

Project

Bishopsgate Goodsyrd, London, E1 6GY

Client

Bishopsgate Goodsyrd Regeneration Limited

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15 December 2023

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1. Introduction

- 1.1 This Townscape and Visual Impact Assessment Statement of Conformity (TVIA SoC) report has been prepared for Bishopsgate Goodsyard Regeneration Limited ('the Applicant'). It presents the findings of an assessment of the effects of the development proposals ('the Proposed Development') on townscape and visual amenity at Plot 1 of Bishopsgate Goodsyard ('the Site'), which lies within the jurisdictions of the London Boroughs of Hackney (LBH) and Tower Hamlets (LBTH), under the determination of the Greater London Authority (GLA).
- 1.2 In March 2022, Hybrid Planning Permission (HPP) was granted with all matters reserved save for full details of Plot 2 and Plots 7A-7D for the comprehensive mixed-use redevelopment of the Site (GLA/1200cd, 2014/2425, PA/14/02011).
- 1.3 The HPP includes a series of parameter plans (the 'Specified Parameters') for each of the Plots. These describe the principal components of the Proposed Development and control how it would come forward through the specification of height and massing parameters, design principles, and building controls that guide future Reserved Matters Applications (RMAs). These Specified Parameters are – (1) the Development Specification; (2) the Parameter Documents; and (3) the Design Guidelines.
- 1.4 The Townscape and Visual Impact Assessment (TVIA) for the June 2015 ES and September 2019 ES Addendum (together referred to as the ESA), was

undertaken by the Peter Stewart Consultancy (PSC) which has since become The Townscape Consultancy (TTC), a practice that provides independent expert advice on architecture, urban design, townscape and heritage. The 2015 report assessed a set of 64 viewpoint positions and the 2019 addendum then assessed 66 viewpoint positions based on changes to the Specified Parameters.

- 1.5 The Specified Parameters have since been amended, with Non-Material Amendment (NMA) submissions to LBH and LBTH (2023/2566, PA/23/02025/NC) relating to changes to railway and station infrastructure, recesses at levels six and seven, and curved corners to Shoreditch High Street.
- 1.6 Changes to legislation, policy or guidance since the submission of the ESA are included in the following section. The methodology used in the ESA remains valid and unchanged.
- 1.7 An RMA is now being put forward for Plot 1 which comprises the Proposed Development.
- 1.8 This TVIA SoC assesses the Proposed Development and its effect on townscape character areas and visual receptors. Effects on significance of heritage receptors are considered in a separate report. 17 views selected from the 66 views provided in the ESA have been agreed with the GLA as a set of representative views for this assessment. The selection of views is based on visibility of the maximum parameter of Plot 1



Figure 1.1: Aerial photograph showing the approximate location of the site outlined in red.

- and the style of Accurate Visual Representation (AVR) provided in the ESA, such that all fully rendered AVR3 views where Plot 1 is visible have been included.
- 1.9 The area highlighted in red in Figure 1.1 illustrates the approximate Site location with Plot 1 located at the north-west corner of the Site at the intersection of Shoreditch High Street and Bethnal Green Road.
- 1.10 The Proposed Development, designed by Gensler and Buckley Gray Yeoman ('the Architects'), consists of the following:
- 'a building comprising of office space and ground floor retail floorspace. The height of the building is proposed to be 12-16 storeys with a maximum height of 89.2m AOD.'*
- 1.11 The views contained within the concluding section of this TVIA SoC have been prepared by Millerhare, a specialist visualisation company. Their visualisation methodology has been included in Appendix I.
- 1.12 This TVIA SoC will be submitted as part of the Environmental Compliance Report supporting the RMA, and should be read alongside other planning documents within this submission, including the Planning Statement of DP9, and the Design Overview Statement (DS) produced by the Architects.



2. Policy and Guidance

- 2.1 This section outlines aspects of national, London-wide and local planning policies and guidance that have changed since the submission of the ESA that are particularly relevant to the appearance and visual impact of the Proposed Development. For the purposes of this report, it is those policies concerned with design and townscape matters that are of the greatest relevance.
- 2.2 Policy and guidance referred to in the ESA, those that have since been replaced are marked in bold and presented below:
- **The National Planning Policy Framework (2019)**
 - Planning Practice Guidance (2014)
 - **The London Plan – Spatial Development Strategy for Greater London, consolidated with alterations since 2011 (2016)**
 - **The London Plan – The Spatial Development Strategy for Greater London, Draft with Minor Suggested Changes (August 2018)**
 - **London Borough of Tower Hamlets Core Strategy, September 2010**
 - **London Borough of Tower Hamlets Managing Development Document, April 2013**
 - **London Borough of Tower Hamlets Draft Local Plan 2031: Managing growth and sharing the benefits, Regulation 19 Consultation (2017)**
 - **Hackney Core Strategy, November 2010**
 - **Hackney’s Development Management Local Plan, July 2015**
- **Draft Hackney Local Plan 2033 (LP33), 2017**
 - **Site Allocations Local Plan, July 2016**
 - Bishopsgate Goods Yard Interim Planning Guidance (LB Tower Hamlets & LB Hackney), 2010
 - South Shoreditch SPD (LB Hackney), February 2006
 - Boundary Estate Conservation Area Appraisal and Management Guidelines (LB Tower Hamlets), March 2007
 - Brick Lane and Fournier Street Conservation Area Appraisal and Management Guidelines (LB Tower Hamlets), November 2009
 - Elder Street Conservation Area Appraisal and Management Guidelines (LB Tower Hamlets), March 2007
 - Redchurch Street Conservation Area Appraisal and Management Guidelines (LB Tower Hamlets), November 2009
 - South Shoreditch Conservation Area Appraisal (LB Hackney), January 2009
 - **Historic England Advice Note 4 – Tall Buildings (2015)**
- National planning policy and guidance**
- The National Planning Policy Framework, 2023**
- 2.3 The Government issued the latest version of the National Planning Policy Framework (NPPF) in September 2023. The NPPF sets out planning policies for England and how these should be applied.
- 2.4 The NPPF states that the purpose of the planning system is to contribute to the achievement of sustainable development, which has three overarching objectives; economic, social and environmental. The NPPF states, at paragraph 10, that *‘at the heart of the Framework is a presumption in favour of sustainable development.’*
- NPPF Section 12: Achieving well-designed places**
- 2.5 Section 12 of the NPPF deals with design. At paragraph 126, the NPPF states that *‘Good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities.’*
- 2.6 Paragraph 130 notes that *‘Planning policies and decisions should ensure that developments:*
- a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;*
 - b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;*
 - c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);*
 - d) establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types*
- and materials to create attractive, welcoming and distinctive places to live, work and visit;*
- e) optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and*
- f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.’*
- 2.7 Paragraph 132 states that: *‘Design quality should be considered throughout the evolution and assessment of individual proposals. Early discussion between applicants, the local planning authority and local community about the design and style of emerging schemes is important for clarifying expectations and reconciling local and commercial interests. Applicants should work closely with those affected by their proposals to evolve designs that take account of the views of the community. Applications that can demonstrate early, proactive and effective engagement with the community should be looked on more favourably than those that cannot.’*
- 2.8 Paragraph 134 states that *‘Development that is not well designed should be refused, especially where it fails to reflect local design policies and government guidance*

<p>on design, taking into account any local design guidance and supplementary planning documents such as design guides and codes'. It goes on to say that 'Conversely, significant weight should be given to:</p>	<p>designed tall buildings can make a positive contribution.' It notes that several tall buildings are listed.</p>	<p>2.18 Paragraphs 6.3 states that the key considerations for local authorities is the ability to secure public benefits from tall building developments. Paragraph 6.4 continues that the extent, nature and justification of public benefits will be carried out by decision makers in light of potential harm and long-term impacts on the significance of heritage assets and the integrity of historic townscapes. It states that the 'conservation of the historic environment is itself a public benefit and secures its existence for future generations.'</p>	<p>'be of high quality, with architecture that pays attention to detail,' and use 'attractive, robust materials which weather and mature well'.</p>
<p>a) development which reflects local design policies and government guidance on design, taking into account any local design guidance and supplementary planning documents such as design guides and codes; and/or b) outstanding or innovative designs which promote high levels of sustainability, or help raise the standard of design more generally in an area, so long as they fit in with the overall form and layout of their surroundings.'</p>	<p>2.12 Paragraph 3.2 states that if a tall building is not in the right place, by virtue of its size and visibility, it can harm the qualities of place that people value. It continues that there are places which are so distinctive, where the level of heritage significance is so great, that tall buildings will be too harmful, regardless of the perceived quality.</p>	<p>2.22 Policy D8 on 'Public realm' states that development plans and proposals should ensure that the public realm is '...well-connected, related to the local and historic context...'. It states that there should be 'a mutually supportive relationship between the space, surrounding buildings and their uses' and that development should 'ensure that buildings are of a design that activated and defines the public realm, and provides natural surveillance.'</p>	<p>2.22 Policy D8 on 'Public realm' states that development plans and proposals should ensure that the public realm is '...well-connected, related to the local and historic context...'. It states that there should be 'a mutually supportive relationship between the space, surrounding buildings and their uses' and that development should 'ensure that buildings are of a design that activated and defines the public realm, and provides natural surveillance.'</p>
<p>National Guidance <i>Historic England Advice Note 4 – Tall Buildings, 2022</i></p>	<p>2.13 Paragraph 3.3 notes that the following factors - quality of place, heritage, visual, functional, environmental and cumulative - need to be considered when determining the impacts of a tall building could have on the historic environment.</p>	<p>Regional Planning Policy <i>The London Plan – the Spatial Development Strategy for Greater London (March 2021)</i></p>	<p>2.23 Policy D9 on 'Tall buildings' notes that the height of what is considered a tall building should be defined in development plans and identified on maps, and that although this will vary in different parts of London, 'should not be less than 6 storeys or 18 metres'. The policy also notes that 'tall buildings should only be developed in locations that are identified as suitable in Development Plans.'</p>
<p>2.9 This document sets out advice on planning for tall buildings within the historic environment. It supersedes Advice Note 4 issued by HE in 2015. It notes that 'alternative approaches may be equally acceptable, providing they are demonstrably compliant with legislation and national policy objectives.'</p>	<p>2.14 Paragraph 3.4 and 3.4 notes that tall buildings vary in their impact depending on their height, mass and locations, and what is considered tall depends on the nature of the local area. Definitions of tall buildings vary, but in general they should be informed by local character.</p>	<p>2.19 The updated London Plan is 'the overall strategic plan for London' (Ref. 3). The policies most relevant to townscape and visual impact are found in Chapter 3, 'Design,' and Chapter 7, 'Heritage and Culture.'</p>	<p>2.23 Policy D9 on 'Tall buildings' notes that the height of what is considered a tall building should be defined in development plans and identified on maps, and that although this will vary in different parts of London, 'should not be less than 6 storeys or 18 metres'. The policy also notes that 'tall buildings should only be developed in locations that are identified as suitable in Development Plans.'</p>
<p>2.10 Paragraph 1.3 states that when planning for tall buildings it is important to avoid or minimise impacts on the significance of heritage assets, and principles to consider that help to do this include</p> <ul style="list-style-type: none"> • A plan-led approach to tall buildings to determine their location; • Evidence base exploring alternative options for location and heights; • Decision making informed by understanding of place, character and historic significance; • Tall building proposals which take account local context and historic character; and • Early and effective engagement at plan-making and decision-taking stages including the use of design review panels. 	<p>2.15 Section 4, 'Development plans', covers the production of development plans and tall building policies, summarising the main considerations for a plan led approach for tall buildings within the historic environment.</p>	<p>2.20 Policy D1 on 'London's form, character and capacity for growth' highlights the necessity for Boroughs to identify an area's capacity for growth by undertaking an assessment of the 'characteristics, qualities and values of different places'. This should include the consideration of urban form and structure, historical evolution and heritage assets, and views and landmarks.</p>	<p>2.24 Policy D9 also notes that the views of buildings from different distances should be considered. This includes long-range views (developments should make a 'positive contribution to the existing and emerging skyline and not adversely affect local or strategic views'), mid-range views (developments should make a 'positive contribution to the local townscape in terms of legibility, proportions and materiality'), and immediate views (developments should 'have a direct relationship with the street, maintaining the pedestrian scale, character and vitality of the street'). Proposals should 'take account of, and avoid harm to, the significance of London's heritage assets and their settings' and should 'positively contribute to the character of the area.' It goes on to note that the architectural quality and materials should be of an exemplary standard. Buildings that are situated in the setting of a World Heritage Site 'must preserve, and not harm, the Outstanding Universal Value of the World Heritage Site, and the ability to appreciate it.' Buildings near the River Thames should protect the open quality of the river, including views.</p>
<p>2.11 Paragraph 3.1 states that 'in the right locations tall buildings can support major change or regeneration while positively influencing place-shaping and conserving the historic environment' and that 'in the right place well-</p>	<p>2.16 Section 5, 'Developing proposals for tall buildings', stresses the need to have a good understanding of significance of any heritage assets that may be affected by the proposal, as well as the character of the place. It states that supporting information required describing the impacts on the historic environment should be proportionate, precise and accurate.</p>	<p>2.21 Policy D3 on 'Optimising site capacity through the design-led approach' states that 'All development must make the best use of land by following a design-led approach that optimises the capacity of sites, including site allocations.' The policy states that development proposals should 'enhance local context by delivering buildings and spaces that positively respond to local distinctiveness through their layout, orientation, scale, appearance and shape, with due regard to existing and emerging street hierarchy, building types, forms and proportions.' Development should 'respond to the existing character of a place', and 'provide active frontages and positive reciprocal relationships between what happens inside the buildings and outside in the public realm to generate liveliness and interest.' The policy further states that development design should</p>	<p>2.25 Policy HC3 on 'Strategic and Local Views' states that 'development proposals must be assessed for</p>



- their impact on a designated view if they fall within the foreground, middle ground or background of that view.* The Mayor will identify Strategically-Important landmarks within designated views and will 'seek to protect vistas towards Strategically-Important Landmarks by designating landmark viewing corridors and wider setting consultation areas. These elements together form a Protected Vista'. The Mayor will 'identify and protect aspects of views that contribute to a viewer's ability to recognise and appreciate a World Heritage Site's authenticity, integrity and attributes.'
- 2.26 Policy HC4 on the 'London View Management Framework' states that 'development proposals should not harm, and should seek to make a positive contribution to, the characteristics and composition of Strategic Views and their landmark elements.' It notes that development should not be 'intrusive, unsightly or prominent to the detriment of the view', when it falls within the foreground, middle, or background of a designated view. With regard to protected vistas, development should protect and enhance, not harm, the viewer's ability to recognise and appreciate the strategically important landmark, and it should not harm the composition of the protected vista, whether it falls within the wider setting consultation area or not.
- Local Planning Policy**
- London Borough of Tower Hamlets: Local Plan 2031 (2020)**
- 2.27 The Local Plan 2031 was adopted by LBTH in January 2020, aiming to manage growth and shape change, as well as sharing the benefits of growth. It supersedes previous drafts, development management policies of the Core Strategy of September 2010, and Managing Development Document of April 2013.
- 2.28 The key objectives of the Local Plan are to The Local Plan 2031 provides spatial policies, development management policies and site allocations that set out 'how the borough of Tower Hamlets will grow and develop from now on until 2031'. It is accompanied by a Policies Map and is intended to sit alongside any future neighbourhood plans and area action plans which will provide more detailed planning guidance.
- 2.29 A number of evidence base documents were produced to inform the proposed policies, including the 'Tower Hamlets Conservation Strategy 2017-2026' (2017) and the 'Urban Structure and Characterisation Study Addendum' (2016) and the 'Tall Buildings Study' (2018).
- 2.30 Policy S.SG2, 'Delivering sustainable growth in Tower Hamlets' states that development will be supported where it '[...] delivers managed growth, through i. good design, ii. preserving or enhancing the character and setting of the area, and iii. not resulting in unacceptable impacts on the natural and historic environment and its assets [...]'
- 2.31 Policy S.DH1, 'Delivering high quality design' states that development is required to '[...] meet the highest standards of design, layout and construction which respects and positively responds to its context, townscape, landscape and public realm [...]'. The policy states, inter alia, that developments must:
- a) 'be of an appropriate scale, height, mass, bulk and form in its site and context
 - b) represent good urban design; provide coherent building lines, roof lines and setbacks, complement streetscape rhythm and associated landscapes [...]
 - c) ensure the architectural language: scale, composition and articulation of building form, design of detailing, elements and materials applied on elevations, complements and enhances their immediate and wider surroundings
 - d) protect important views of and from landmark buildings and vistas
 - e) use high quality design, materials and finishes to ensure buildings are robust, efficient and fit for the life of the development
 - f) create well-connected, inclusive and integrated spaces and buildings [...]'
- 2.32 Policy D.DH2, 'Attractive streets, spaces and public realm', states that 'Development is required to contribute to improving and enhancing connectivity, permeability and legibility across the borough [...]' and '[...] is required to positively contribute to the public realm [...]'.
- 2.33 Policy S.DH3. 'Heritage and the historic environment' states that 'proposals must preserve or where appropriate enhance the borough's designated and non-designated heritage assets in a manner appropriate to their significance as key and distinctive elements of the borough's 24 places.'
- 2.34 Policy S.DH3 continues: 'Proposals to alter, extend or change the use of a heritage asset or proposals that would affect the setting of a heritage asset will only be permitted where:
- a) they safeguard the significance of the heritage asset, including its setting, character, fabric or identity;
 - b) they are appropriate in terms of design, height, scale, form, detailing and materials in their local context;
 - c) they enhance or better reveal the significance of assets or their settings;
 - d) they preserve strategic and locally important views and landmarks, as defined in policy D.DH4; and
 - e) in the case of a change of use from a use for which the building was originally designed, a thorough assessment of the practicability of retaining its existing use has been carried out outlining the wider public benefits of the proposed alternative use.'
- 2.35 Policy D.DH4, 'Shaping and managing views' states that 'development is required to positively contribute to views and skylines that are components of the character of the 24 places in Tower Hamlets. Intrusive elements in the foreground, middle ground and backdrop of such views will be resisted.' It goes on to state that development will be required to demonstrate how it, inter alia, complies with the LVMF and World Heritage Site Management Plans; 'preserves or enhances the prominence of borough-designated landmarks and the skyline of strategic importance in the borough-designated views', as well as views identified in conservation area appraisals and management guidelines; and 'preserves or enhances townscape and views to and from the site which are important to the identity and character of the place.'
- 2.36 The borough-designated views are set out in Figure 6 of the Local Plan (p56). A number of landmark buildings - Christ Church Spitalfields, St. Paul's Church; St. Anne's Church, Balfron Tower, and the cluster at Canary Wharf form the focus of individual views. None of these identified views are considered relevant to the Proposed Development.
- 2.37 Policy D.DH6 'Tall Buildings' states that developments with tall buildings must demonstrate how they will:
- a) 'be of a height and scale, mass and volume that are proportionate to their role, function and importance of the location in the local, borough-wide and London context; and take account of the character of the immediate context and of their surroundings
 - b) achieve exceptional architectural quality and innovative and sustainable building design using robust and durable materials throughout the building
 - c) enhance the character and distinctiveness of an area without adversely affecting designated townscapes and landscapes (including building/ roof lines) or detracting from important landmarks, heritage assets, key views and other historic skylines, and their settings
 - d) provide a positive contribution to the skyline during both the day and night time
 - e) not prejudice future development potential of adjacent/ neighbouring buildings or plots
 - f) maintain adequate distance between buildings to ensure a high quality ground floor experience and enhanced residential environment
 - g) demonstrate consideration of public safety requirements as part of the overall design, including the provision of evacuation routes
 - h) present a human scale of development at street level and comprise an attractive and legible streetscape that takes into account the use of the public realm for a variety of users and includes active uses at ground floor level provide high quality private communal open space, play areas and the public realm.'
- 2.38 Policy D.DH6 further states that tall buildings should be directed towards designated tall building zones and have regard to the Tall Buildings Study. Outside these zones, tall buildings will be supported if they can demonstrate how they will :

- a) *'be located in areas with high levels of public transport accessibility within town centres and/or opportunity areas*
- b) *address deficiencies in the provision of strategic infrastructure*
- c) *significantly strengthen the legibility of a Major, District or Neighbourhood Centre or mark the location of a transport interchange or other location of civic or visual significance within the area, and*
- d) *not undermine the prominence and/or integrity of existing landmark buildings and tall building zones.'*
- 2.39 The Site falls within the City Fringe sub-area and the Shoreditch character place. It is contained within the Bishopsgate Goods Yard site allocation. Design principles of that allocation state that development will be expected, inter alia, to respond positively to the surrounding fine urban grain and protect or enhance heritage assets within the allocated site and those in the surrounding area.
- London Borough of Hackney Local Plan 2033 (2020)**
- 2.40 The Local Plan 2033 (LP33) was adopted in July 2020, replacing the Core Strategy of 2010, Development Management Plan of 2015, and portions of the Site Allocations Plan of 2016. It sets out policies to assess and determine planning applications and support the ongoing regeneration of the Borough. The policies of most relevance to this assessment are covered in section 5 of LP33 'Protecting and Enhancing Heritage and Leading the Way in Good Urban Design'.
- 2.41 Policy LP1 'Design Quality and Local Character' states that *'all new development must of the highest architectural and urban design quality' and that contemporary design will be supported 'where it respects and complements historic character'*. LP1 sets out criteria which developments must meet in order to be permitted. These include, inter alia:
- Responding to local character and context;
 - Being compatible with the existing townscape including urban grain and plots;
 - Being compatible with local and protected views;
 - Preserving or enhancing the significance
- of the historic environment and the setting of heritage assets
- Using high quality materials which complement local character; and
 - Contributing positively to an active street frontage.
- 2.42 Policy LP1 further states that taller buildings should respect the setting of the borough's local character and townscape and landscapes - this includes those in neighbouring boroughs. Taller buildings must meet criteria in order to be permitted, which include, inter alia:
- *'Have a legible and coherent role in the immediate and wider context';*
 - *'Relate and respond to its immediate and wider surrounding context: the base of the building must enhance the existing streetscape, and the top of a tall building must enhance the skyline; be of exceptional design quality both in materiality and form';*
 - *'Make a positive contribution to the quality of the public realm'; and*
 - *'Preserve or enhance the borough's heritage assets, their significance and their settings'.*
- 2.43 Policy LP3 'Designated Heritage Assets' notes that development affecting conservation areas and their settings *'will be permitted where they preserve or enhance the character and appearance of the area'*. This includes the established local character of buildings and the rhythms and historical form of the area.
- 2.44 Policy LP5 'Strategic and Local Views' notes that protected and strategic views as well as local views will be protected by the Council. It goes on to note that redevelopment of buildings that currently adversely impact views should not further detract from them and instead improve them where possible.



3. Proposed Development

- 3.1 A summary of the design of the Proposed Development is set out below. The DS submitted by the Architects contains further detail.
- 3.2 The Site itself is located at the north-eastern corner of Bishopsgate Goodsyards, at the intersection of Shoreditch High Street and Bethnal Green Road. It is around 11 acres in size and rectangular in plan. A London Overground viaduct passes through the Site, approximately east-west, and Shoreditch High Street Station is located on its eastern boundary.
- 3.3 The Proposed Development responds to the complex requirements of the Site and has been developed in line with feedback from planning officers. It integrates the existing viaduct within the scheme and introduces a porous interface at ground level which connects the established townscape of Shoreditch with the emerging condition within Bishopsgate Goodsyards.
- 3.4 Retail units are provided along Shoreditch High Street and Bethnal Green Road, with Braithwaite Street retaining its existing function as the primary entrance to Shoreditch High Street Station. The proposed Middle Road provides a pedestrian route between Shoreditch High Street and Brick Lane, running east-west through Bishopsgate Goodsyards and separating Plot 1 from Plot 2. Within Plot 1, a new enclosed passageway running through the centre of the Site connects Bethnal Green Road to Middle Road, activating the streetscape and providing access to lobbies and service areas of Plot 1.

- 3.5 Above the ground level, a podium is divided by the railway viaduct between the second, third and fourth storeys, and then spans across at the fifth and sixth. This element is finished in brick and responds to the historical function of Bishopsgate Goodsyards, reinterpreting the arches of the grade II listed Braithwaite Viaduct at ground level, that were demolished during the construction of Shoreditch High Street Station in 2003. The upper levels of the podium are finished in a simple grid and vernacular style, reminiscent of nineteenth century warehouses of the surrounding area.
- 3.6 The podium is separated from the upper levels by a neutral linking element is set back and recessive to the principal street elevation. Above this element, the upper levels step out and vary in height between six and 10 storeys, taking on a sympathetic style that responds to the industrial context. These levels maintain the bays and divisions of the podium and express structural steel within a curtain walling system that varies in colour with tones of grey and hues of roughened red.

Assessment of design

- 3.7 The massing strategy of division into two principal elements of podium and upper levels is well resolved and successfully responds to the surrounding built context. Vertical divisions, particularly those along the longer northern elevation to Bethnal Green Road

are clear and coherent, breaking up the massing while remaining consistent in style and character.

- 3.8 The proportions of these various elements and implementation of the link level between podium and upper allows the different elements of the Proposed Development to be understood as a coherent whole from a variety of distances. The lower levels respond contextually to the character of Shoreditch in colour, style, and material, while the upper levels developing a new appropriate architectural grammar associated with Plot 2 and the masterplan for Bishopsgate Goodsyards.
- 3.9 The Proposed Development conforms to the Specified Parameters as amended, and satisfies the Design Guidelines relevant to townscape and visual amenity which are outlined in section 5 of the ESA. Overall, the building would be of high quality and contribute to the existing and emerging character of Shoreditch.



Figure 3.1: Facade bay study of north (left) and south (right) elevations

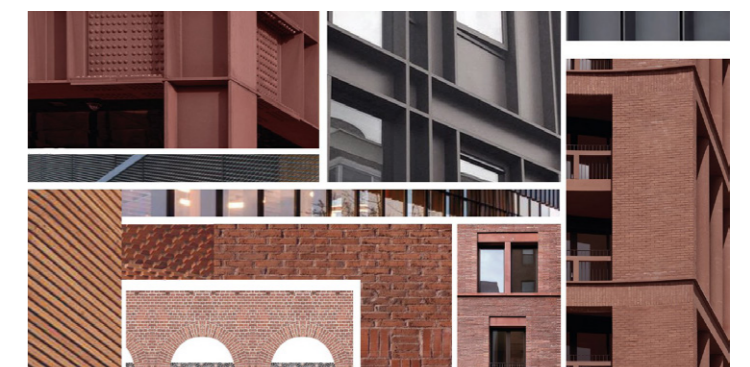
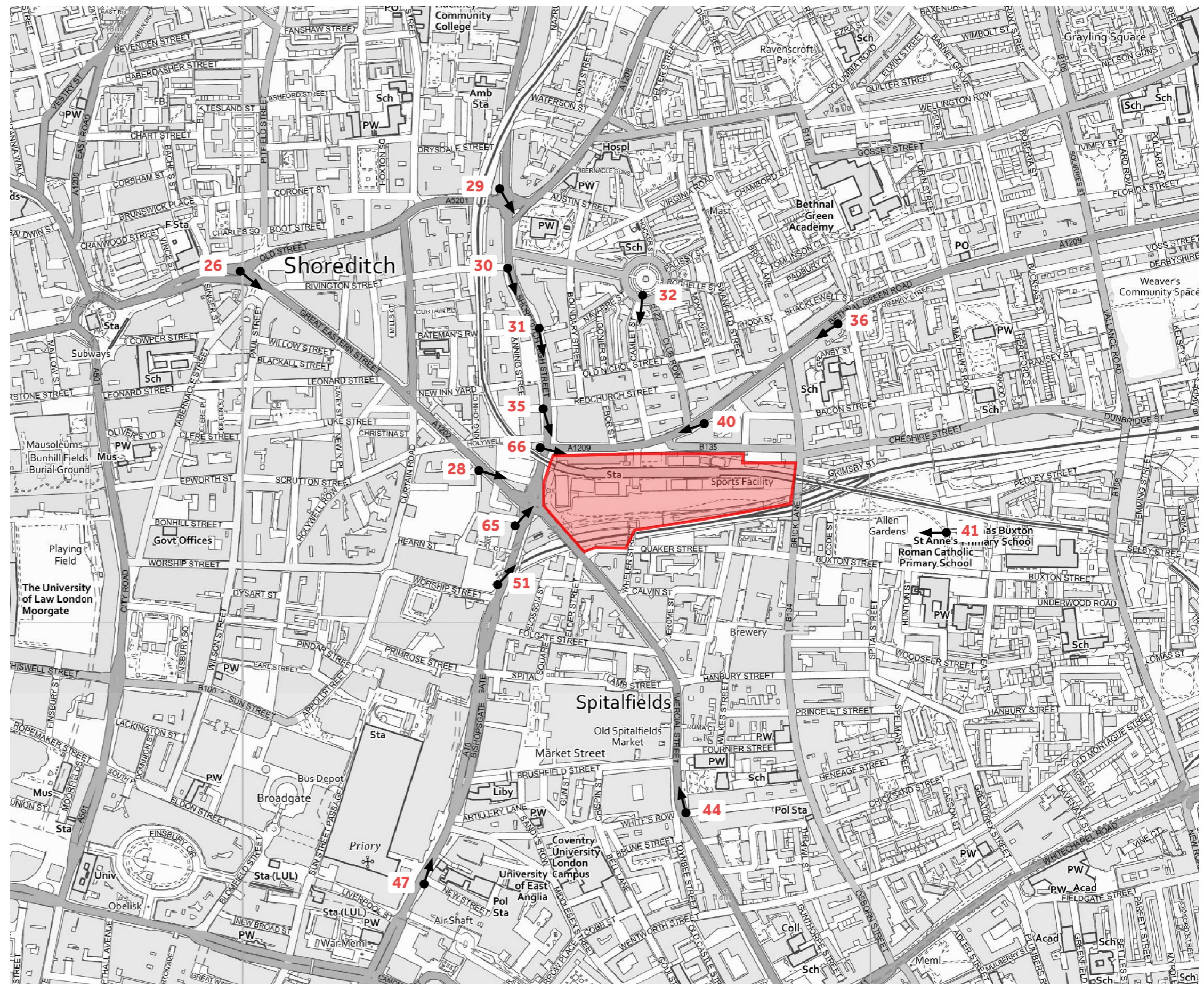


Figure 3.2: Material palette in warm tones of brick, metal and timber

4. Viewpoints

- 4.1 This section includes 17 views, the locations of which and format were agreed in consultation with the GLA. These views illustrate the visual effects of the Proposed Development on visual amenity and the surrounding townscape. All fully rendered views of the ESA which illustrate any part of the maximum parameter envelope for Plot 1 have been included in this section. As the Proposed Development does not exceed the parameter envelope of the ESA as amended, assessments based on previously submitted wireframe views are considered to remain valid.
- 4.2 The 17 views are listed and illustrated overleaf at Figure 4.1.
- 4.3 Each of the views is presented as a set of three images; an 'existing view' illustrated by a photograph of the baseline condition; a 'proposed view' illustrated by an AVR (Accurate Visual Representation) showing a rendered representation of the Proposed Development within the existing condition; and a 'cumulative view' which shows the Proposed Development with other nearby consented schemes. In the proposed and cumulative views, the illustrative scheme for Bishopsgate Goodsyards has been included, conforming to equivalent images of the ESA.
- 4.4 The representational style of these views is consistent with those presented in the ESA. In the proposed and cumulative views:
- with the exception of Plot 1, the outline elements of the HPP are presented with a yellow wireline that indicates the maximum parameter of the ESA as amended;
 - in AVR3 views, these outline elements are presented with a shaded rendering of the illustrative scheme of the HPP, Plots 1 and 2 are presented as fully rendered as Plot 2 has been approved with all details (Plot 2 being taller than Plot 1 and separated into two elements above a glazed podium and existing viaduct that fronts Commercial Street to the south of Plot 1); and
 - in AVR1 views, Plot 1 is presented as an orange wireline, Plot 2 is presented as a yellow wireline, and the outline elements of the HPP are presented as a yellow wireline that again indicates the maximum parameter of the ESA as amended.
- 4.5 In the cumulative views, purple wireline parameter volumes are provided for schemes where planning permission has been granted and those where construction has commenced. A full list of cumulative schemes illustrated in these views is presented in Appendix I.
- 4.6 TTC have assessed the visual effects of the Proposed Development on the local environment, making use of quantitative and the qualitative material provided in the Architects' DS and drawings, as well as through AVRs presented in this section. The written assessment, found in the following section, includes both objective and subjective commentary based on professional judgement.



Viewpoints

- View 26 - Great Eastern Street: traffic island at junction with Old Street | Summer
- View 26w - Great Eastern Street: traffic island at junction with Old Street | Winter
- View 28 - Great Eastern Street / Fairchild Street
- View 29 - Southern end of Kingsland Road
- View 30 - Shoreditch High Street
- View 31 - Shoreditch High Street: junction with Bateman Row: Night
- View 32w - Arnold Circus Roundabout: Boundary Gardens, southern steps, winter
- View 35 - Shoreditch High Street, west side opposite Redchurch Street
- View 36 - Bethnal Green Road: junction with Chilton Street
- View 36n - Bethnal Green Road: junction with Chilton Street, night
- View 40 - Bethnal Green Road near to Club Row
- View 41 - Allen Gardens
- View 44 - Commercial Street close to Whites Row
- View 47 - Bishopsgate outside entrance to Liverpool Street Station
- View 51n - Norton Folgate: opposite junction with Fleur de Lis Street: night
- View 65 - Shoreditch High Street / Plough Yard 65
- View 66 - Shoreditch High Street / Bethnal Green Road

Figure 4.1: Viewpoint map, approximate site boundary marked in red for indicative purposes only. Ordnance Survey Licence number 100022432

View 26 Existing - Great Eastern Street: traffic island at junction with Old Street | Summer



Viewpoint map



View 26 Proposed - Great Eastern Street: traffic island at junction with Old Street | Summer



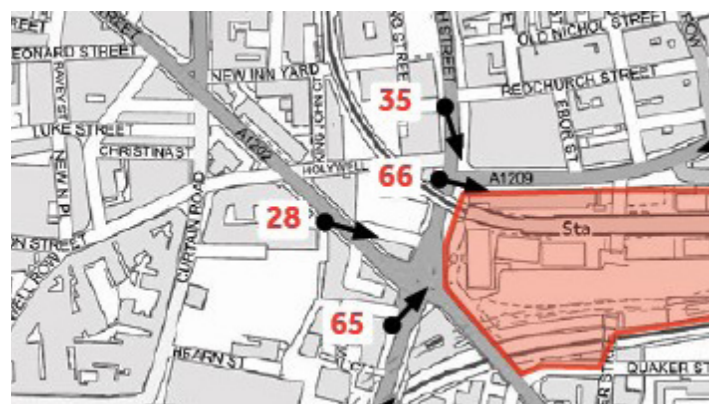
View 26 Cumulative - Great Eastern Street: traffic island at junction with Old Street | Summer



View 28 Existing - Great Eastern Street / Fairchild Street



Viewpoint map



View 28 Proposed - Great Eastern Street / Fairchild Street



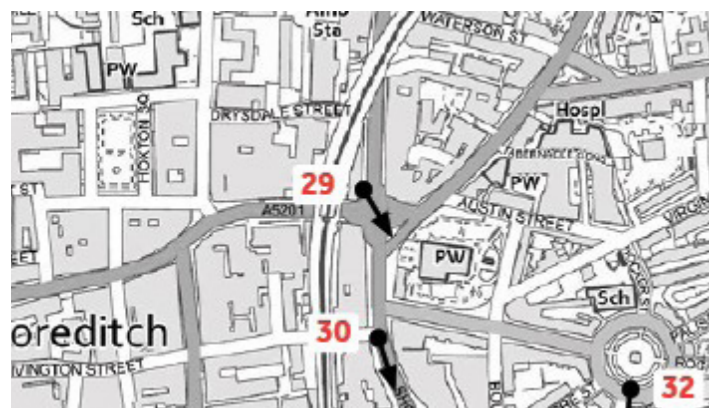
View 28 Cumulative - Great Eastern Street / Fairchild Street



View 29 Existing - Southern end of Kingsland Road



Viewpoint map



View 29 Proposed - Southern end of Kingsland Road



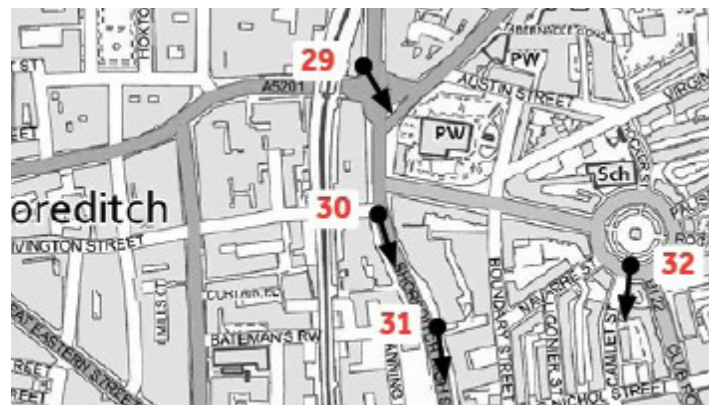
View 29 Cumulative - Southern end of Kingsland Road



View 30 Existing - Shoreditch High Street



Viewpoint map



View 30 Proposed - Shoreditch High Street



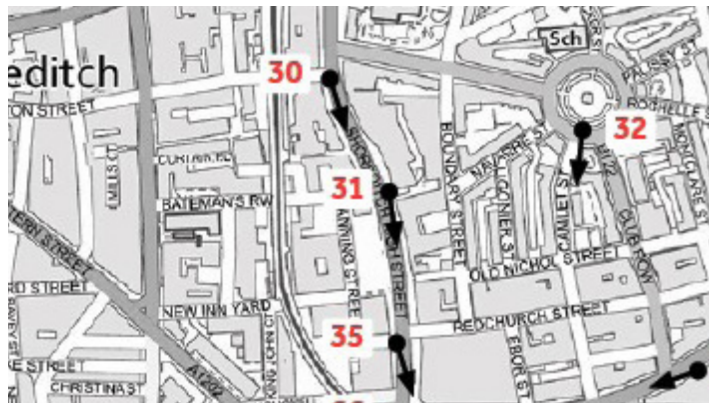
View 30 Cumulative - Shoreditch High Street



View 31 Existing - Shoreditch High Street: junction with Bateman Row: Night



Viewpoint map



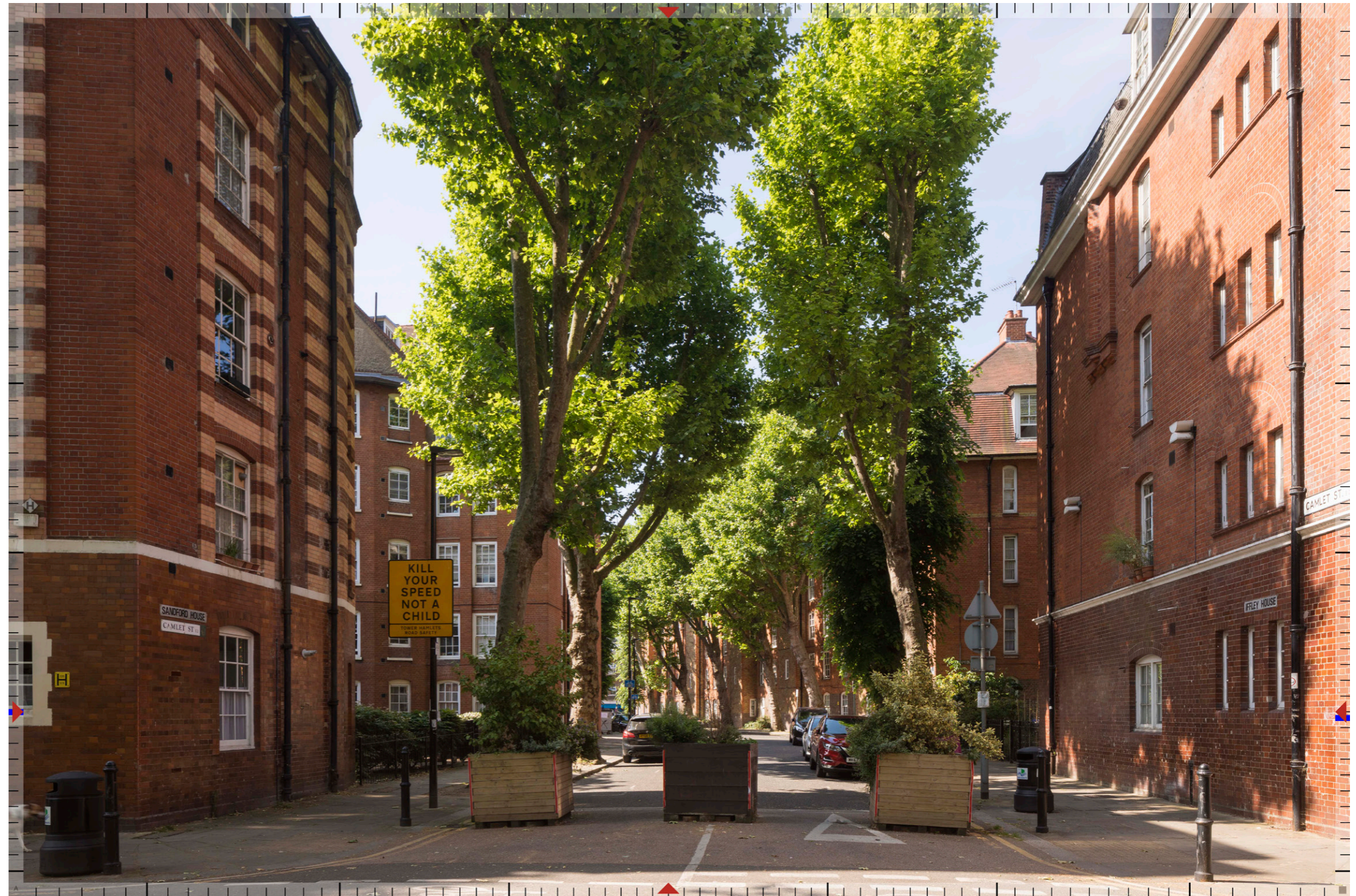
View 31 Proposed - Shoreditch High Street: junction with Bateman Row: Night



View 31 Cumulative - Shoreditch High Street: junction with Bateman Row: Night



View 32 Existing - Arnold Circus Roundabout: Boundary Gardens, southern steps, winter



Viewpoint map



View 32 Proposed - Arnold Circus Roundabout: Boundary Gardens, southern steps, winter



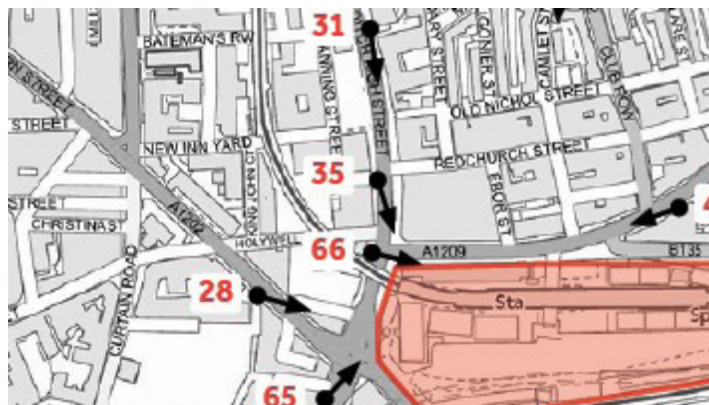
View 32 Cumulative - Arnold Circus Roundabout: Boundary Gardens, southern steps, winter



View 35 Existing - Shoreditch High Street, west side opposite Redchurch Street



Viewpoint map



View 35 Proposed - Shoreditch High Street, west side opposite Redchurch Street



View 35 Cumulative - Shoreditch High Street, west side opposite Redchurch Street



View 36 Existing - Bethnal Green Road: junction with Chilton Street



Viewpoint map



View 36 Proposed - Bethnal Green Road: junction with Chilton Street



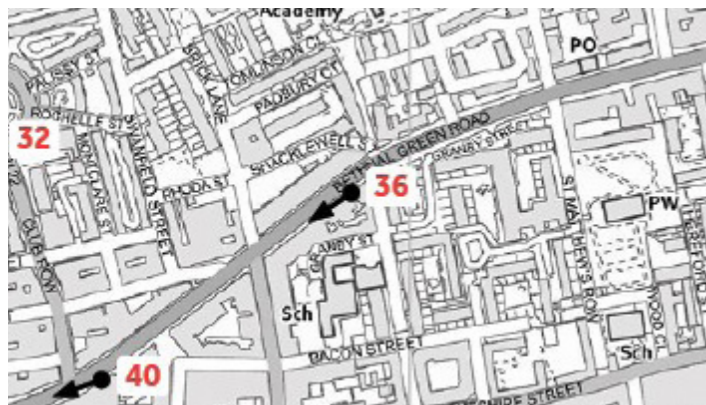
View 36 Cumulative - Bethnal Green Road: junction with Chilton Street



View 36n Existing - Bethnal Green Road: junction with Chilton Street, night



Viewpoint map



View 36n Proposed - Bethnal Green Road: junction with Chilton Street, night



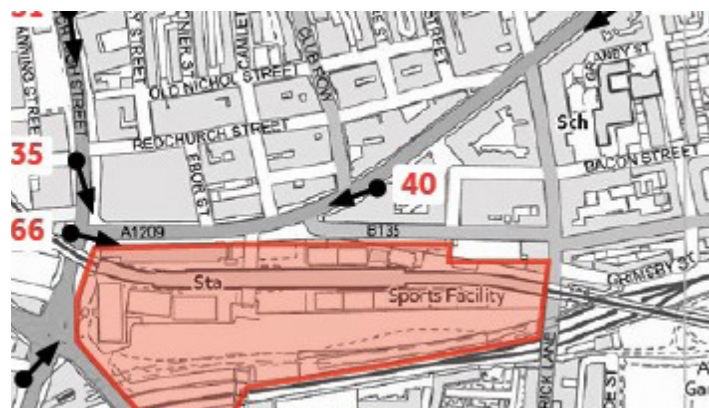
View 36n Cumulative - Bethnal Green Road: junction with Chilton Street, night



View 40 Existing - Bethnal Green Road near to Club Row



Viewpoint map



View 40 Proposed - Bethnal Green Road near to Club Row



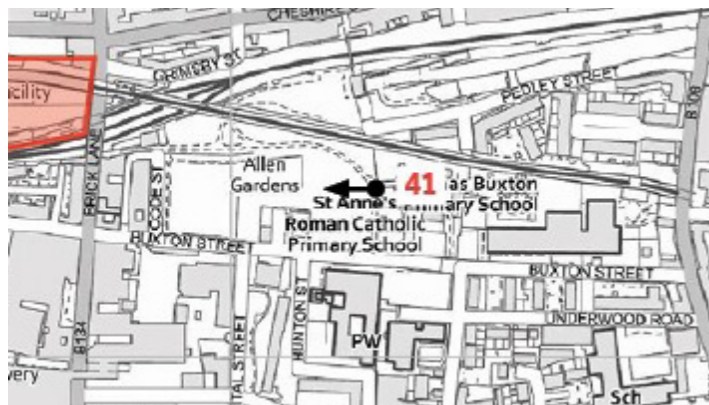
View 40 Cumulative - Bethnal Green Road near to Club Row



View 41 Existing - Allen Gardens



Viewpoint map



View 41 Proposed - Allen Gardens



View 41 Cumulative - Allen Gardens



View 44 Existing - Commercial Street close to Whites Row



Viewpoint map



View 44 Proposed - Commercial Street close to Whites Row



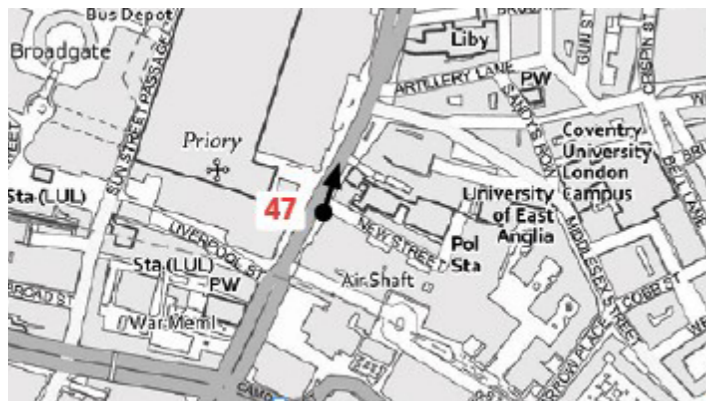
View 44 Cumulative - Commercial Street close to Whites Row



View 47 Existing - Bishopsgate outside entrance to Liverpool Street Station



Viewpoint map



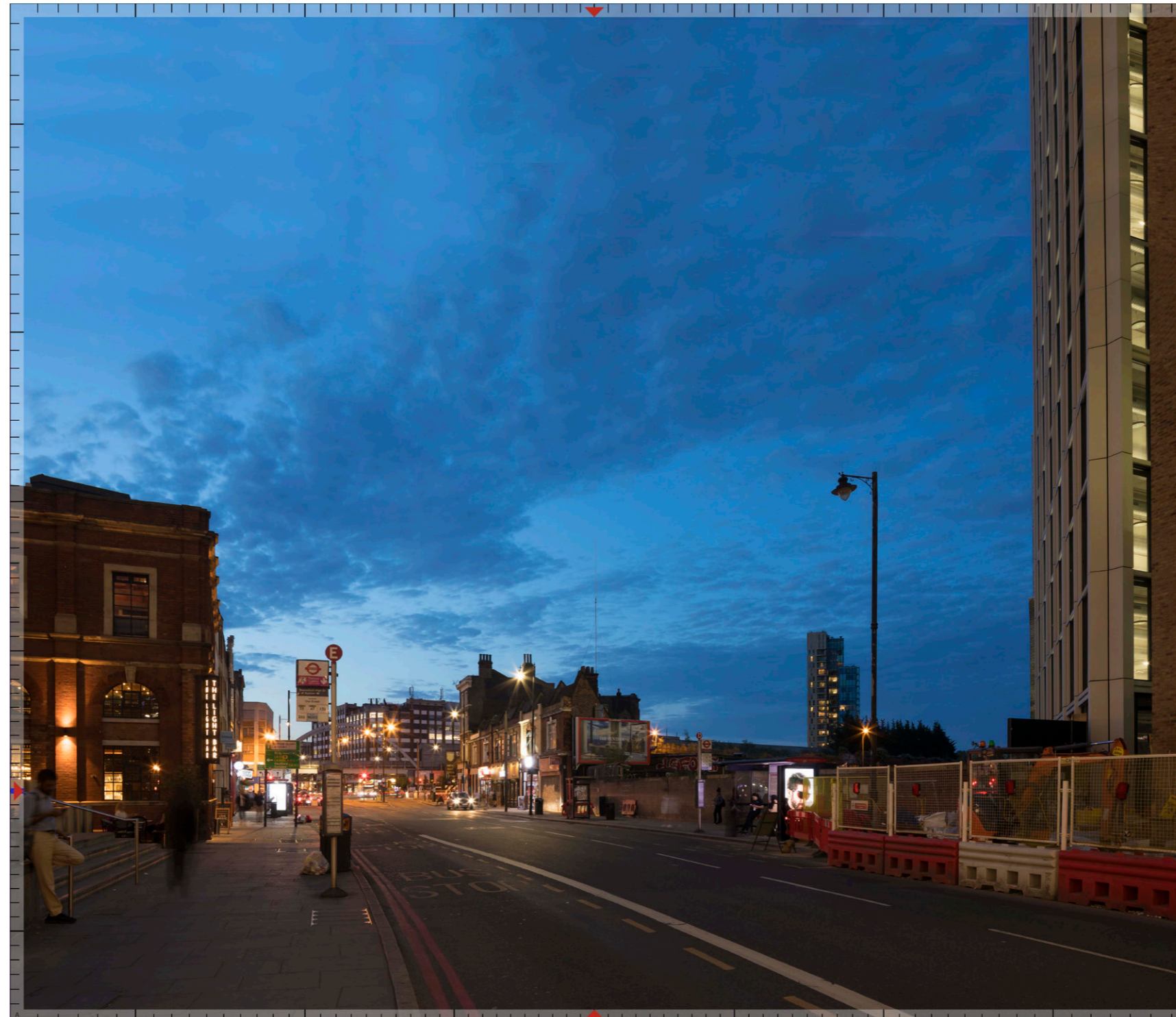
View 47 Proposed - Bishopsgate outside entrance to Liverpool Street Station



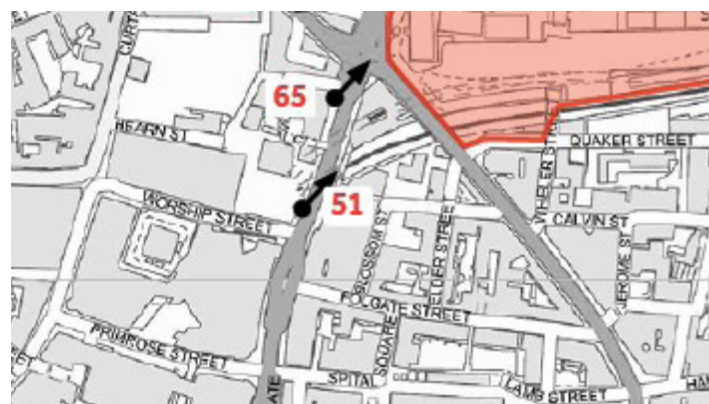
View 47 Cumulative - Bishopsgate outside entrance to Liverpool Street Station



View 51n Existing - Norton Folgate: opposite junction with Fleur de Lis Street: night



Viewpoint map



View 51n Proposed - Norton Folgate: opposite junction with Fleur de Lis Street: night



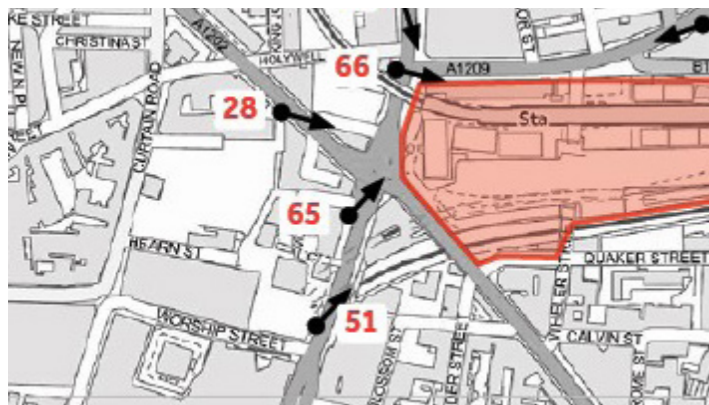
View 51n Cumulative - Norton Folgate: opposite junction with Fleur de Lis Street: night



View 65 Existing - Shoreditch High Street / Plough Yard 65



Viewpoint map



View 65 Proposed - Shoreditch High Street / Plough Yard 65



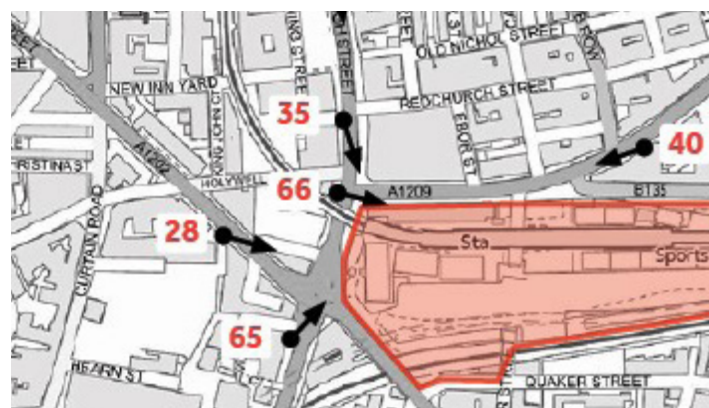
View 65 Cumulative - Shoreditch High Street / Plough Yard 65



View 66 Existing - Shoreditch High Street / Bethnal Green Road



Viewpoint map



View 66 Proposed - Shoreditch High Street / Bethnal Green Road



View 66 Cumulative - Shoreditch High Street / Bethnal Green Road



5. Assessment and Conclusion

Enabling and Construction

- 5.1 There are no additional effects as a result of the Proposed Development above those identified in the ESA to the enabling and construction assessment, its assessment remains valid.

Completed development

- 5.2 With regards to townscape and visual considerations, the Proposed Development falls within the Maximum Parameters of the ESA as amended, with NMAs relating to railway and station infrastructure, recesses at levels six and seven, and curved corners to Shoreditch High Street. The overall appearance would satisfy the Design Guidelines as defined within the ESA and there are no additional mitigation requirements beyond those agreed as part of the ESA.
- 5.3 The Proposed Development presents a high-quality scheme as illustrated in views produced by Millerhore presented in section 4. The Proposed Development would have a successful relationship with existing, consented, and proposed buildings in the local vicinity and throughout Shoreditch.
- 5.4 With respect to townscape and visual impact assessment, it is considered that the Proposed Development presented in this RMA application would

not give rise to any effects in addition to those already identified in the ESA, its assessments remain valid.

Cumulative Assessment

- 5.5 The set of cumulative schemes has been updated in the 17 views, and there are some additional cumulative schemes consented since the HPP ES. There are no additional cumulative effects above those identified in the ESA as a result of the Proposed Development and its assessment remain valid.



Appendix I: Millerhare Methodology

Scope

A1.1 This study tests the visual impact of the Proposed Development by Ballymore at Bishopsgate Goodsyards, London E1. It consists of a series of accurately prepared photomontage images or Accurate Visual Representations (AVR) which are designed to show the visibility and appearance of the Proposed Development from a range of publicly accessible locations around the site. The views have been prepared by Miller Hare Limited.

A1.2 The views included in the study were selected by the project team and they include, where relevant, standard assessment points defined by the Mayor of London and the Local Planning Authority. Where requested, view locations have been refined and additional views added. The full list of views is shown in thumbnail format on the preceding pages, together with a map showing their location. Detailed co-ordinates for the views, together with information about the source photography are shown in Appendix A2 “View Locations”.

A1.3 In preparing each AVR a consistent methodology and approach to rendering has been followed. General notes on the AVRs are given in Appendix A5 “Accurate Visual Representations”, and the detailed methodology used is described in Appendix A6 “Methodology for the production of Accurate Visual Representations”.

A1.4 From each viewpoint a large format photograph has been taken as the basis of the study image. The composition of this photograph has been selected to allow the Proposed Development to be assessed in a meaningful way in relation to relevant elements of the surrounding context. Typically, photographs have been composed with a horizontal axis of view in order to allow vertical elements of the proposals to be shown vertically in the resulting image. If required in order to show the full extent of the proposals in a natural way the horizon line of the image has been allowed to fall above or below the centre of the image. This has been achieved by applying vertical rise at source using a large format camera or by subsequent cropping of the image. In a limited number of cases the source photograph has been extended vertically to ensure that the full height of the proposals are shown in the images of the future condition. In all cases the horizon line and location of the optical axis are clearly shown by red arrow markers at the edges of the image.

A1.5 The lenses chosen for the source photography have been selected to provide a useful Field of View given the distance of the viewpoint from the site location. The lenses used for each view are listed in Appendix A2 “View Locations”.

A1.6 In this study the following groups of views have been defined:

- **Distant views** – typically with a horizontal Field of View approximately 48 degrees (equivalent to a 35mm lens

on 35mm film camera). LVMF views in addition have been shown with their wider setting

- **Mid-distance views** – horizontal Field of View approximately 74 degrees (equivalent to a 24mm lens on 35mm film camera)
- **Local views** – horizontal Field of View approximately 74 degrees (equivalent to a 24mm lens on 35mm film camera)

A1.7 For each AVR image, the precise Field of View, after any cropping or extension has been applied is shown clearly using indexed markings running around the edges of the image. These indicate increments of 1, 5 and 10 degrees marked away from Optical Axis. Using this peripheral annotation it is possible to detect optical distortions in parts of the image away from the Optical Axis. It is also possible to simulate a different field of view by masking off an appropriate area of the image. More detailed information on the border annotation is contained in Appendix A5 “Accurate Visual Representations”.

Conditions

A1.8 From each selected viewpoint a set of accurate images have been created comparing the future view with the current conditions represented by a carefully taken large format photograph. In this study the following conditions are compared:

- Existing – the appearance today as recorded on the specified date and time
- Proposed – the future appearance were the Proposed Development to be constructed
- **Cumulative** – the Proposed Development is shown in the context of other significant schemes considered relevant by the project team

Styles

A1.9 For each viewpoint, the Proposed Development is shown in a defined graphical style. These styles comply with the definitions of AVR style defined by the London View Management Framework. The styles used in this study are:

- AVR 1 – a wireline representation showing the silhouette of the proposals. Where a part of the silhouette would be visible in the view it is shown in blue, where it would be invisible, as a result of being occluded by existing structures or dense vegetation, it is shown dotted.
- AVR 3 – a fully rendered representation of the building showing the likely appearance of the proposed materials under the lighting conditions obtaining in the selected photograph.

Schemes

A1.10 In the Cumulative view, the Proposed Development has been shown in the context of other schemes shown in silhouette form (AVR 1) using an orange line. Where parts of these schemes would not be visible they are shown as a dotted line. The details of the additional schemes included in the Cumulative view are given in the schedule and overview map included in Appendix A3 “Details of schemes”, these include:

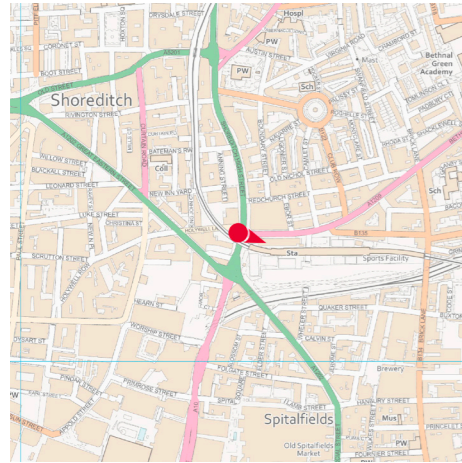
- Trumans Brewery
- Blossom Street - 2014 Masterplan
- Blossom Street - Plot S3
- Huntingdon Estate (2020)
- EastGate
- Aldgate Place (2012)
- 130 Whitechapel High Street
- Development House (2017)
- Spitalfields Works
- Middlesex Street Unite Students PLC
- 21 Buckle Street
- 101 Whitechapel High Street
- Whitechapel Estate (2020 Amendments)
- Whitechapel Central (2020 Amendments)
- The Stage (s73)
- The Stage - Sub-station Site
- 1 Crown Place (2014)
- 1 and 2 Broadgate
- 201-207 Shoreditch High Street
- Bavaria House
- Art’otel Hoxton (2018)
- Whitechapel Road Development - Plot A
- Whitechapel Road Development - Plots B1 and B2
- Whitechapel Road Development - Plots B3 and B4

- Whitechapel Road Development - Plot C
- Whitechapel Road Development - Plots D1 and D2
- 26-38 Lehman Street (2021)
- 19 Great Eastern Street & 9 Hewett Street
- Marian Place Gasholder Site
- 2-3 Finsbury Avenue (2020)
- Monmouth and Speedfix House
- Castle and Fitzroy House
- 20 Ropemaker Street
- Shoreditch Village Phase II
- 49-51 Paul Street (2018)
- 281-285 Bethnal Green Road
- 140 Brick Lane
- Central House
- 114 - 150 Hackney Road (2020)
- 1 Leadenhall (2018)
- 1 Undershaft
- 100 Leadenhall Street
- 40 Leadenhall Street
- 6-8 Bishopsgate (2017)

A1.11 The Proposed Development shown in the study has been defined by drawings and specifications prepared by the client’s design team issued to Millerhare in November 2023. Computer models reflecting the Proposed Development have been assembled and refined by Millerhare and images from these models have been supplied to the project team to be checked for accuracy against the design intent. An overview of the study model annotated with key heights is illustrated in Appendix A3 “Details of schemes”.

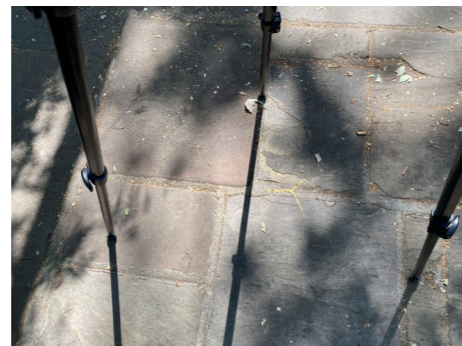
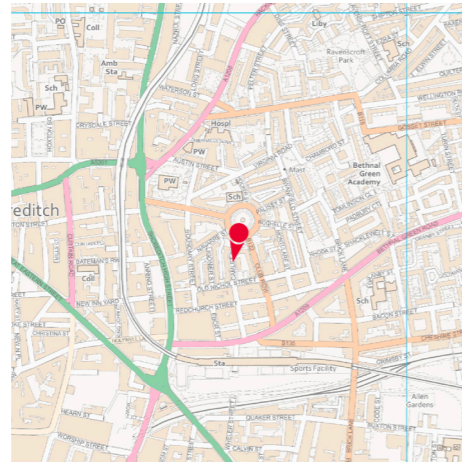
A2 View Locations

66 | Shoreditch High Street / Bethnal Green Road



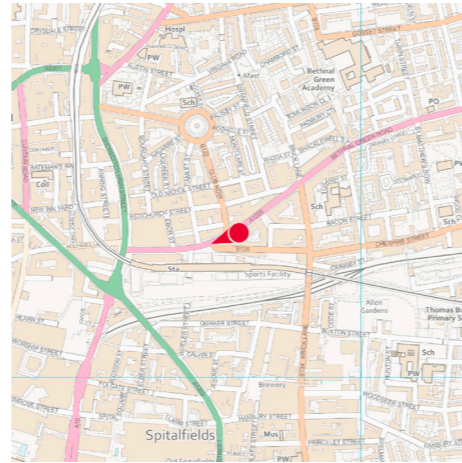
Camera Location
 National Grid Reference 533474.3E 182280.6N
 Camera height 16.39m AOD
 Looking at Centre of Site
 Bearing 110.0°, distance 0.2km
Photography Details
 Height of camera 1.60m above ground
 Date of photograph 16/06/2023
 Time of photograph 14:40
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

32 | Arnold Circus Roundabout: Boundary Gardens, southern steps



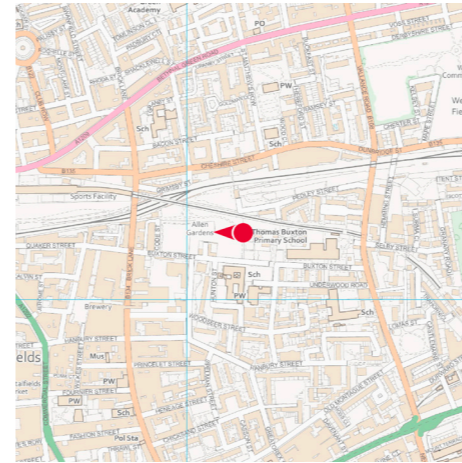
Camera Location
 National Grid Reference 533633.7E 182521.1N
 Camera height 17.75m AOD
 Looking at Centre of Site
 Bearing 191.4°, distance 0.3km
Photography Details
 Height of camera 1.60m above ground
 Date of photograph 15/06/2023
 Time of photograph 09:58
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

40 | Bethnal Green Road near to Club Row



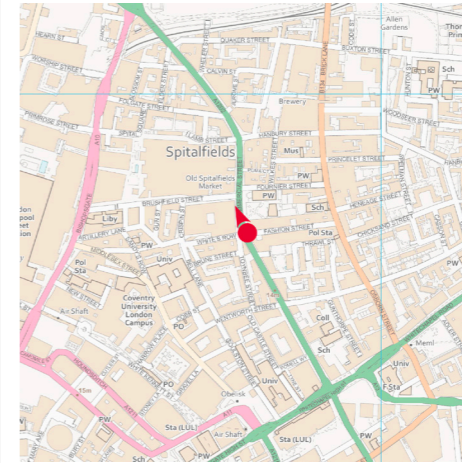
Camera Location
 National Grid Reference 533734.1E 182315.9N
 Camera height 16.68m AOD
 Looking at Centre of Site
 Bearing 248.5°, distance 0.1km
Photography Details
 Height of camera 1.60m above ground
 Date of photograph 15/06/2023
 Time of photograph 10:46
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

41 | Allen Gardens



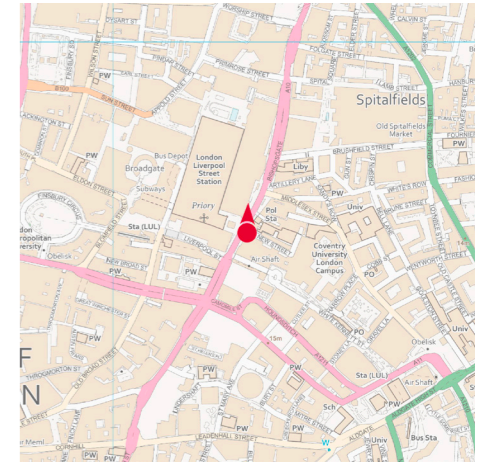
Camera Location
 National Grid Reference 534122.6E 182145.9N
 Camera height 13.00m AOD
 Looking at Centre of Site
 Bearing 271.3°, distance 0.5km
Photography Details
 Height of camera 1.60m above ground
 Date of photograph 15/06/2023
 Time of photograph 11:25
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

44 | Commercial Street close to Whites Row



Camera Location
 National Grid Reference 533708.5E 181698.9N
 Camera height 15.32m AOD
 Looking at Centre of Site
 Bearing 335.7°, distance 0.5km
Photography Details
 Height of camera 1.60m above ground
 Date of photograph 16/06/2023
 Time of photograph 13:47
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

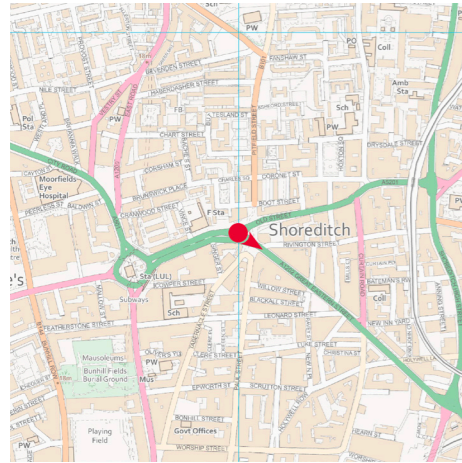
47 | Bishopsgate outside entrance to Liverpool Street Station



Camera Location
 National Grid Reference 533292.2E 181585.0N
 Camera height 16.10m AOD
 Looking at Centre of Site
 Bearing 2.2°, distance 0.7km
Photography Details
 Height of camera 1.60m above ground
 Date of photograph 15/06/2023
 Time of photograph 14:32
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

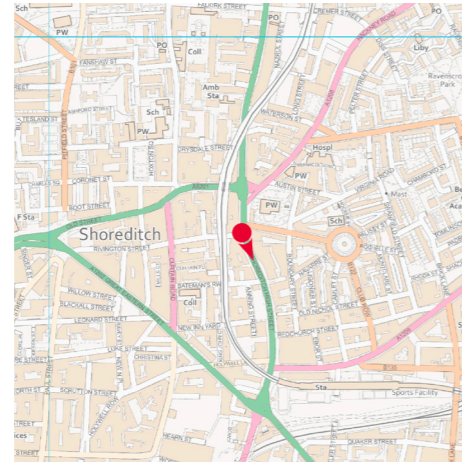


26s | Great Eastern Street: traffic island at junction with Old Street | Summer



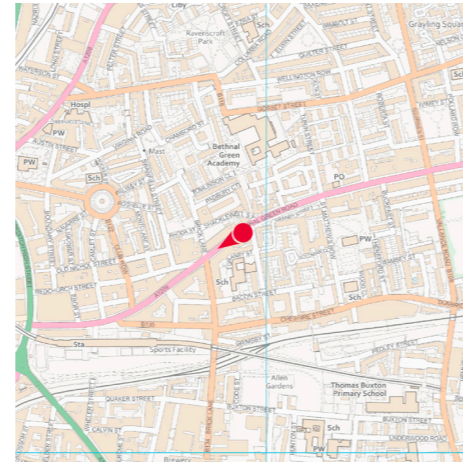
Camera Location
 National Grid Reference 532998.1E 182563.6N
 Camera height 18.53m AOD
 Looking at Centre of Site
 Bearing 124.4°, distance 0.7km
Photography Details
 Height of camera 1.60m above ground
 Date of photograph 16/06/2023
 Time of photograph 15:42
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

30 | Shoreditch High Street: junction with Rivington Street



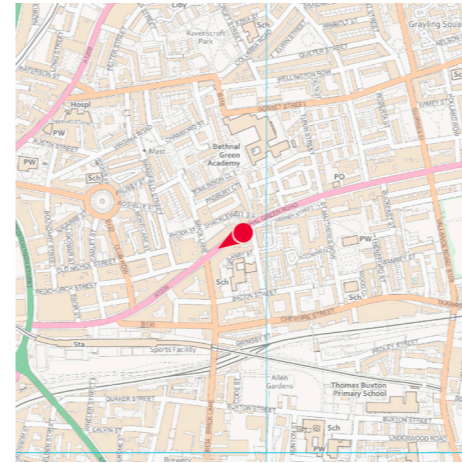
Camera Location
 National Grid Reference 533419.5E 182573.0N
 Camera height 17.99m AOD
 Looking at Centre of Site
 Bearing 157.6°, distance 0.4km
Photography Details
 Height of camera 1.60m above ground
 Date of photograph 16/06/2023
 Time of photograph 15:06
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

36 | Bethnal Green Road: junction with Chilton Street



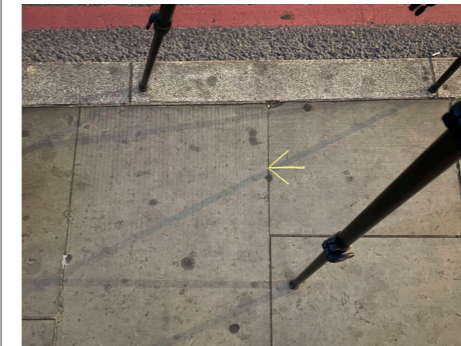
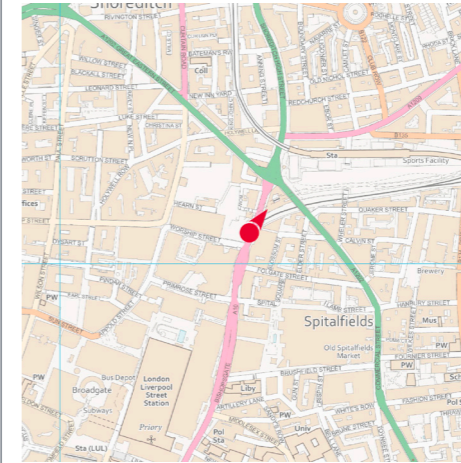
Camera Location
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 Camera height 18.10m AOD
 Looking at Centre of Site
 Bearing 237.8°, distance 0.4km
Photography Details
 Height of camera 1.60m above ground
 Date of photograph 15/06/2023
 Time of photograph 10:31
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

36n | Bethnal Green Road: junction with Chilton Street | Night



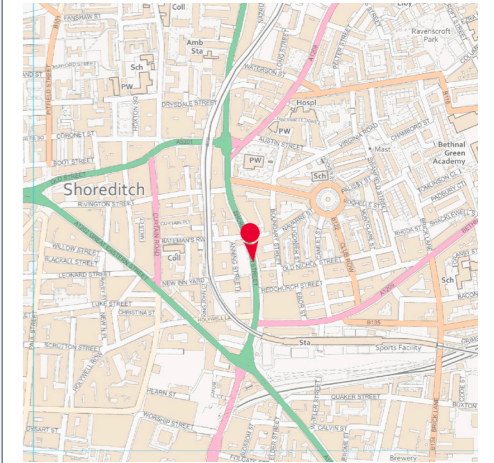
Camera Location
 National Grid Reference 533948.8E 182479.8N
 Camera height 18.10m AOD
 Looking at Centre of Site
 Bearing 238.0°, distance 0.4km
Photography Details
 Height of camera 1.60m above ground
 Date of photograph 19/06/2023
 Time of photograph 22:25
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

51n | Norton Folgate: opposite junction with Fleur de Lis Street: Night



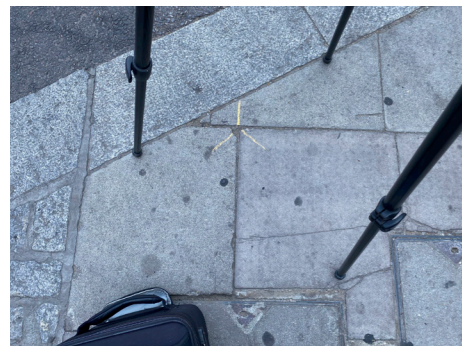
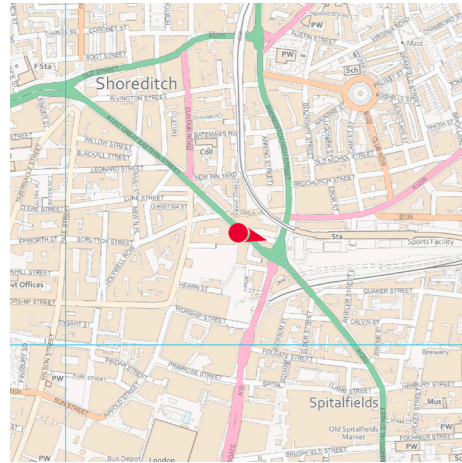
Camera Location
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 Camera height 15.67m AOD
 Looking at Centre of Site
 Bearing 37.5°, distance 0.3km
Photography Details
 Height of camera 1.60m above ground
 Date of photograph 19/06/2023
 Time of photograph 22:01
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

31 | Shoreditch High Street: junction with Bateman Row: Night



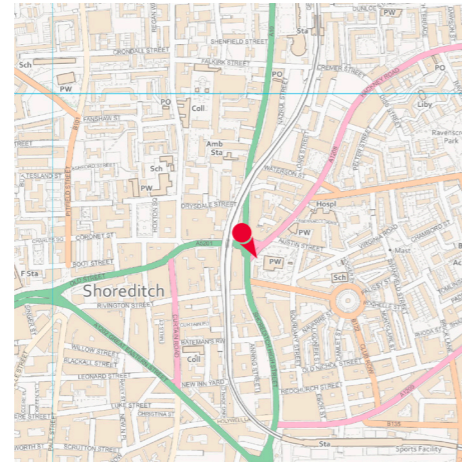
Camera Location
 National Grid Reference 533472.6E 182475.5N
 Camera height 17.27m AOD
 Looking at Centre of Site
 Bearing 173.4°, distance 0.3km
Photography Details
 Height of camera 1.60m above ground
 Date of photograph 20/06/2023
 Time of photograph 22:07
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

28 | Great Eastern Street / Fairchild Street



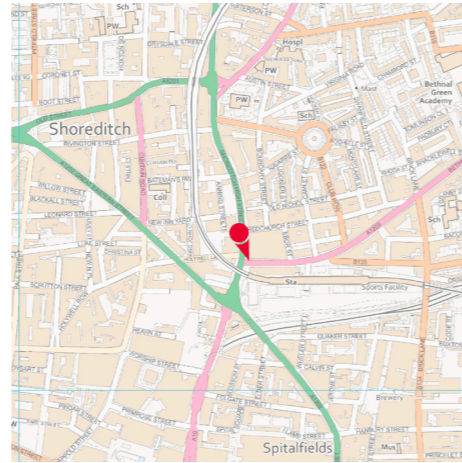
Camera Location
 National Grid Reference 533375.8E 182244.8N
 Camera height 16.30m AOD
 Looking at Centre of Site
 Bearing 104.6°, distance 0.3km
Photography Details
 Height of camera 1.60m above ground
 Date of photograph 16/06/2023
 Time of photograph 14:24
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

29 | Southern end of Kingsland Road



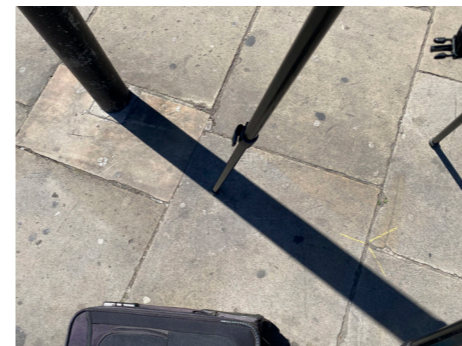
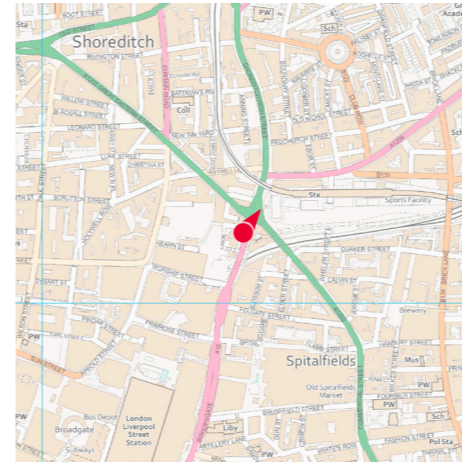
Camera Location
 National Grid Reference 533411.0E 182696.6N
 Camera height 18.99m AOD
 Looking at Centre of Site
 Bearing 149.3°, distance 0.5km
Photography Details
 Height of camera 1.60m above ground
 Date of photograph 16/06/2023
 Time of photograph 15:24
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

35 | Shoreditch High Street, west side opposite Redchurch Street



Camera Location
 National Grid Reference 533478.2E 182343.9N
 Camera height 17.03m AOD
 Looking at Centre of Site
 Bearing 160.3°, distance 0.2km
Photography Details
 Height of camera 1.60m above ground
 Date of photograph 16/06/2023
 Time of photograph 14:51
 Canon EOS 5D Mark IV DSLR
 Lens 24mm

65 | Shoreditch High Street / Plough Yard



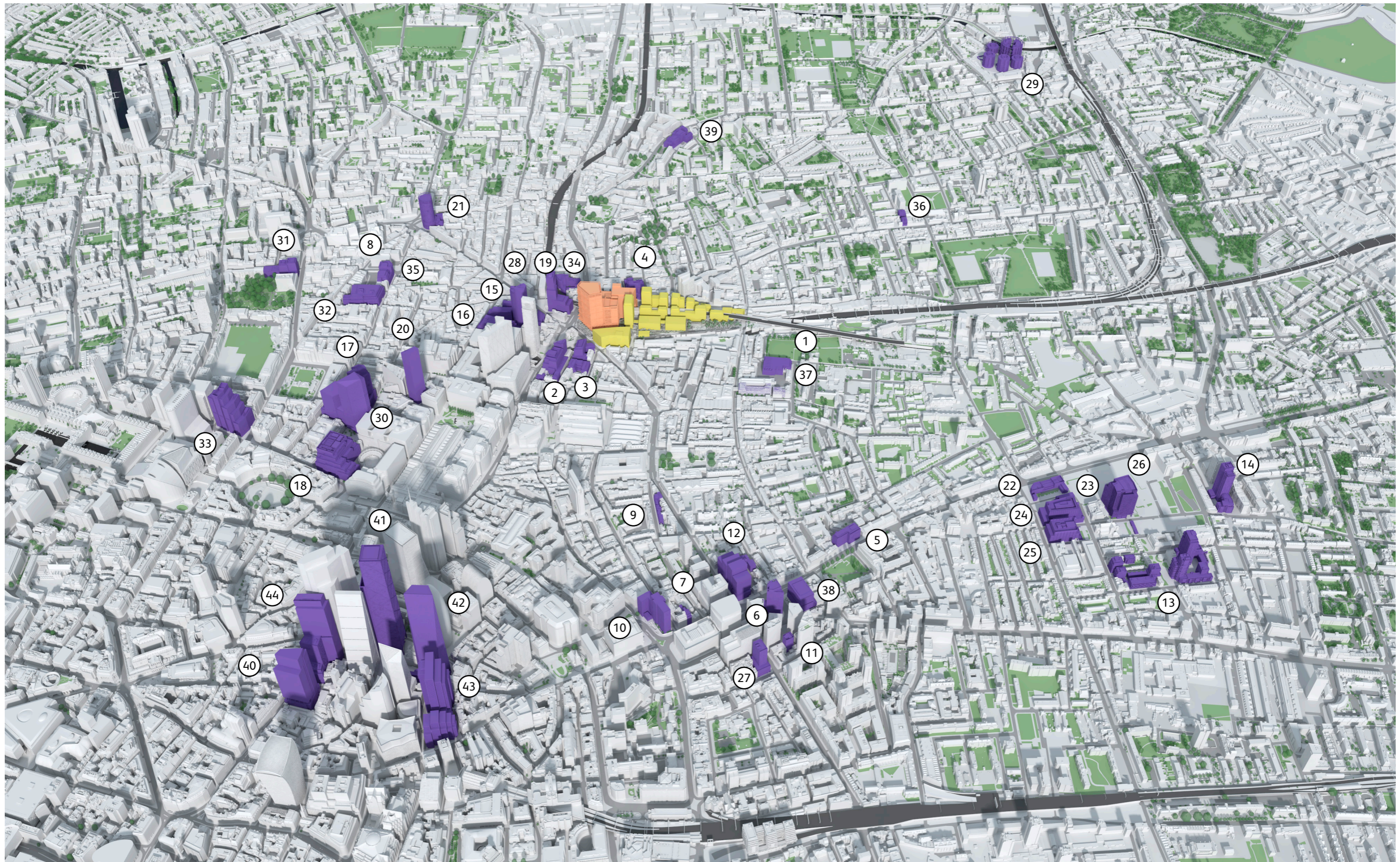
Camera Location
 National Grid Reference 533436.7E 182153.8N
 Camera height 15.80m AOD
 Looking at Centre of Site
 Bearing 36.6°, distance 0.2km
Photography Details
 Height of camera 1.60m above ground
 Date of photograph 16/06/2023
 Time of photograph 14:11
 Canon EOS 5D Mark IV DSLR
 Lens 24mm



A3 Details of schemes

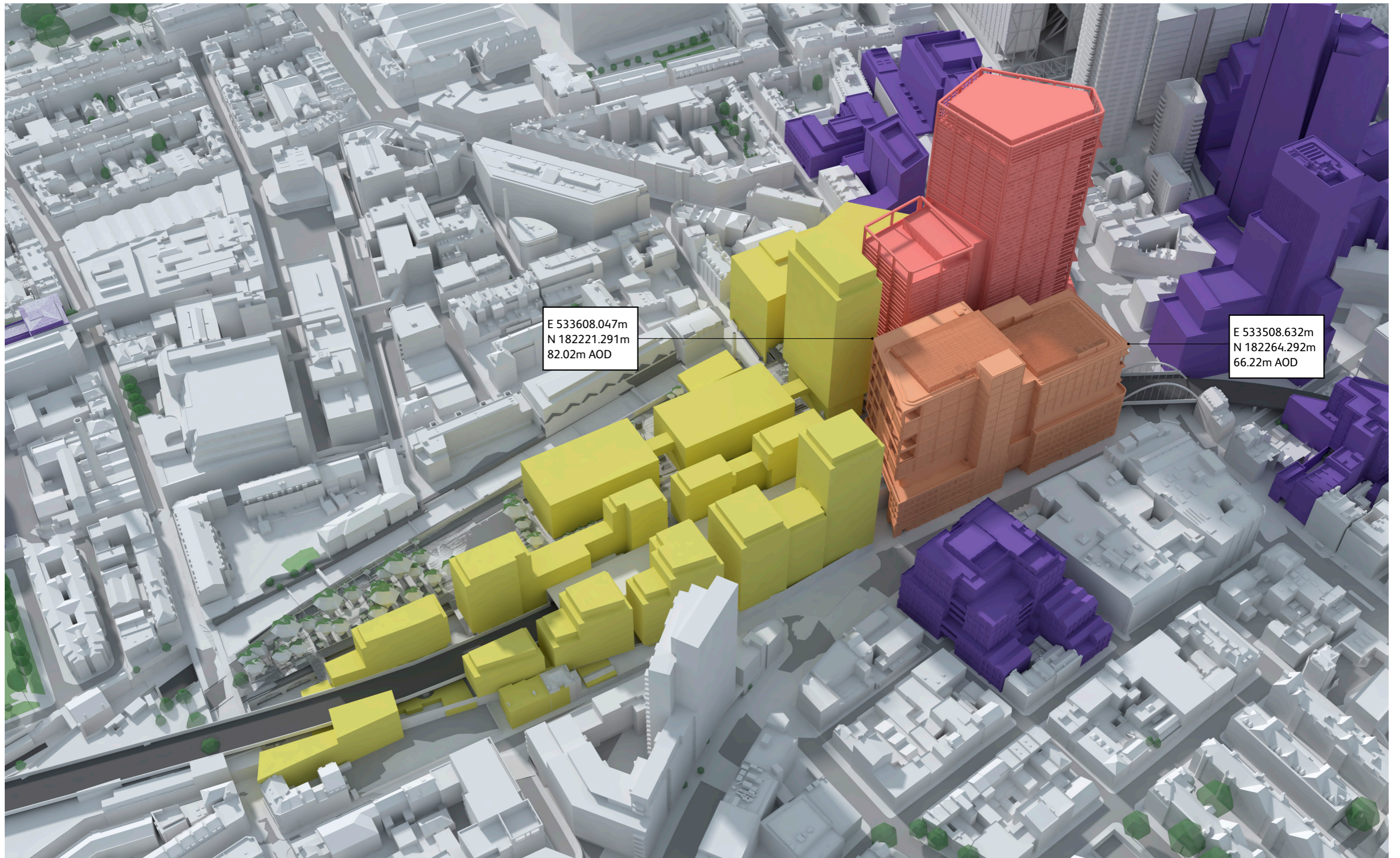
index	scheme name	address	reference	PA	status	source of model data	positioning method	MH reference	colour
1	Trumans Brewery	Land within former Truman's Brewery site, Spital Street / Buxton Street	PA/12/00090	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0646.profile141008-dp-proposed	Purple
2	Blossom Street - 2014 Masterplan	Blossom St, London E1	PA/14/03548	Hackney	Legal Consent granted	Models supplied by AHMM and simplified by Millerhare	Position relative to O.S. supplied by architect	hack0036.profile150319-ahmm-proposed	Purple
3	Blossom Street - Plot S3	Land bound by Blossom Street, Fleur de Lis Street & Elder Street, London	PA/19/01608/A1	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0008.surface190611-ahmm-proposed	Purple
4	Huntingdon Estate (2020)	Land bounded by 2-10 Bethnal Green Road, 1-5 Chance Street (Huntingdon Industrial Estate) and 30-32 Redchurch Street	PA/20/00557	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0046-b.surface200124-mc-proposed	Purple
5	EastGate	Black Lion House, 45 Whitechapel Road, London, E1 1DU	PA/13/02162	THBC	Cancelled	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0058-a.profile140805-dp-consented	Purple
6	Aldgate Place (2012)	Site bounded by Leman Street, Whitechapel High Street, Commercial Road and Buckle Street.	PA/13/00218	THBC	Legal Consent granted	CAD drawings supplied by Allies and Morrison	Position relative to O.S. supplied by architect	towh0039.profile130204-kpn-consented	Purple
7	130 Whitechapel High Street	130 Whitechapel High Street, London, E1 7PS	PA/19/00976/A1	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0036-b.mass200518-rb-consented	Purple
8	Development House (2017)	Development House, 56-64 Leonard Street, London, EC2A 4LT	2017/4694	Hackney	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	isli0078-a.profile180801-kt-consented	Purple
9	Spitalfields Works	11-31 Toynbee Street and 67-69 Commercial Street, London	PA/16/02878/A1	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0035.profile190111-dp-proposed	Purple
10	Middlesex Street Unite Students PLC	Site At 3-11 Goulston Street And 4-6 And 16-22 Middlesex Street, Middlesex Street, London	PA/18/01544/A1	THBC	Under Construction	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0308-a.profile140702-dp-consented	Purple
11	21 Buckle Street	Enterprise House, 21 Buckle Street, London, E1 8NN	PA/16/03552/A1	THBC	Completed	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0092-f.profile171011-dp-consented	Purple
12	101 Whitechapel High Street	Site at 2-6 Commercial Street, 98 and 101-105 Whitechapel High Street, carpark to the rear of 95-97 Whitechapel High Street (known as Spredaeagle Yard) and Canon Barnett Primary School, E1	PA/18/02615/A1	THBC	Submitted for planning	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0041.profile190111-dp-proposed	Purple
13	Whitechapel Estate (2020 Amendments)	Site between Varden Street and Ashfield Street (Whitechapel Estate), London, E1	PA/20/01743/A1	THBC	Submitted for planning	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0087-b.detail200506-mhl-cumulative	Purple
14	Whitechapel Central (2020 Amendments)	Site Bound by Raven Row Stepney Way, Sidney Street, London	PA/20/00571/NC	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0792.surface200616-bsbg-proposed	Purple
15	The Stage (s73)	Land Bounded by Curtain Road/Hearn Street/Plough Yard/Fairchild Place/Great Eastern Street/Hewett Street	2017/0864	Hackney	Under Construction	Paper planning application drawings from local authority	Best fit to Ordnance Survey	hack0020-a.mass180904-rb-consented	Purple
16	The Stage - Sub-station Site	UK PM Power Station Hearn Street Hackney EC2A 3LS	2012/3873	Hackney	Under Construction	Paper planning application drawings from local authority	Best fit to Ordnance Survey	hack0020-b.profile130124-dp-consented	Purple
17	1 Crown Place (2014)	5-29 Sun Street, 1-17 Crown Place 8-16 Earl Street and 54 Wilson Street London EC2M 2PS	2015/0877	Hackney	Cancelled	Model supplied by KPF and simplified by Millerhare	Position relative to O.S. supplied by architect	hack0001.surface150220-kpf-proposed-chalk	Purple
18	1 and 2 Broadgate	1-2 Broadgate London EC2M 2QS	18/01065/FULEIA	CoL	Legal Consent granted	Model supplied by AHMM	Position relative to O.S. supplied by architect	city0517.profile180821-ahmm-proposed	Purple
19	201-207 Shoreditch High Street	201-207 Shoreditch High Street and 1 Fairchild Street Hackney London E1 6LG	2015/2403	Hackney	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	hack0024.mass151106-dp-proposed	Purple
20	Bavaria House	Bavaria House, 13-14 Appold Street, London, EC2A 2NB	2015/1685	Hackney	Legal Consent granted	Model supplied by KPF and simplified by Millerhare	Position relative to O.S. supplied by architect	hack0003.mass190110-kpf-proposed	Purple
21	Art'otel Hoxton (2018)	84-86 Great Eastern Street and 1-3 Rivington Street, EC2A 3JL	2018/4549	Hackney	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	hack0055.profile190402-kt-consented	Purple
22	Whitechapel Road Development - Plot A	Life Sciences Building, Whitechapel high Street	PA/21/02707	THBC	Proposed	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0065-a.detail210920-am-proposed	Purple
23	Whitechapel Road Development - Plots B1 and B2	Life Sciences Building, Whitechapel high Street	PA/21/02707	THBC	Proposed	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0065-b.detail210920-am-proposed	Purple
24	Whitechapel Road Development - Plots B3 and B4	Life Sciences Building, Whitechapel high Street	PA/21/02707	THBC	Proposed	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0065-c.detail210920-am-proposed	Purple
25	Whitechapel Road Development - Plot C	Life Sciences Building, Whitechapel high Street	PA/21/02707	THBC	Proposed	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0082.detail210920-am-proposed	Purple
26	Whitechapel Road Development - Plots D1 and D2	Life Sciences Building, Whitechapel high Street	PA/21/02707	THBC	Proposed	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0065-h.detail210920-am-proposed	Purple
27	26-38 Lehman Street (2021)	26-38 Leman Street, London E1	PA/21/01713/A1	THBC	Submitted for planning	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0306-b.profile211018-dp-proposed	Purple
28	19 Great Eastern Street & 9 Hewett Street	G F I House, 9 Hewett Street, Hackney, London, EC2A 3RP	2021/0406	Hackney	Cancelled	Paper planning application drawings from local authority	Best fit to Ordnance Survey	hack0019.mass221124-kt-consented	Purple
29	Marian Place Gasholder Site	Marian Place Gasholder Site, Bethnal Green, London, E2 9AP	PA/19/02717/A1	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0778.surface200930-dp-consented	Purple
30	2-3 Finsbury Avenue (2020)	2-3 Finsbury Avenue London EC2M 2PA	20/00869/FULEIA	CoL	Legal Consent granted	Model supplied by 3xn	Position relative to O.S. supplied by architect	city0511.surface200820-3xn-proposed	Purple
31	Monmouth and Speedfix House	Monmouth House, 58-64 City Road, London, EC1Y 2AE	P2015/3136/FUL	Islington	Completed	Paper planning application drawings from local authority	Best fit to Ordnance Survey	isli0125-l.profile160310-consented	Purple
32	Castle and Fitzroy House	Castle House, 37 - 45 Paul Street Fitzroy House - 13-17 Epworth Street and 1-15 Clere Street London	P2022/2893/FUL	Islington	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	isli0074-b.mass230515-rb-consented	Purple

index	scheme name	address	reference	PA	status	source of model data	positioning method	MH reference	colour
33	20 Ropemaker Street	20 Ropemaker Street, 101-117 Finsbury Pavement and 10-12 Finsbury Street London EC2Y 9AR	P2017/3103/FUL	Islington	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	city0320-a.mass170928-dp-proposed	Purple
34	Shoreditch Village Phase II	183-187 Shoreditch High Street, bounded by Holywell Lane, New Inn Yard, and rail viaduct London E1 6HU	2017/0596	Hackney	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	hack0028-c.profile171124-dp-consented	Purple
35	49-51 Paul Street (2018)	49-51 Paul Street Hackney London EC2A 4LJ	2018/2104	Islington	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	isli0078.profile190503-kt-consented	Purple
36	281-285 Bethnal Green Road	281-285 Bethnal Green Road, London, E2 6AH	PA/14/03424	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0630.mass150508-rb-consented	Purple
37	140 Brick Lane	140, 146 Brick Lane and 25 Woodseer Street, London, E1 6RU	PA/20/00415	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0646.mass230913-rb-consented	Purple
38	Central House	Central House, 59-63 Whitechapel High Street, London, E1 7PF	PA/18/01914/A1	THBC	Legal Consent granted	Model supplied by AHMM	Best fit to Ordnance Survey	towh0069.surface180619-ahmm-proposed	Purple
39	114 - 150 Hackney Road (2020)	114 - 150 Hackney Road, London	PA/20/00034/A2	THBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0760.profile230706-jt-proposed	Purple
40	1 Leadenhall (2018)	Leadenhall Court, 1 Leadenhall Street, London, EC3V 1PP	18/00740/FULEIA	CoL	Legal Consent granted	Model supplied by Make	Position relative to O.S. supplied by architect	city0261-a.surface180607-make-consented	Purple
41	1 Undershaft	1 Undershaft London EC3P 3DQ	16/00075/FULEIA	CoL	Submitted for planning	Model supplied by Cityscape	Position related to O.S. supplied by Cityscape	city0311-f.profile160620-cs-proposed	Purple
42	100 Leadenhall Street	100 Leadenhall Street London EC3A 3BP	18/00152/FULEIA	CoL	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	city0310-c.profile180316-dp-proposed	Purple
43	40 Leadenhall Street	Site Bounded By 19-21 & 22 Billiter Street, 49 Leadenhall Street, 108 & 109-114 Fenchurch Street, 6-8 & 9-13 Fenchurch Buildings London EC3	13/01004/FULEIA	CoL	Legal Consent granted	Model supplied by Make Architects and simplified by Millerhare	Position relative to O.S. supplied by architect	city0273.surface150604-fg-proposed-plant	Purple
44	6-8 Bishopsgate (2017)	6 - 8 Bishopsgate & 150 Leadenhall Street London EC2N 4DA & EC3V 4QT	17/00447/FULEIA	CoL	Under Construction	Model supplied by Wilkinson Eyre Architects and simplified by Millerhare	Position relative to O.S. supplied by architect	city0311-c.profile170321-wea-proposed	Purple
45	Bishopsgate Goodsyard 2023 Plot 01	Bishopsgate Goodsyard, London E1	n/a	THBC	Proposed	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0045.detail231031-gensler-proposed	Orange
46	Bishopsgate Goodsyard 2019 - Plot 02	Bishopsgate Goodsyard, London E1	n/a	THBC	Proposed	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0045.detail190212-fb-proposed	Red
47	Bishopsgate Goodsyard 2019 - Maximum Parameters - Plot 03	Bishopsgate Goodsyard, London E1	n/a	THBC	Proposed	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0045.detail190212-fb-proposed	Yellow
48	Bishopsgate Goodsyard 2019 - Maximum Parameters - Plot 04	Bishopsgate Goodsyard, London E1	n/a	THBC	Proposed	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0045.detail190212-fb-proposed	Yellow
49	Bishopsgate Goodsyard 2019 - Maximum Parameters - Plot 05	Bishopsgate Goodsyard, London E1	n/a	THBC	Proposed	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0045.detail190212-fb-proposed	Yellow
50	Bishopsgate Goodsyard 2019 - Maximum Parameters - Plot 06	Bishopsgate Goodsyard, London E1	n/a	THBC	Proposed	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0045.detail190212-fb-proposed	Yellow
51	Bishopsgate Goodsyard 2019 - Maximum Parameters - Plot 07	Bishopsgate Goodsyard, London E1	n/a	THBC	Proposed	Paper planning application drawings from local authority	Best fit to Ordnance Survey	n/a	Yellow
52	Bishopsgate Goodsyard 2019 - Maximum Parameters - Plot 08	Bishopsgate Goodsyard, London E1	n/a	THBC	Proposed	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0045.detail190212-fb-proposed	Yellow
53	Bishopsgate Goodsyard 2019 - Maximum Parameters - Plot 10	Bishopsgate Goodsyard, London E1	n/a	THBC	Proposed	Paper planning application drawings from local authority	Best fit to Ordnance Survey	towh0045.detail190212-fb-proposed	Yellow



Aerial diagram showing location of schemes

A4 Model Overview



E 533608.047m
N 182221.291m
82.02m AOD

E 533508.632m
N 182264.292m
66.22m AOD

Aerial view of Proposed Development

Millerhare reference: towh0045\+detail231031-gensler-proposed



A5 Accurate Visual Representations

A5.1 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.”

A5.2 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.”

A5.3 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;”

A5.4 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

A5.5 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.

A5.6 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.

A5.7 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.

A5.8 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.

A5.9 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.

A5.10 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.

A5.11 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”

A5.12 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

A5.13 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

A5.14 In practice the majority of photography based AVRs are either AVR 3 (commonly referred to as “fully rendered” or “photo-real”) 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)

A5.15 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.

A5.16 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.

A5.17 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.

AVR 1 – Outline



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

A5.18 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.

A5.19 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.

A5.20 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

A5.21 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 perspective 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.

A5.22 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.

A5.23 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.

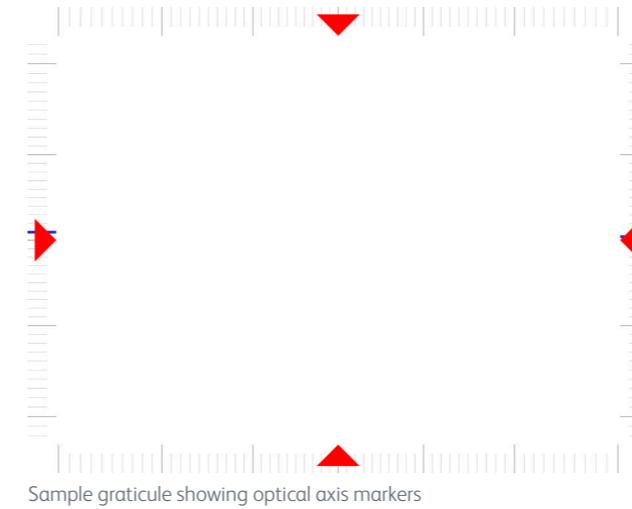
Documenting the AVR

Border annotation

A5.24 A Millerhale 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.

A5.25 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.

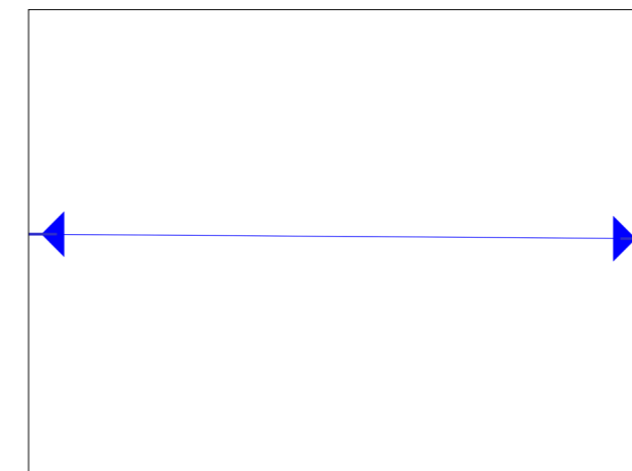
A5.26 If the point indicated by these marks lies above or below the centre of the image, this indicates either that vertical rise was used when taking the photograph or that the image has subsequently been cropped from the top or bottom edge. If it lies to the left or right of the centre of the image then cropping has been applied to one side or the other, or more unusually that horizontal shift was applied to the photograph.



A5.27 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

A5.28 .

A5.29 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.



Comparing AVRs with different FOVs

A5.30 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.



A6 Methodology for the production of Accurate Visual Representations

Overview of Methodology

A6.1 The study was carried out by Millerhare (the Visualiser) by combining computer generated images of the Proposed Development with large format photographs at key strategic locations around the site as agreed with the project team. Surveying was executed by Absolute Survey (the Surveyor).

A6.2 The methodology employed by Millerhare is compliant with Appendix C of the London View Management Framework: Supplementary Planning Guidance (March 2012) and Landscape Institute Technical Guidance Note 06/19.

A6.3 The project team defined a series of locations in London where the proposed buildings might have a significant visual effect. At each of these locations Millerhare carried out a preliminary study to identify specific Assessment Points from which a representative and informative view could be taken. Once the exact location had been agreed by the project team, a photograph was taken which formed the basis of the study. The precise location of the camera was established by the Surveyor using a combination of differential GPS techniques and conventional observations.

A6.4 For views where a photographic context was to be used additional surveying was carried out. A number of features on existing structures visible from the camera location were surveyed. Using these points, Millerhare has determined the appropriate parameters to permit a view of the computer model to be generated which exactly overlays the appropriate photograph. Each photograph has then been divided into foreground and background elements to determine which parts of the current context should be shown in front of the Proposed Development and which behind. When combined with the computer-generated image these give an accurate impression of the impact of the Proposed Development on the selected view in terms of scale, location and use of materials (AVR Level 3).

Spatial framework and reference database

A6.5 All data was assembled into a consistent spatial framework, expressed in a grid coordinate system with a local plan origin. The vertical datum of this framework is equivalent to Ordnance Survey (OS) Newlyn Datum.

A6.6 By using a transformation between this framework and the OSGB36 (National Grid) reference framework, Millerhare have been able to use other data sets (such as OS land line maps and ortho-corrected aerial photography) to test and document the resulting photomontages.

A6.7 In addition, surveyed observation points and line work from Millerhare's London Model database are used in conjunction with new data in order to ensure consistency and reliability.

A6.8 The models used to represent consented schemes have been assembled from a variety of sources. Some have been supplied by the original project team, the remainder have been built by Millerhare from available drawings, generally paper copies of the submitted planning application. While these models have not been checked for detailed accuracy by the relevant architects, Millerhare has used its best endeavours to ensure that the models are positioned accurately both in plan and in overall height.

Process – photographic context

Reconnaissance

A6.9 At each Study Location the Visualiser conducted a photographic reconnaissance to identify potential Assessment Points. From each candidate position, a digital photograph was taken looking in the direction of the Proposed Development using a wide angle lens. Its position was noted with field observations onto an OS map and recorded by a second digital photograph looking at a marker placed at the Assessment Point.

A6.10 In the situation where, in order to allow the appreciation of the wider setting of the proposal, the assessor requires more context than is practical to capture using a wide angle lens, multiple photographs may be combined to create a panorama, typically as a diptych or triptych. This will be prepared by treating each panel as a separate AVR and then combining in to a single panorama as a final process.

A6.11 The Visualiser assigned a unique reference to each Assessment Point and Photograph.

Final Photography

A6.12 From each selected Assessment Point a series of large format photographs were taken with a camera height of approximately 1.6m. The camera, lens, format and direction of view are determined in accordance with the policies set out above

A6.13 Where a panoramic view is specified the camera/tripod head is rotated through increments of 40 degrees to add additional panels to the left and/or right of the main view.

A6.14 The centre point of the tripod was marked and a digital photograph showing the camera and tripod in situ was taken to allow the Surveyor to return to its location. Measurements and field notes were also taken to record the camera location, lens used, target point and time of day.

Surveying the Assessment Points

A6.15 For each selected Assessment Point a survey brief was prepared, consisting of the Assessment Point study sheet and a marked up photograph indicating alignment points to be surveyed. Care was taken to ensure that a good spread of alignment points was selected, including points close to the camera and close to the target.

A6.16 Using differential GPS techniques the Surveyor established the location of at least two intervisible stations in the vicinity of the camera location. A photograph of the GPS antenna in situ was taken as confirmation of the position.

A6.17 From these the local survey stations, the requested alignment points were surveyed using conventional observation.

A6.18 The resulting survey points were amalgamated into a single data set by the Surveyor. This data set was supplied as a spreadsheet with a set of coordinates transformed and re-projected into OSGB36 (National Grid) coordinates, and with additional interpreted lines to improve the clarity of the surveyed data.

A6.19 From the point set, the Visualiser created a three dimensional alignment model in the visualisation system by placing inverted cones at each surveyed point.

Photo preparation

A6.20 From the set of photographs taken from each Assessment Point, one single photograph was selected for use in the study. This choice was made on the combination of sharpness, exposure and appropriate lighting.

A6.21 The selected photograph was copied into a template image file of predetermined dimensions. The resulting image was then examined and any artefacts related to the digital image capture process were rectified.

A6.22 Where vertical rise has been used the image is analysed and compensation is applied to ensure that the centre of the image corresponds to the location of the camera's optical axis.

Calculating the photographic alignment

A6.23 A preliminary view definition was created within the visualisation system using the surveyed camera location, recorded target point and FOV based on the camera and lens combination selected for the shot

A6.24 A lower resolution version of the annotated photograph was attached as a background to this view, to assist the operator to interpret on-screen displays of the alignment model and other relevant datasets.

A6.25 Using this preliminary view definition, a rendering was created of the alignment model at a resolution to match the scanned photograph. This was overlaid onto the background image to compare the image created by the actual camera and its computer equivalent. Based on the results of this process adjustments were made to the camera definition. When using a wide angle lens observations outside the circle of distortion are given less weighting.

A6.26 This process was iterated until a match had been achieved between the photograph and alignment model. At this stage, a second member of staff verified the judgements made. An A3 print was made of the resulting photograph overlaid with the

alignment model as a record of the match. This was annotated to show the extents of the final views to be used in the study.



Example of alignment model overlaid on the photograph

Preparing models of the Proposed Development

A6.27 A CAD model of the Proposed Development was created from 3D CAD models and 2D drawings supplied by the Architect. The level of detail applied to the model is appropriate to the AVR type of the final images.

A6.28 Models of the Proposed Development and other schemes are located within the spatial framework using reference information supplied by the Architect or, when not available, by best fit to other data from the spatial framework reference database. Study renders of the model are supplied back to the Architect for confirmation of the form and the overall height of the Proposed Development. The method used to locate each model is recorded. Each distinct model is assigned a unique reference code by the Visualiser.

Determining occlusion and creating simple renderings

A6.29 A further rendering was created using the aligned camera, which combined the Proposed Development with a computer-generated context. This was used to assist the operator to determine which parts of the source image should appear in front of the Proposed Development and which behind it. Using this image and additional site photography for information, the source file is divided into layers representing foreground and background elements.

A6.30 In cases where the Proposed Development is to be represented in silhouette or massing form (AVR1 or AVR2), final renderings of an accurate massing model were generated and inserted into the background image file between the foreground and background layers.

A6.31 Final graphical treatments were applied to the resulting image as agreed with the Architect and environmental and planning consultants. These included the application of coloured outlines to clarify the reading of the images or the addition of tones to indicate occluded areas.

Creating more sophisticated renderings

- A6.32 Where more sophisticated representations of the Proposed Developments were required (AVR3) the initial model is developed to show the building envelope in greater detail. In addition, definitions were applied to the model to illustrate transparency, indicative material properties and inter-reflection with the surrounding buildings.
- A6.33 For each final view, lighting was set in the visualisation system to match the theoretical sunlight conditions at the time the source photograph was taken, and additional model lighting placed as required to best approximate the recorded lighting conditions and the representation of its proposed materials.
- A6.34 By creating high resolution renderings of the detailed model, using the calculated camera specification and approximated lighting scenario, the operator prepared an image of the building that was indicative of its likely appearance when viewed under the conditions of the study photograph. This rendering was combined with the background and foreground components of the source image to create the final study images.
- A6.35 A single CAD model of the Proposed Development has been used for all distant and local views, in which the architectural detail is therefore consistently shown. Similarly a single palette of materials has been applied. In each case the sun angles used for each view are transferred directly from the photography records.
- A6.36 Material definitions have been applied to the models assembled as described. The definitions of these materials have been informed by technical notes on the planning drawings and other available visual material, primarily renderings created by others. These resulting models have then been rendered using the lighting conditions of the photographs.
- A6.37 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.
- A6.38 Where a panoramic view is specified each panel is prepared by treating each photograph as an individual AVR following the process described in the previous paragraphs. The panels are then arranged side by side to construct the panorama. Vertical dividers are added to mark the edge of each panel in order to make clear that the final image has been constructed from more than one photograph.
- A6.39 For each Assessment Point a CAD location plan was prepared, onto which a symbol was placed using the coordinates of the camera supplied by the Surveyor. Two images of this symbol were created cross-referencing background mapping supplied by Ordnance Survey.
- A6.40 The final report on the Study Location was created which shows side by side, the existing and proposed prospect. These were supplemented by images of the location map, a record of the camera location and descriptive text. The AVR level is described.
- A6.41 Peripheral annotation was added to the image to clearly indicate the final FOV used in the image, any tilt or rise, and whether any cropping has been applied.
- A6.42 Any exceptions to the applied policies or deviations from the methodology were clearly described.
- A6.43 Where appropriate, additional images were included in the study report, showing the Proposed Development in the context of other consented schemes.

Documenting the study

