.5L II | 24mm         | +4mm | 73.7° | 24/06/2016 | 14:41 | Curves and sharpening |
| 13 | Charlton Lane/ Fairfield Grove / Thomtree Road                               | AVR1 | Verified | 541757.19 | 178095.83 | 38.7   | 1.60          | Canon 5D SR | TS-E24mm f/3.5L II | 24mm         | +3mm | 73.7° | 24/06/2016 | 14:04 | Curves and sharpening |
| 14 | Victoria Way/ Eastcombe Avenue   | AVR1 | Verified | 540801.32 | 178076.83 | 23.36  | 1.60          | Canon 5D SR | TS-E24mm f/3.5L II | 24mm         | +3mm | 73.7° | 28/06/2016 | 12:07 | Curves and sharpening |
| 15 | Maryon Park outlook  | AVR1 | Verified | 541816.66 | 178741.48 | 35.75  | 1.60          | Canon 5D SR | TS-E24mm f/3.5L II | 24mm         | 0mm  | 73.7° | 24/06/2016 | 12:22 | Curves and sharpening |
| 16 | Woolwich Church Street/ Woolwich Road roundabout                             | AVR1 | Verified | 542142.15 | 179067.8  | 4.86   | 1.60          | Canon 5D SR | TS-E24mm f/3.5L II | 24mm         | +2mm | 73.7° | 24/06/2016 | 10:57 | Curves and sharpening |
| 17 | Westfield Street   | AVR1 | Verified | 542075.48 | 179114.58 | 2.3    | 1.60          | Canon 5D SR | TS-E24mm f/3.5L II | 24mm         | +4mm | 73.7° | 24/06/2016 | 11:26 | Curves and sharpening |
| 18 | Thames Barrier Park  | AVR1 | Verified | 541392.34 | 179814.3  | 5.67   | 1.60          | Canon 5D SR | TS-E24mm f/3.5L II | 24mm         | 0mm  | 73.7° | 28/06/2016 | 09:53 | Curves and sharpening |
| 19 | Lyle Park  | AVR1 | Verified | 540488.67 | 179740.57 | 5.16   | 1.60          | Canon 5D SR | TS-E24mm f/3.5L II | 24mm         | +2mm | 73.7° | 28/06/2016 | 16:02 | Curves and sharpening |
| 20 | Riverside walkway, adjacent to Greenwich Peninsula Emirates Air Line Station | AVR1 | Verified | 539572.25 | 179868.78 | 5.46   | 1.60          | Canon 5D SR | TS-E24mm f/3.5L II | 24mm         | +2mm | 73.7° | 28/06/2016 | 14:38 | Curves and sharpening |
| 21 | Coxmount Road  | AVR1 | Verified | 541755    | 178438.93 | 17.44  | 1.60          | Canon 5D SR | TS-E24mm f/3.5L II | 24mm         | 0mm  | 73.7° | 24/06/2016 | 13:33 | Curves and sharpening |



## AVR Type Description

To assist agreement between all parties prior to Verified View preparation, the following classification (of Accurate Visual Representation (AVR)) types are presented to broadly define the purpose of a Verified View in terms of the visual properties it presents. This classification is a cumulative scale in which each level incorporates all the properties of the previous and is based on those defined in the Supplementary Planning Guidance document - London View Management Framework, Appendix D.

AVR (Level) 0 Location and size of proposal

AVR (Level) 1 Location, size and degree of visibility of proposal

AVR (Level) 2 As level 1 + description of architectural form

AVR (Level) 3 As level 2 + use of materials

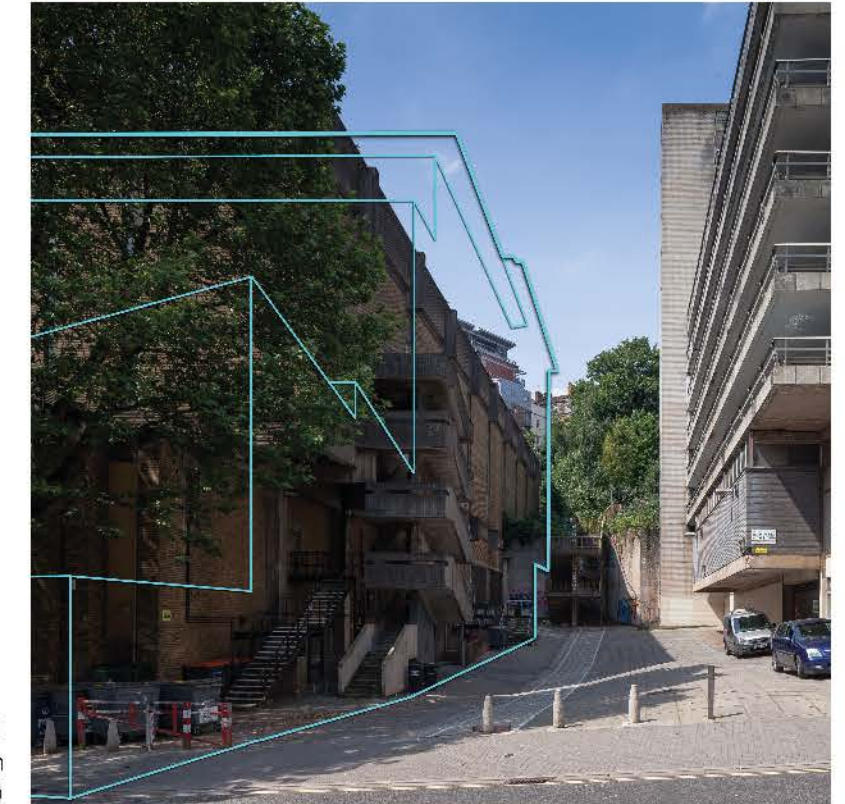
### AVR0

Showing location and size (in this case as a toned area superimposed on photograph)



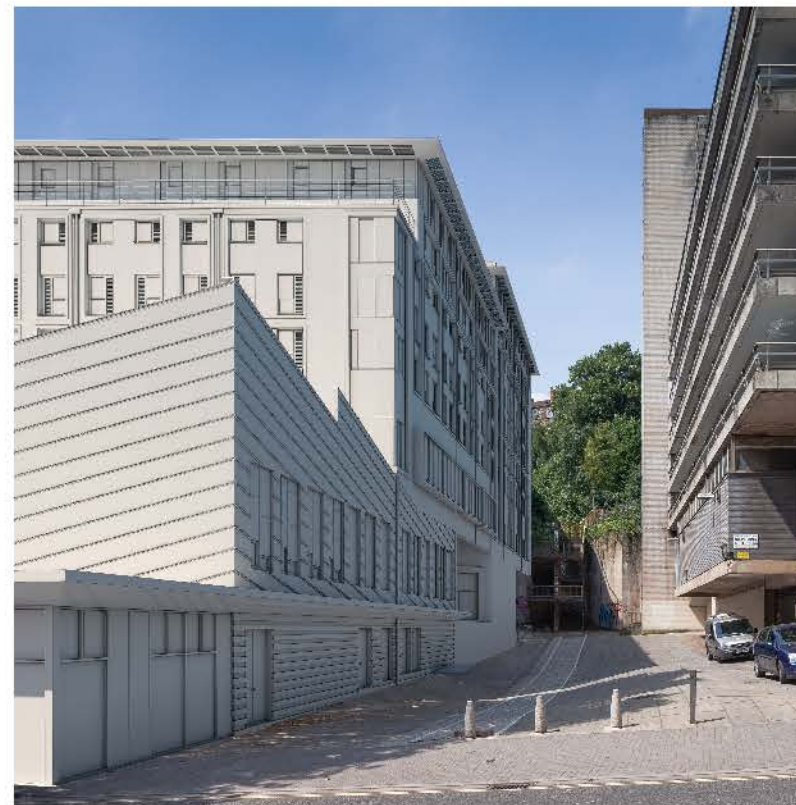
### AVR1

Confirming degree of visibility (in this case as a 'wireline' image)



### AVR2

Explaining architectural form (in this case as a simply shaded render in a uniform opaque material)



### AVR3

Confirming the use of materials (in this case using a 'photorealistic' rendering technique)







