

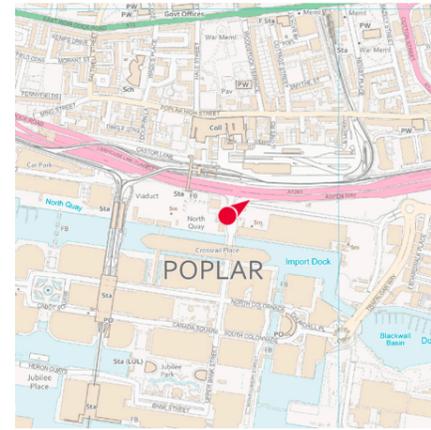
Appendices (continued)

25 | Nutmeg Lane



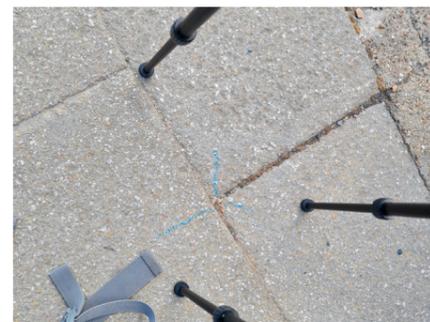
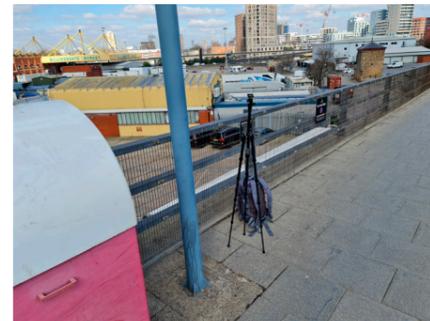
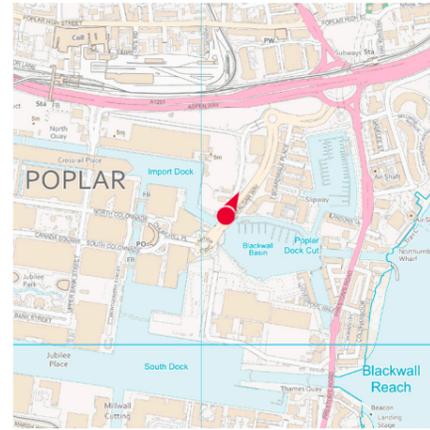
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 Looking at Centre of Site
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Photography Details
 Height of camera 1.60m above ground
 Date of photograph 14/04/2021
 Time of photograph 11:44
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

26 | Upper Bank Street



Camera Location
 National Grid Reference 537737.7E 180514.2N
 Camera height 7.87m AOD
 Looking at Centre of Site
 Bearing 54.7°, distance 1.3km
Photography Details
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 Date of photograph 29/03/2021
 Time of photograph 14:52
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

27 | Trafalgar Way



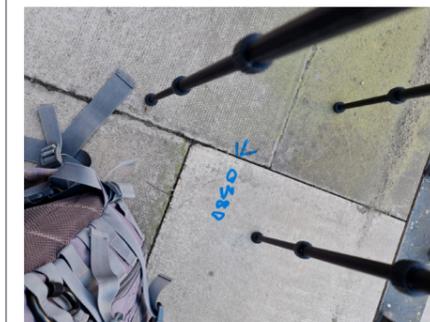
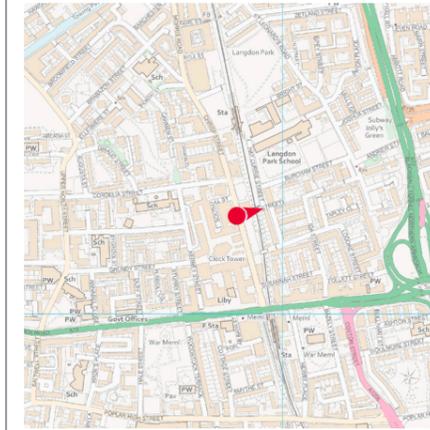
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Photography Details
 Height of camera 1.60m above ground
 Date of photograph 29/03/2021
 Time of photograph 14:25
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

28 | South side of Bow Creek



Camera Location
 National Grid Reference 538862.8E 181704.8N
 Camera height 7.00m AOD
 Looking at Centre of Site
 Bearing 210.2°, distance 0.4km
Photography Details
 Height of camera 1.60m above ground
 Date of photograph 14/04/2021
 Time of photograph 10:31
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

29 | Chrisp Street, looking along Willis Street



Camera Location
 National Grid Reference 537891.8E 181231.2N
 Camera height 8.14m AOD
 Looking at Centre of Site
 Bearing 74.6°, distance 0.9km
Photography Details
 Height of camera 1.60m above ground
 Date of photograph 29/03/2021
 Time of photograph 15:59
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

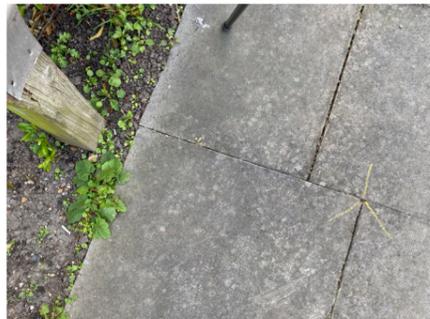
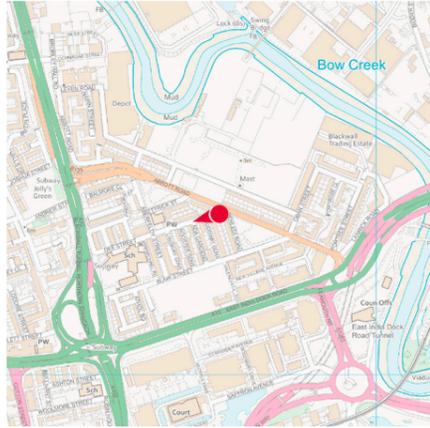
30 | A12, junction with East India Dock Road, looking north



Camera Location
 National Grid Reference 538381.3E 181048.3N
 Camera height 5.84m AOD
 Looking at Centre of Site
 Bearing 343.7°, distance 0.4km
Photography Details
 Height of camera 1.60m above ground
 Date of photograph 11/04/2021
 Time of photograph 15:11
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

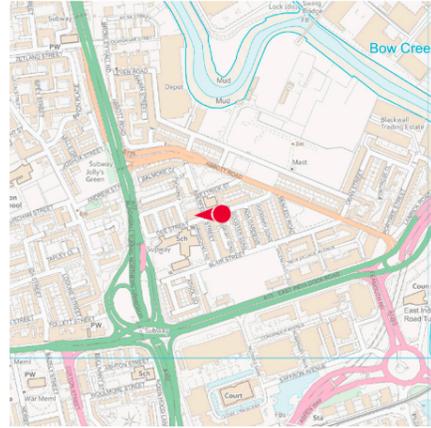
Appendices (continued)

31 | Dee Street / Abbott Road



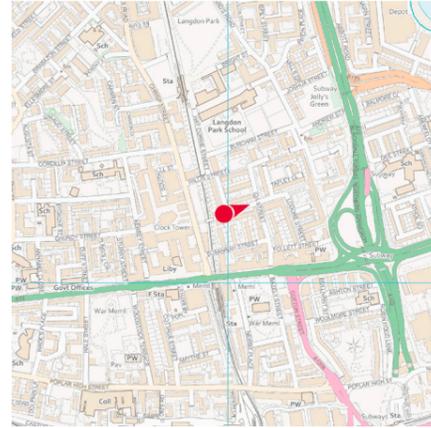
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 Date of photograph 11/04/2021
 Time of photograph 10:27
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

32 | Dee Street, midway



Camera Location
 National Grid Reference 538513.9E 181339.2N
 Camera height 3.17m AOD
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Photography Details
 Height of camera 1.60m above ground
 Date of photograph 14/04/2021
 Time of photograph 11:28
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

33 | Brownfield Street, outside no.30



Camera Location
 National Grid Reference 537990.1E 181162.0N
 Camera height 8.12m AOD
 Looking at Centre of Site
 Bearing 70.6°, distance 0.8km
Photography Details
 Height of camera 1.60m above ground
 Date of photograph 02/04/2021
 Time of photograph 14:54
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

34 | Memorial Recreation Ground



Camera Location
 National Grid Reference 539627.6E 182845.1N
 Camera height 2.94m AOD
 Looking at Centre of Site
 Bearing 218.3°, distance 1.8km
Photography Details
 Height of camera 1.60m above ground
 Date of photograph 29/09/2021
 Time of photograph 10:21
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

Appendices (continued)

A2 Details of schemes

index	scheme name	address	reference	PA	status	source of model data	positioning method	MH reference	colour
1	Aberfeldy Village Phase A	Aberfeldy Village, Bromley-by-Bow, London E14	n/a	THBC	Proposed	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0743.detail210831-lb-proposed-phasea	Blue
2	Aberfeldy Village Parameter Phase B, C, D	Aberfeldy Village, Bromley-by-Bow, London E14	n/a	THBC	Proposed	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0749.mass210825-lb-proposed-parameter	Various
3	Blackwall Reach – Phase 2	Robin Hood Gardens West, Woolmore Street, London E14	PA/16/01958/P3	THBC	Under Construction	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0516-a.surface190805-fg-consented	Orange
4	Blackwall Reach – Phase 3	Blackwall Reach Phase 3 (Building Parcels E1, E2, E3, E4, F1, F2, and F3 of Development Zone 2) Robin Hood Gardens East, Robin Hood Lane, London E14	PA/20/02371	THBC	Submitted for planning	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0516-b.detail200922-cfm-proposed	Orange
5	Blackwall Reach – Phase 4 – Parameter Plans	The Robin Hood Gardens Estate together with land south of Poplar High Street and Naval Row, Woolmore School and land north of Woolmore Street bounded by Cotton Street, East India Dock Road and Bullivant Street.	PA/12/00001	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0513.mass130515-rb-consented-parameter	Orange
6	Orchard Wharf Service Station	Castle Wharf Esso Petrol Station, Leamouth Road, London, E14 0JG	PA/16/01763/A1	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0542.mass180214-dp-consented	Orange
7	Ailsa Wharf	Ailsa Wharf, Ailsa Street, London	PA/16/02692/A1	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0975.profile170628-dp-proposed	Orange
8	Bromley-by-Bow Masterplan – Clockhouse and Access House	Land at Clockhouse and Access House, Imperial Street, Bromley-by-Bow, London, E3 3AE	17/00364/FUL	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0952-b.profile190325-kpn-consented	Orange
9	Bromley-by-Bow Masterplan – Imperial Street	Land at Imperial Street, Bromley by Bow, London, E3 3ED	17/00344/FUL	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0952-a.profile190325-fg-consented	Orange
10	Chrip Street Market	Chrip Street Market, Chrip Street, London	PA/16/01612/A1	THBC	Legal Consent granted	Model supplied by Sheppard Robson	Position relative to O.S. supplied by architect	towh0730.surface170327-sr-proposed	Orange
11	Leamouth South	Hercules Wharf Castle Wharf And Union Wharf, Orchard Place, London, E14	PA/14/03594	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0540.mass180214-dp-proposed	Orange
12	Cody Dock	Cody Dock 11C South Crescent Canning Town London E16 4TL	17/03659/OUT	Newham	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	newh0100.mass210708-rb-consented	Orange
13	Stephenson Street (Phase 1)	Former Parcel Force Depot Stephenson Street Canning Town London E16 4SB	17/01847/OUT	Newham	Legal Consent granted	Model supplied by Patel Taylor and Sheppard Robson	Best fit to Ordnance Survey	newh0097-p1.surface170526-mhl-proposed	Orange
14	Stephenson Street (Phases 2,3 & 4)	Former Parcel Force Depot Stephenson Street Canning Town London E16 4SB	17/01847/OUT	Newham	Legal Consent granted	Model supplied by Patel Taylor	Best fit to Ordnance Survey	newh0097.mass170308-pta-proposed-phase234	Orange
15	Wood Wharf – Reserved Matters – RM01B	Wood Wharf RM01B (Development Plot B3), Prestons Road, London E14 9SF	PA/18/01101/P1	THBC	Legal Consent granted	Model supplied by architect	Position relative to O.S. supplied by architect	wwb3.surface180306-am-proposed	Orange
16	Wood Wharf – Reserved Matters – RM02	Wood Wharf RM02 (Development Plot F2) Wood Wharf, Prestons Road, London	PA/15/00236/P1	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	wwf2.detail150915-pt-proposed-chalk	Orange
17	Wood Wharf – Reserved Matters – RM02A	Wood Wharf RM02A, (Development Plots H1, H3, H4 and part of plot H2) Prestons Road, London	PA/17/01344/P1	THBC	Legal Consent granted	Models supplied by respective architects	Position relative to O.S. supplied by architect	wwh1.surface170314-pta-proposed	Orange
18	Wood Wharf – Reserved Matters – RM03 – Plots E3 and E4	Wood Wharf RM03 (Development Plots E1/E2 and E3/E4) Wood Wharf, Prestons Road, London	PA/15/00286/P2	THBC	Legal Consent granted	Models supplied by respective architects and subsequently simplified by Millerhare	Position relative to O.S. supplied by architect	wwh3.profile140915-grid-proposed	Orange
19	Wood Wharf – Reserved Matters – RM06	Wood Wharf RM06 (Development Plots D1 and D2) Wood Wharf, Prestons Road, London	PA/15/00668/P1	THBC	Legal Consent granted	Model supplied by Allies and Morrison	Position relative to O.S. supplied by architect	wwd1.surface150120-am-proposed-rm06	Orange
20	Wood Wharf – Reserved Matters – RM09	Wood Wharf RM09 (Development Plots H1 and H2) Wood Wharf, Prestons Road, London E14 9PZ	PA/17/00929/P1	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	wwh2.surface170111-pt-proposed	Orange
21	Wood Wharf – Reserved Matters – RM11	Wood Wharf RM11 (Water Square, Development Zone K), Prestons Road, London E14 9SF	PA/18/00811/P1	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	wwk1.profile200225-rb-consented-rm11	Orange
22	Wood Wharf – Reserved Matters – RM12	Wood Wharf RM12 (Development Plot C2), Prestons Road, London	PA/18/03041/S	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	wwc2.surface180813-pp-proposed	Orange
23	Wood Wharf – Reserved Matters – RM14	Wood Wharf RM14 (Development Plot D3 & D4), Prestons Road, London	PA/19/00112	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	wwd3.surface181130-ahmm-proposed	Orange
24	Wood Wharf – Reserved Matters – RM15	Wood Wharf RM15 (southern part of Development Plot G7), Prestons Road, London	PA/19/01591	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	wwg7.surface190514-kca-proposed	Orange
25	Wood Wharf – Reserved Matters – RM16	Wood Wharf RM16 (Development Plots G1, G2, G4, G5, G6 and G8 – buildings G1 and G5), Prestons Road, London	PA/19/01612	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	wwg1.surface190603-hta-proposed	Orange
26	Wood Wharf – Reserved Matters – RM17	Wood Wharf RM17 (Development Plot B2), Prestons Road, London	PA/19/01614	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	wwb2.surface190604-hta-proposed	Orange
27	Brunel Street Works	Canning Town Area 8 Bounded By Peto Street North And Victoria Dock Road Silvertown Way Canning Town London	16/03428/FUL	Newham	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	newh0115.profile171107-nl-consented	Orange
28	Leven Road Gasworks	Poplar Gas Works, Leven Road, London	PA/18/02803/A1	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0978.profile190521-dp-consented	Orange
29	267-269 East India Dock Road	267-269 East India Dock Road, London, E14 0EG	PA/19/01838/A2	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0692.surface200820-yg-consented	Orange
30	Leven Road	Former Poplar Bus Depot, Leven Road, London, E14 0LN	PA/19/02148/A1	THBC	Submitted for planning	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0976-a.surface200220-dp-proposed	Orange
31	Islay Wharf	Islay Wharf, Lochnagar Street, London, E14 0LA	PA/19/01760/A1	THBC	Submitted for planning	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0975.mass200220-rb-proposed	Orange
32	Telehouse Project T	London Docklands Travelodge Hotel, Coriander Avenue, London, E14 2AA	PA/18/03088/A1	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0511-c.surface200820-yg-consented	Orange
33	Proposed Travelodge Oregano Drive	Site north west of Leamouth Road Roundabout, Leamouth Road, London	PA/18/03089/A1	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0695.mass190520-dp-consented	Orange
34	Manor Road Quarter Canning Town	Land Comprising Former HSS Site And 300 Manor Road Canning Town London	18/03506/OUT	Newham	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	newh0087.profile210330-dp-proposed	Orange
35	Blackwall Yard (2020)	Land at Blackwall Yard, Blackwall Way, London, E14 2EH	PA/20/02509/A1	THBC	Submitted for planning	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0503.detail200804-gha-proposed-chalk	Orange
36	Thameside West – Outline	Land At Thameside West And Carlsberg Tetley Dock Road Silvertown London	18/03557/OUT	Newham	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	newh0129.mass190305-am-proposed-parameter	Orange
37	Orchard Wharf	Orchard Wharf, Orchard Place, London	PA/20/02488/A1	THBC	Submitted for planning	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0539.mass210210-dp-consented	Orange
38	2 Trafalgar Way (2020)	2 Trafalgar Way, London, E14 5SP	PA/20/01402/A2	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0509.surface200507-apt-proposed	Orange
39	Hallsville Quarter – Phases 3-5 – Reserved Matters	Areas 7 And IC Barking Road Canning Town London	20/00473/REM	Newham	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	newh0117-d.profile201202-dp-consented	Orange
40	Hallsville Quarter – Phase 2 – Detailed	Areas 7 And IC Barking Road Canning Town London	14/00147/REM	Newham	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	newh0117-b.mass171107-nl-existing	Orange
41	Bow Common Gas Works	Bow Common Lane	PA/19/02379	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0865.mass200603-kn-consented	Orange
42	Naval Row, Blackwall	Land Under The Dir Bounded By Scouler Street And Aspen Way And Prestage Way, Aspen Way, London	PA/19/02292/A1	THBC	Submitted for planning	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0513.mass200820-dp-proposed	Orange
43	North Quay (2020)	North Quay, Aspen Way, London, E14	PA/20/01421/A1	THBC	Submitted for planning	CAD drawings supplied by Adamson – Associates	Position relative to O.S. supplied by architect	nq1.mass200727-cm-consented	Orange
44	43-45 Gillender Street	43-45 Gillender Street	n/a	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0975.mass210923-kn-consented	Orange

Aerial view of Proposed Development

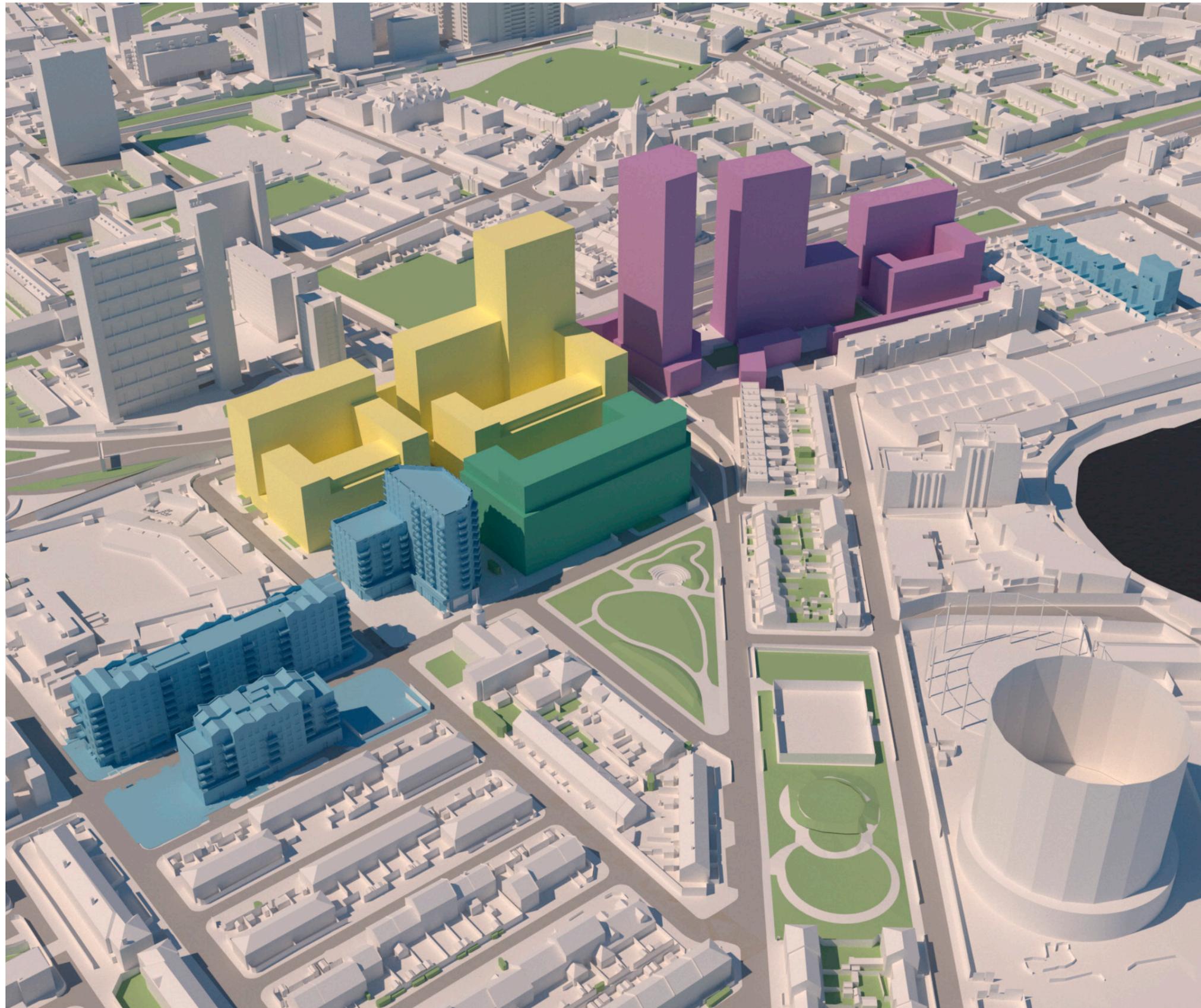
Appendices (continued)



Aerial diagram showing location of schemes

Appendices (continued)

A3 Model Overview



Aerial view of Proposed Development

Appendices (continued)

A4 Accurate Visual Representations

A4.1 Each of the views in this study has been prepared as an Accurate Visual Representation (AVR) following a consistent methodology and approach to rendering. Appendix C of the London View Management Framework: Supplementary Planning Guidance (March 2012) defines an AVR as:

“An AVR is a static or moving image which shows the location of a proposed development as accurately as possible; it may also illustrate the degree to which the development will be visible, its detailed form or the proposed use of materials. An AVR must be prepared following a well-defined and verifiable procedure and can therefore be relied upon by assessors to represent fairly the selected visual properties of a proposed development. AVRs are produced by accurately combining images of the proposed building (typically created from a three-dimensional computer model) with a representation of its context; this usually being a photograph, a video sequence, or an image created from a second computer model built from survey data. AVRs can be presented in a number of different ways, as either still or moving images, in a variety of digital or printed formats.”

A4.2 The Landscape Institute Technical Guidance Note 06/19 “Visual Representation of Development Proposals” notes that the production of technical visualisations:

“should allow competent authorities to understand the likely effects of the proposals on the character of an area and on views from specific points.”

A4.3 Paragraph 2.2 highlights that the baseline photography should:

“be sufficiently up-to-date to reflect the current baseline situation”

“include the extent of the site and sufficient context;”

“be based on good quality imagery, secured in good, clear weather conditions wherever reasonably possible;”

A4.4 In this study the baseline condition is provided by carefully taken large format photography. The proposed condition is represented as an accurate photomontage, which combines a computer generated image with the photographic context. In preparing AVRs of this type certain several key attributes need to be determined, including:

- the Field of View
- the representation of the Proposed Development
- documentation accompanying the AVR

Selection of Field of View

A4.5 The choice of telephoto, standard or wide-angle lens, and consequently the Field of View, is made on the basis of the requirements for assessment which will vary from view to view.

A4.6 In the simple case the lens selection will be that which provides a comfortable Viewing Distance. This would normally entail the use of what most photographers would refer to as a “standard” or “normal” lens, which in practice means the use of a lens with a 35mm equivalent focal length of between about 40 and 58 mm.

A4.7 However in a visual assessment there are three scenarios where constraining the study to this single fixed lens combination would not provide the assessor with the relevant information to properly assess the Proposed Development in its context.

Field Of View

The term ‘Field Of View’ (FOV) or more specifically Horizontal Field of View (HFOV), refers to the horizontal angle of view visible in a photograph or printed image and is expressed in degrees. It is often generally referred to as ‘angle of view’, ‘included angle’ or ‘view cone angle’.

Using this measure it becomes practical to make a comparison between photographs taken using lens of various focal lengths captured on to photographic film or digital camera sensors of various size and proportions. It is also possible to compare computer renderings with photographic images.

Studies of this type use a range of camera equipment; in recent times digital cameras have largely superseded the traditional film formats of 35mm, medium format (6cm x 6cm) and large format (5in x 4in). Comparing digital and film formats may be achieved using either the HFOV or the 35mm equivalent lens calculation, however quoting the lens focal length (in mm) is not as consistently applicable as using the HFOV when comparing AVRs.

35mm Lens	HFOV degrees	Lens focal length (mm)
Wide angle lens	74.0	24
Medium wide lens	54.4	35
Standard lens	39.6	50
Telephoto lens	28.8	70
Telephoto lens	20.4	100
Telephoto lens	10.3	200
Telephoto lens	6.9	300

The FOV of digital cameras is dependent on the physical dimensions of the CCD used in the camera. These depend on the make and model of the camera. The comparison table uses the specifications for a Canon EOS-5D Mark II which has CCD dimensions of 36.0mm x 22.0mm.

A4.8 Firstly, where the relationship being assessed is distant, the observer would tend naturally to focus closely on it. At this point the observer might be studying as little as 5 to 10 degrees in plan. The printing technology and image resolution of a print limit the amount of detail that can be resolved on paper when compared to the real world, hence in this situation it is appropriate to make use of a telephoto lens.

A4.9 Secondly, where the wider context of the view must be considered and in making the assessment a viewer would naturally make use of peripheral vision in order to understand the whole. A print has a fixed extent which constrains the angle of view available to the viewer and hence it is logical to use a wide angle lens in these situations in order to include additional context in the print.

A4.10 Thirdly where the viewing point is studied at rest and the eye is free to roam over a very wide field of view and the whole setting of the view can be examined by turning the head. In these situations it is appropriate to provide a panorama comprising of a number of photographs placed side by side.

A4.11 The Landscape Institute Technical Guidance Note 06/19 Appendix 1 suggests that where a standard lens in landscape or portrait orientation cannot capture the view then the use of wider-angled prime lenses should be considered. Appendix 13 further notes:

“The 24mm tilt shift is typically used for visualisation work where viewpoints are located close to a development and the normal range of prime lenses will not capture the proposed site”

A4.12 For some views two of these scenarios might be appropriate, and hence the study will include two versions of the same view with different fields of view.

Representation of the Proposed Development and cumulative schemes

Classification of AVRs

A4.13 AVRs are classified according to their purpose using Levels 0 to 3. These are defined in detail in Appendix C of the London View Management Framework: Supplementary Planning Guidance (July 2007). The following table is a summary.

AVR level	showing	purpose
AVR 0	Location and size of proposal	Showing Location and size
AVR 1	Location, size and degree of visibility of proposal	Confirming degree of visibility
AVR 2	As level 1 + description of architectural form	Explaining form
AVR 3	As level 2 + use of materials	Confirming the use of materials

A4.14 In practice the majority of photography based AVRs are either AVR 3 (commonly referred to as “fully rendered” or “photoreal”) or AVR 1 (commonly referred to as “wire-line”). Model based AVRs are generally AVR 1.

AVR 3 – Photoreal



Example of AVR 3 – confirming the use of materials (in this case using a ‘photo-realistic’ rendering technique)

A4.15 The purpose of a Level 3 AVR is to represent the likely appearance of the Proposed Development under the lighting conditions found in the photograph. All aspects of the images that are able to be objectively defined have been created directly from a single detailed description of the building. These include the geometry of the building and the size and shape of shadows cast by the sun.

A4.16 Beyond this it is necessary to move into a somewhat more subjective arena where the judgement of the delineator must be used in order to define the final appearance of the building under the specific conditions captured by the photographic and subsequent printing processes. In this area the delineator is primarily guided by the appearance of similar types of buildings at similar distances in the selected photograph. In large scope studies photography is necessarily executed over a long period of time and sometimes at short notice. This will produce a range of lighting conditions and photographic exposures. The treatment of lighting and materials within these images will respond according to those in the photograph.

A4.17 Where the Proposed Development is shown at night-time, the lightness of the scheme and the treatment of the materials was the best judgment of the visualiser as to the likely appearance of the scheme given the intended lighting strategy and the ambient lighting conditions in the background photograph. In particular the exact lighting levels are not based on photometric calculations and therefore the resulting image is assessed by the Architect and Lighting Designer as being a reasonable interpretation of the concept lighting strategy.

Appendices (continued)

AVR 1 – Outline



Example of AVR 1 confirming degree of visibility (in this case as an occluded 'wire-line' image)

A4.18 The purpose of a wire-line view is to accurately indicate the location and degree of visibility of the Proposed Development in the context of the existing condition and potentially in the context of other proposed schemes.

A4.19 In AVR1 representation each scheme is represented by a single line profile, sometimes with key edges lines to help understand the massing. The width of the profile line is selected to ensure that the diagram is clear, and is always drawn inside the true profile. The colour of the line is selected to contrast with the background. Different coloured lines may be used in order to distinguish between proposed and consented status, or between different schemes.

A4.20 Where more than one scheme is represented in outline form the outlines will obscure each other as if the schemes were opaque. Trees or other foliage will not obscure the outline of schemes behind them. This is because the transparency of trees varies with the seasons, and the practical difficulties of representing a solid line behind a filigree of branches. Elements of a temporary nature (e.g. cars, tower cranes, people) will similarly not obscure the outlines.

Framing the view

A4.21 Typically AVRs are composed with the camera looking horizontally i.e. with a horizontal Optical Axis. This is in order to avoid converging verticals which, although perspectively correct, appear to many viewers as unnatural in print form. The camera is levelled using mechanical levelling devices to ensure the verticality of the Picture Plane, being the plane on to which the image is projected; the film in the case of large format photography or the CCD in the case of digital photography.

A4.22 For a typical townscape view, a Landscape camera format is usually the most appropriate, giving the maximum horizontal angle of view. Vertical rise may be used in order to reduce the proportion of immediate foreground visible in the photograph. Horizontal shift will not be used. Where the prospect is framed by existing buildings, portrait format photographs may be used if this will result in the proposal being wholly visible in the AVR, and will not entirely exclude any relevant existing buildings.

A4.23 Where the Proposed Development would extend off the top of the photograph, the image may be extended vertically to ensure that the full height of the Proposed Development is shown. Typically images will be extended only where this can be achieved by the addition of sky and no built structures are amended. Where it is necessary to extend built elements of the view, the method used to check the accuracy of this will be noted in the text.

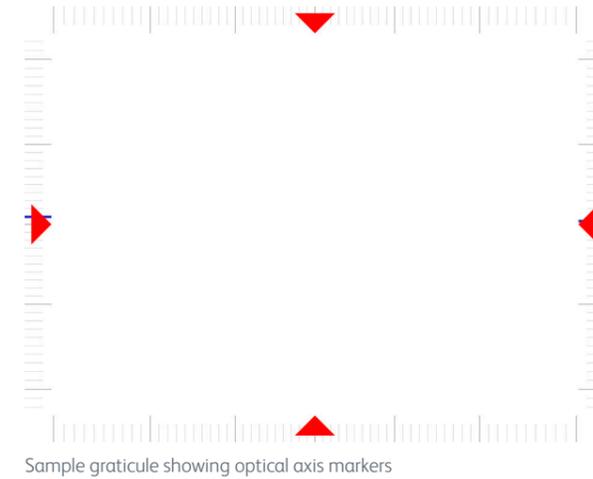
Documenting the AVR

Border annotation

A4.24 A Millerhare AVR image has an annotated border or 'graticule' which indicates the field of view, the optical axis and the horizon line. This annotation helps the user to understand the characteristics of the lens used for the source photograph, whether the photographer applied tilt, vertical rise or horizontal shift during the taking of the shot and if the final image has been cropped on one or more sides.

A4.25 The four red arrows mark the horizontal and vertical location of the 'optical axis'. The optical axis is a line passing through the eye point normal to the projection plane. In photography this line passes through the centre of the lens, assuming that the film plane has not been tilted relative to the lens mount. In computer rendering it is the viewing vector, i.e. the line from the eye point to the target point.

A4.26 If the point indicated by these marks lies above or below the centre of the image, this indicates either that vertical rise was used when taking the photograph or that the image has subsequently been cropped from the top or bottom edge. If it lies to the left or right of the centre of the image then cropping has been applied to one side or the other, or more unusually that horizontal shift was applied to the photograph.

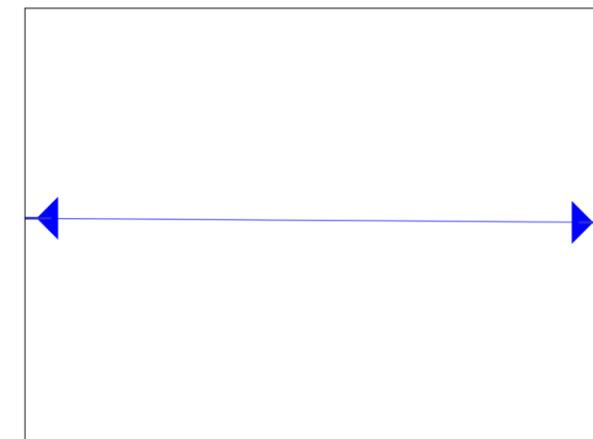


Sample graticule showing optical axis markers

A4.27 The vertical and horizontal field of view of the final image is declared using a graticule consisting of thick lines at ten degree increments and intermediate lines every degree, measured away from the optical axis. Using this graticule it is possible to read off the resultant horizontal and vertical field of view, and thereby to compare the image with others taken using specific lens and camera combinations. Alternatively it can be used to apply precise crops during subsequent analysis

A4.28 .

A4.29 The blue marks on the left and right indicate the calculated location of the horizon line i.e. a plane running horizontally from the location of the camera. Where this line is above or below the optical axis, this indicates that the camera has been tilted; where it is not parallel with the horizontal marking of the optical axis, this indicates that the camera was not exactly horizontal, i.e. that "roll" is present. Note that a small amount of tilt and roll is nearly always present in a photograph, due to the practical limitations of the levelling devices used to align the camera in the field.



Sample graticule showing horizon line markers

Comparing AVRs with different FOVs

A4.30 A key benefit of the index markings is that it becomes practical to crop out a rectangle in order to simulate the effect of an image with a narrower field of view. In order to understand the effect of using a longer lens it is simply necessary to cover up portions of the images using the graticule as a guide.