One Leadenhall

EIA Scoping Report

April 2016

Prepared for:

Brookfield Property Partners (UK) Ltd

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Introduction

01

Introduction

Background

Brookfield Property Partners (UK) Limited (hereafter referred to as the Applicant) is seeking detailed planning permission for the construction of an office led mixed use development at the crossroads of Bishopsgate, Leadenhall Street, Gracechurch Street, and Cornhill (the 'site'), to be known as 'One Leadenhall'. The redline boundary is shown in Figure 1.

Given the likely scale of redevelopment, the location of the site and the potential for environmental effects, the Applicant has chosen to submit an Environmental Statement (ES) alongside the planning application. AECOM has been commissioned to undertake the Environmental Impact Assessment (EIA) on behalf of the Applicant in line with the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (amended 2015) and other relevant EIA guidance. This EIA Scoping Report has been produced in order to seek the City of London Corporation's (CoL) opinion as to the scope of the Environmental Statement.

Site Location and Context

The site is approximately 0.23 hectares (ha) and is located within the City of London (CoL). The site is centred at National Grid Reference TQ 330810 and is bounded by Leadenhall Street to the north, Whittington Avenue to the east, Leadenhall Market to the south, and Gracechurch Street to the West. The site location and surrounding context is shown in Figure 2.

It should be noted that the most up to date base mapping has been used to prepare the figures for this EIA Scoping Report.

Figure 1: Site Boundary

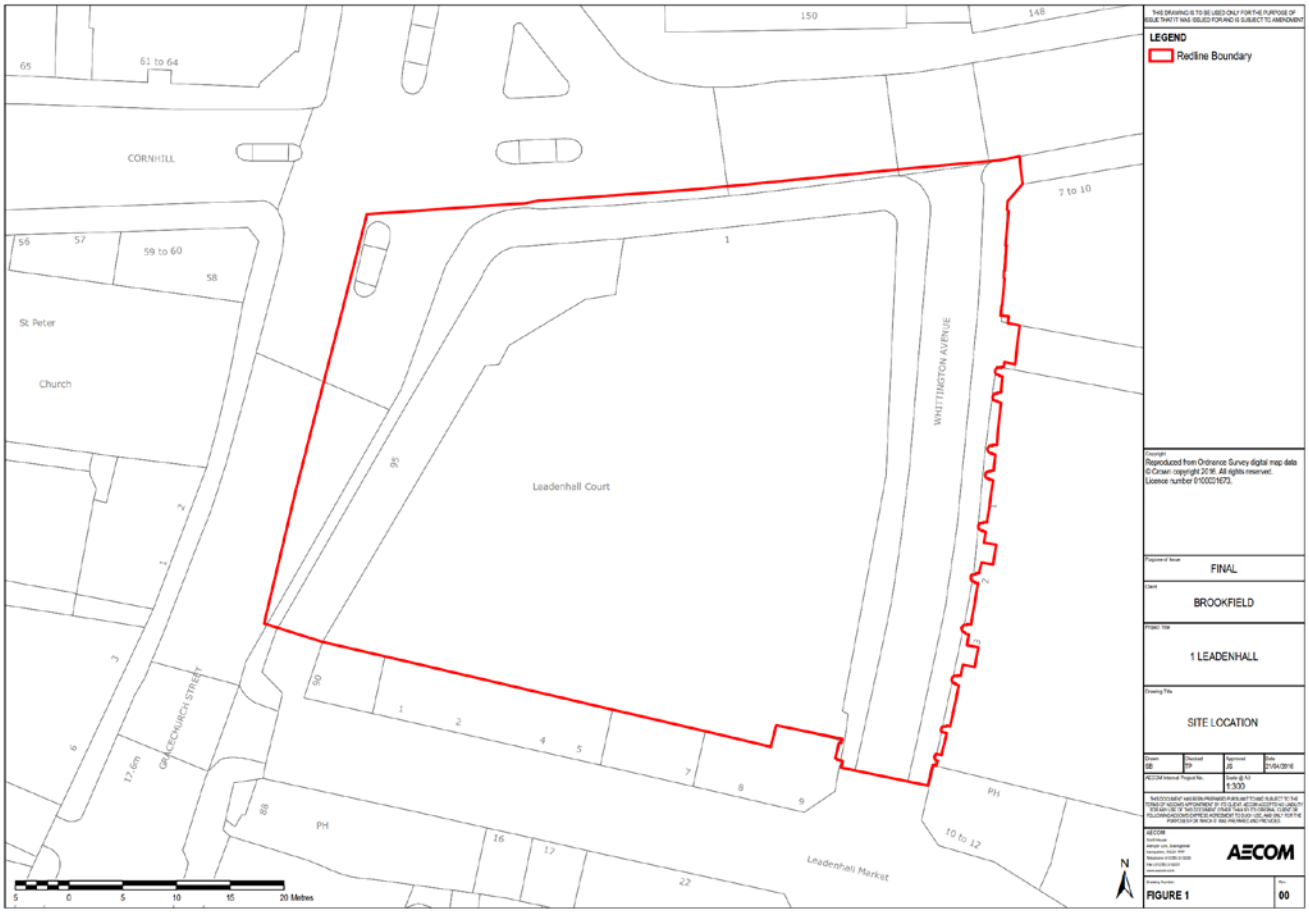
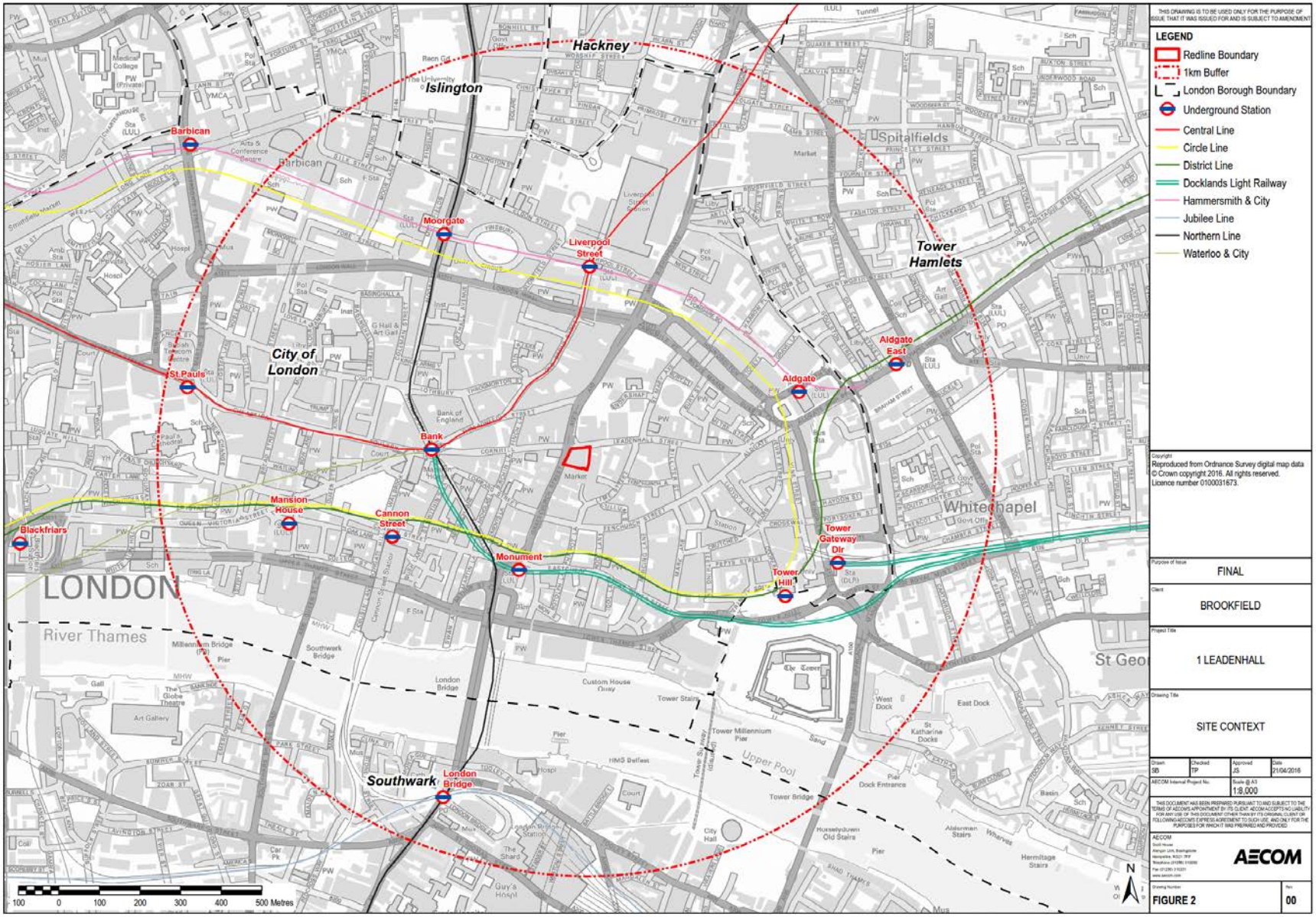


Figure 2: Site Context



The Purpose of Scoping in the EIA Process

EIA Scoping forms one of the first stages of the EIA process. It refers to the activity of identifying the environmental 'topics' that should be considered within the EIA. In addition, EIA Scoping allows for the early identification of the receptors that may be affected or impacted by a new development. Through consideration of environmental 'topics' and potential receptors (both existing and introduced as a result of a new development), EIA Scoping initiates the process of defining the potential for significant effects, which in turn results in the identification of the issues to be addressed in the EIA.

Regulation 13 of the 2011 EIA Regulations allows for an Applicant to ask the Local Planning Authority, in this case the CoL (who in turn seek the opinion of other relevant Statutory Consultees), to state in writing their opinion as to the scope of the EIA. This report constitutes a request for a Scoping Opinion under Regulation 13 of the 2011 EIA Regulations.

Structure of the Scoping Report

The remainder of the Scoping Report presents the following:

- An overview of the existing site and potential sensitive receptors;
- An overview of the Proposed Development;
- Key legislative and planning policy documents;
- A preliminary list of EIA consultees;
- The environmental 'topics' to be addressed within the EIA;
- The environmental topics to be 'scoped out' of the ES;
- The proposed structure of the ES; and
- Summary and conclusions to the EIA Scoping Report.

The Existing Site and Sensitive Receptors

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Overview of the Existing Site and the Proposed Development

Site Description and Context

The site, which occupies an area of approximately 0.23 ha, is located in the CoL and is bounded by Leadenhall Street to the north, Whittington Avenue to the east, Leadenhall Market to the south, and Gracechurch Street to the west.

The site context is characterised by buildings of various heights, styles and periods. Of particular note is Leadenhall Market, which is a Grade II* Listed building abutting the southern boundary of the site. There are also a collection of other notable buildings within the vicinity, including 122 Leadenhall (the Leadenhall Building), Richard Rogers Lloyds of London building in Leadenhall Street (listed Grade I), Church of St Peter (listed Grade I), and a number of Grade II listed buildings on Leadenhall Street, Gracechurch Street, Cornhill and Bishopsgate.

The site is not in a conservation area. However, the Leadenhall Market Conservation Area is located immediately south of the site and the Bank Conservation Area is located to the west. Other Conservation Areas located within approximately 200m of the site include The St Helen's Place Conservation area, located to the north, and the Eastcheap Conservation Area located to the south. The London View Management Framework (LVMF) Supplementary Planning Guidance (March 2012) includes a number of protected vistas which may impact the site and the wider City Fringe Area. The Proposed Development will also impact on a number of assessment points in the LVMF.

The application site has excellent transport links, with a Public Transport Accessibility Level (PTAL) 6b. It is located within less than ten minutes walking distance of Liverpool Street Mainline and London Underground Limited (LUL) Stations, Fenchurch Street Mainline Station, Canon Street Mainline Station, Aldgate LUL Station, Monument LUL Station, and Bank LUL Station. These stations offer the site connection to the Central Line, Metropolitan Line, Circle Line, District Line, Docklands Light Railway (DLR), Northern Line, Waterloo and City Line, and Hammersmith and City Line, as well as National Rail services. Numerous bus services operate from Leadenhall Street, Gracechurch Street, Cornhill, Bishopsgate and Liverpool Street Station.

The site is located within Flood Zone 1 (land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%)) and hence it has a low probability of flooding, however according to the CoL Strategic Flood Risk Assessment (SFRA) (2012) the site falls within a Critical Drainage Area (CDA).

The entire CoL has been designated an Air Quality Management Area (AQMA) due to exceedances of the national Air Quality Strategy objectives for nitrogen dioxide (NO_2) (hourly and annual mean) and for particulate matter (PM_{10}) (24-hour objective value).

Potential Environmental Sensitivities / Sensitive Receptors

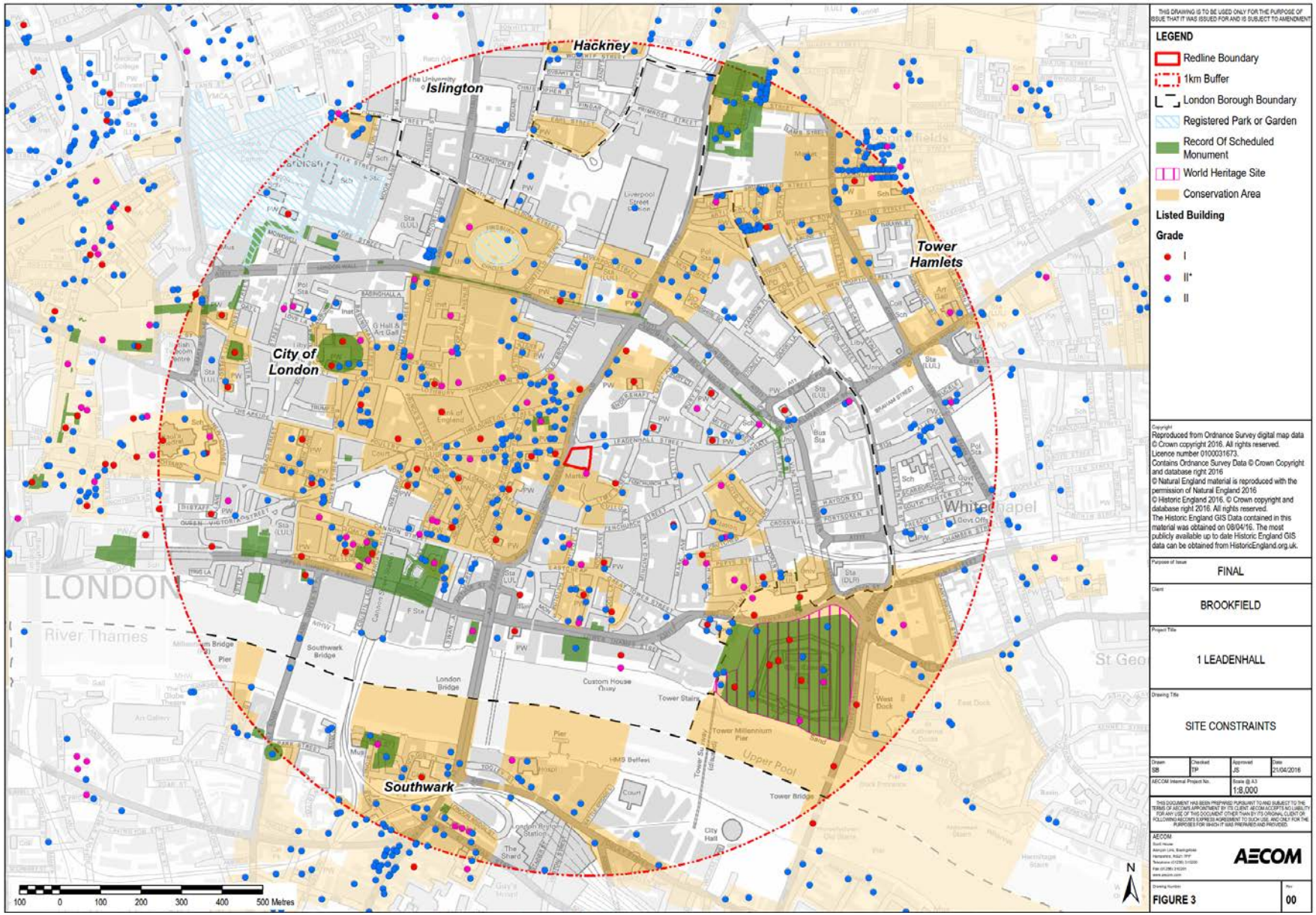
When undertaking an EIA it is important to understand which receptors will be considered as part of the assessment. Initial studies and consultations have revealed the following potential sensitive receptors to the Proposed Development (as shown in Figure 3):

- Key short, medium and long-distance views (as identified within the London View Management Framework (2012));
- Tower of London World Heritage Site and St Paul's Cathedral (listed Grade I);
- Scheduled Monuments including: Merchant Taylor's Hall, Roman Walls in the basements of 90 Gracechurch Street and Goring Street, and Roman Wall, Bastions and City Gate of Aldgate from 17 Bevis Mark to India Street;
- Listed buildings within a 200m radius of the site, including:
    - Grade I listed buildings: Church of St Peter, Church of St Andrew Undershaft, Church of St Michael Westminster Bank, Guild Church of St Ethelburga the virgin, the Church of St Helen and the Lloyds of London Building;
    - Grade II* listed buildings: Leadenhall Market, City of London Club, 51-53 Threadneedle Street EC2, and Merchant Taylor's Hall.

  - Grade II listed buildings: 3-7 Lime Street, Lloyd's Building, 139 – 144 Leadenhall Street EC3, 147 and 148 Leadenhall Street, 13-17 Old Broad Street EC2, 123 Old Broad Street EC2, 54 and 55 Cornhill EC2, 65 Cornhill EC2, 7 and 9 Bishopsgate EC2, 2 White Lion Court EC3, Gateway to yard of Church of St Peter, Midland Bank, 32 Threadneedle Street EC2, Gateway and Railways to forecourt of number 40, 41 Threadneedle Street EC2, 28 and 29, Threadneedle Street EC2, Gates at rear of number 40 leading to pathway at rear of City of London Club, 43 – 47 Threadneedle Street EC2, Police Public Callbox, corner of Old Broad Street and Adams Court, Royal Bank of Scotland, 46 Bishopsgate EC2, 66 and 67 Cornhill EC3, 39 Cornhill, 48 Cornhill, 50 Cornhill, 40 Threadneedle Street – EC2, 34 Threadneedle Street EC2, Iron gates and railings to entrance of Church of St Andrews Undershaft, 40 St Mary Axe EC3, British Linen Bank, 48 Bishopsgate EC2, Australia and New Zealand Banking Group, Barclays Bank 7-9 Gracechurch Street, 81 and 82 Gracechurch Street 18 Old Broad Street EC2, Credit Lyonnais, 39 and 40 Lombard Street Number 50 and attached grilles, Lloyds Bank, 26 Throgmorton Street EC2, Gates leading to number 40 from Adams Court, 52 – 68 Bishopsgate EC2;

- Conservation Areas within 500m, including: Leadenhall Market Conservation Area, Bank Conservation Area, St Helen's Place, Eastcheap; Lloyd's Avenue. Fenchurch Street Station, Trinity Square, Laurence Poutney Hill, Guildhall, Finsbury Circus, New Broad Street, and Bishopsgate.
- Pedestrians, cyclists and road users within proximity of the site;
- Public transport including Liverpool Street, Fenchurch Street, Canon Street, Monument, Bank, Moorgate and Aldgate LUL stations and the local bus network.
- Surrounding arterial road network including the A10 Bishopsgate, A1211 and A1213;
- Local Schools, including; Sir John Cass's Foundation Primary School, English Martyrs Roman Catholic Primary School and East End Community School;
- Any residential properties within the local area;
- On-site receptors including commercial outlets;
- Local businesses along Leadenhall Street, Gracechurch Street, Lime Street Passage, Whittington Avenue, within Leadenhall Market, and in the surrounding area;
- Other identified local services, including for example doctors surgeries, dentist surgeries, libraries, child care facilities, citizen advice bureaus, local amenities/shops and convenience stores;
- Subsurface utilities and services; and
- Potential buried heritage assets beneath the site.

Figure 3: Site Constraints



The Proposed Development

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The Proposed Development

Planning History

Table 1 outlines the panning history for the existing site.

Table 1: Planning history of site

App no	Details	Date of decision	Status
11/00236/ADVT	Retention of three fascia signs measuring 4.785m, 4.79m and 2.4m in width respectively, 0.61m in height and 0.1m in depth at a height of 2.75m above ground with internally illuminated lettering and logo; one projecting sign measuring 0.6m (h) by 0.6m (w) at a height of 2.75m above ground with internally illuminated lettering and logo.	26 May 2011	Approved
09/00701/ADVT Retail Unit C	Installation of (i) One set of non-illuminated individual letters at fascia level measuring 0.45m high by 1.66m wide and 2.62m above ground level (ii) One non-illuminated projecting sign measuring 0.60m high by 0.90m wide and 3.25m above ground level.	26 Nov 2009	Approved
08/00485/FULL	Replacement of existing external entrance doors to the building with two new revolving doors and one pair of automatic doors.	11 Sep 2008	Approved
05/00976/ADVT Retail Unit D	Installation and display of: (i) one internally illuminated fascia sign 0.65m high by 2m wide and 2.63m above ground level and (ii) one non-illuminated projecting sign 0.6m high by 0.6m wide and 2.63m above ground level.	19 Jan 2006	Approved
4901AB	Installation of an equipment cabin and associated screening at roof level	08 May 2003	Approved
4901Z	Retention of alterations to existing shop front and entrance.	16 Jan 2003	Approved
4901AA Retail Unit C	Illuminated fascia and projecting signs		Withdrawn
4901W	Determination under Part 24 of Schedule 2 of the Town and Country Planning (General Permitted Development) (Amendment) (England) Order 2001 that prior approval is not required for the installation of rooftop mounted six cross-polar antenna, four 600mm dish antenna, one equipment cabin and development ancillary thereto	14 Nov 2002	Prior Approval Not Required
4901U	Installation of condenser units, at 6th floor roof level.	26 Oct 2001	Approved
4901T	Determination under Part 24 of Schedule 2 of the Town & Country (General Development) Order 1995 as to whether prior approval is required for the installation of x1 telephone kiosk		Withdrawn
4901S	Installation of one air-cooled water chiller and two air- cooled condensers on roof	14 Feb 1997	Approved
4901R	Installation of a satellite dish on roof	20 Dec 1996	Approved
4901Q	Retention of a louvred turret plant housing under Section 63 of the Town & Country Planning Act 1990 without complying with conditions 1 & 2 of planning permission 4901N dated 16th February 1990 (omitting the louvred screen approved on 16th February 1990).	07 Dec 1990	Approved
4901P	Installation and display of a non-illuminated bronze finished curved open canopy with blue infill & engraved letters and logos measuring 500mm (1'8") high 4000mm (13'1") long projecting 1800mm (5'10") from the building at a height of 4700mm (15'5") above ground level and two bronze logos measuring 750mm (2'6") by 750mm (2'6") on the two centre columns 4700mm (15'5") above ground level.	21 Dec 1989	Approved
4901N	Retention and completion of louvre housing to plant at roof	16 Feb 1990	Approved

App no	Details	Date of decision	Status
	level.		
4901M	Installation and display of: (1) five illuminated signs each comprising individual lettering measuring 300mm (1'0") high by 4000mm (13'2") wide situated at a height above ground of 3000mm (9'10"); (2) one illuminated sign comprising individual lettering measuring 300mm (1'0") high by 900mm (2'11") wide situated at a height above ground of 3000mm (9'10") and (3) three non-illuminated projecting signs measuring 610mm (2'0") high by 652mm (2'3") wide situated at a height above ground of 2800mm (9'2").	20 Oct 1989	Approved
4901L	Alterations to existing shop fronts fronting Gracechurch/Leadenhall Streets and Whittington Avenue.	29 Sep 1989	Approved
4901K/A	Installation and display of a bronze finish curved open canopy with bronze faced fascia (with engraving) matt black finish 500mm (1'8") high 14m (45'11") long projecting 1.5m (4'11") from the building at a height of 4.7m (15'5") above ground.	24 Oct 1989	Refused
4901J	New entrance to Whittington Avenue alterations to entrance doors to loading bay and installation of air handling equipment on the roof.	29 Sep 1989	Approved
4901K	Installation and display of three flags at roof level.	24 Oct 1989	Approved
4901H	One illuminated signboard measuring 3.66m (12'0") high by 3.05m (10'0") wide at a height of 6.10m (20'0") above ground.	18 Nov 1988	Approved
4901G	Installation and display of non-illuminated letting board at Leadenhall Court, Leadenhall Street	27 Nov 1987	Approved
4901F	Illuminated sign and three non-illuminated signs at Leadenhall Court, Leadenhall Street	05 Sep 1986	Approved
4901	Redevelopment in 2 phases: Basement & grd. flrs. - retail premises, banking & storage, together with offices on upper floors at site bounded by Leadenhall Street, Gracechurch Street, Whittington Avenue & Leadenhall Market (i.e. 4/12 Whittington Avenue, 91/100 Gracechurch Street, 1/2 Metal Exchange Buildings, Leadenhall Avenue & 1/6 Leadenhall Street)	03 Nov 1983	Approved

The Proposed Development

The Proposed Development incorporates the demolition of the existing building and construction of a 33 storey building for office use (Class B1) with retail floorspace (Class A1-A4), office lobby and loading bay at ground floor, 2 levels of retail floorspace (Class A1-A3) at first and second floors, a publicly accessible terrace at second floor, 3 levels of plant at the top floors and ancillary basement cycle parking, cycle facilities and plant.

The maximum height of the Proposed Development is approximately 170 m Above Ordnance Datum (AOD), subject to further consultations with the relevant bodies, and will provide approximately 37,100 m^2 Gross External Area (GEA) of Office space (B1) and approximately 2,800 m^2 GEA of retail (A1-A4).

The basement levels will be considered to be 'car free' with no provision for general car or motor cycle parking spaces, although allocation will be made for disabled parking. In line with the London Plan requirements bicycle parking spaces, a bicycle maintenance area, four accessible spaces and two bicycle lifts will be provided at Basement Level 01M, with shower and changing facilities provided at Basement Level 01.

The Proposed Development will be accessible from Gracechurch Street, Leadenhall Street and Whittington Avenue, with servicing access also provided from Whittington Avenue, as per existing servicing access.

Key Legislative and Planning Policy Documents

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Key Legislative and Planning Policy Documents

EIA Statutory Requirements and Guidance

The ES will be prepared in accordance with legislative requirements and current guidance for EIA, covered by 'statutory requirements'. In particular, the ES will be prepared with due consideration to:

- EU Directive (85/337/EEC as amended 1997, 2003, 2009 codified in Directive 2011/92/EU) on Environmental Impact Assessments;
- The Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (amended 2015);
- Department for Communities and Local Government (DCLG), 2014, Planning Practice Guidance, Environmental Impact Assessment; and
- Institute of Environmental Management and Assessment (IEMA) Guidelines for Environmental Impact Assessment, 2004 (amended 2006).

Consideration will also be given to the new EU Environmental Impact Assessment (EIA) Directive (2014/52/EU) although this is currently awaiting formal adoption in the United Kingdom (England and Wales).

Planning Policy Context

Each of the technical chapters contained within the ES will include reference to relevant national, regional and local planning policy, a summary of which is given below.

National Planning Policy

The ES will have regard to the National Planning Policy Framework (NPPF) (2012), which replaces the previous suite of national Planning Policy Statements (PPS) and Planning Policy Guidance (PPG) documents.

The policies contained within the NPPF articulate the Government's vision of sustainable development, which should be interpreted and applied locally to meet local aspirations.

The EIA will also take into account the National Planning Practice Guidance (NPPG) and the following guidance from Historic England:

- Good Practice Advice in Planning Note: The Setting of Heritage Assets (2015);
- Guidance on Tall Buildings (2007); and
- Seeing the History in the View (2011).

Regional Planning Policy

- London Plan (2015);
- London View Management Framework Supplementary Planning Guidance (SPG) (2012);
- Sustainable Design and Construction SPG (2014);
- Housing SPG (2012);
- Shaping Neighbourhoods: Play and Informal Recreation SPG (2012);
- Accessible London: Achieving an Inclusive Environment SPG (2004);
- Shaping Neighbourhoods: Character and Context (2014); and
- Regional Flood Risk Appraisal for the London Plan (2009).

Local Planning Policy

- City of London Plan (2015);
- City of London, Protected Views Supplementary Planning Documents (2012); and
- Tower of London World Heritage Site Management Plan.

EIA Consultation

05

EIA Consultation

The process of consultation is important to the development of a comprehensive and balanced ES. Views of the interested parties serve to focus the environmental studies and to identify specific issues that require further investigation.

Consultees involved in the process of scoping the assessments of environmental effects will include, but are not limited to:

- City of London Corporation (CoL);
- Westminster City Council (WCC);
- London Borough of Southwark (LBS);
- London Borough of Tower Hamlets (LBTH);
- London Borough of Hackney (LBH);
- London Borough of Islington (LBI);
- London Borough of Camden (LBC);
- Greater London Authority (GLA);
- Transport for London (TfL);
- Environment Agency (EA);
- Transport for London (TfL);
- Historic England (HE);
- Historic Royal Palaces (HRP);
- The Royal Parks (TRP);
- The Chapter of St Paul's Cathedral;
- Natural England (NE);
- Thames Water Utilities Limited (TWUL);
- London City Airport (LCY);
- Civil Aviation Authority (CAA);
- London Heathrow Airport (LHR); and
- Neighbourhood/residents associations.

A public exhibition will also be held allowing local residents and stakeholders to comment on the design proposals for the Proposed Development.

Consultation is an ongoing process and will be fed back into the design of the Proposed Development. A summary of the key consultation responses received from consultees which are relevant to the EIA process will be included within the ES.

Environmental Topics to be Addressed within the EIA

06

Environmental Topics to be Addressed within the EIA

Introduction

The EIA and associated technical studies will reflect current guidelines and relevant legislation and will be carried out in accordance with statutory guidance, including the requirements for the contents of an ES. For the EIA to be an effective decision-making tool, the ES needs to focus on the main or *likely significant environmental effects*, within a range of topics. These issues have been identified through a review of existing information, baseline studies and preliminary review of the emerging Proposed Development.

The EIA will consider the potential significant effects associated with the following environmental 'topics':

- Socio-economics;
- Transport;
- Air Quality;
- Noise and Vibration;
- Ground Conditions;
- Water Resources, Drainage and Flood Risk;
- Wind Microclimate;
- Daylight, Sunlight, Overshadowing and Solar Glare; and
- Townscape, Heritage and Visual Impact Assessment.

The following sub-sections of this Scoping Report provide details on each of the above environmental 'topics', specifically, the works proposed to fulfil the requirements of the EIA process. In addition to the above, the following chapters will be provided as part of the ES:

- Introduction to the Environmental Statement;
- EIA Methodology (see below for further details);
- Alternatives and Design Evolution (including the 'Do Nothing Scenario', 'Alternative Sites' and 'Alternative Designs');
- The Proposed Development (including information on utilities and infrastructure, ecological enhancement, energy and sustainability);
- Demolition and Construction;
- Effect Interactions and Cumulative Effects; and
- Residual Effects and Conclusions.

Methodology

This section outlines the methodology to be used throughout the ES.

The EIA will address the direct effects of the Proposed Development in addition to the indirect, cumulative, short, medium and long term, permanent, temporary, beneficial and adverse likely significant effects arising from the Proposed Development. The main mitigation measures envisaged in order to avoid, reduce or remedy significant adverse effects will be described. The concluding chapters will provide a summary of the cumulative and residual effects of the Proposed Development.

Each technical chapter of the ES will define the baseline against which the potential significant environmental effects of the Proposed Development will be assessed. The baseline conditions will be taken as the current (2016) conditions on-site i.e. the existing buildings. Where relevant and appropriate, a 'future baseline' scenario will be identified for some ES topics, such as Transport. The transport future baseline considers the conditions when the full Proposed Development is expected to open and may consider other

developments and any highway improvements that are considered to have an impact on the study area. For other topics, such as daylight and sunlight, the future baseline will include any consented neighbouring schemes that are currently under construction at the time of planning submission. Any reference to a future baseline will be fully explained within the relevant ES chapter.

Following on from the definition of the baseline conditions, the impact of the Proposed Development will be assessed during the demolition and construction phase and on completion and occupation of the Proposed Development. Effects termed as 'moderate' or 'major' are considered to be significant.

Mitigation measures will be identified to either, eliminate, mitigate, or reduce adverse effects and following the incorporation of mitigation measures, the significance of any remaining residual effects will be defined by applying a standard set of significance criteria. Interactions between effects and cumulative effects will then be assessed (see below for further details).

In summary, each technical chapter will:

- Define baseline conditions (the existing site);
- Assess the likely effects of the Proposed Development; and
- Assess the likely effects of the Proposed Development in addition to a number of other schemes considered as having the potential to give rise to cumulative effects.

Significance Criteria

For each technical chapter, the significance of effects will be evaluated with reference to definitive standards, accepted criteria and legislation where available. Where it has not been possible to quantify effects, qualitative assessments will be carried out, based on expert opinion and professional judgement. Where uncertainty exists, this will be noted in the relevant chapter of the ES.

Specific significance criteria for each technical discipline will be developed, giving due regard to the following:

- Extent and magnitude of the impact;
- Effect duration (whether short, medium or long-term);
- Effect nature (whether direct, indirect, reversible or irreversible);
- Whether the effect occurs in isolation, is cumulative or interactive;
- Performance against any relevant environmental quality standards;
- Sensitivity of the receptor; and
- Compatibility with environmental policies.

In order to provide a consistent approach across the different technical disciplines addressed within the ES, the following terminology will be used throughout the ES to define residual effects (i.e. the effect post the application of any required additional mitigation measures):

- Adverse – Detrimental or negative effects to an environmental resource or receptor;
- Negligible – Imperceptible effects to an environmental resource or receptor; or
- Beneficial – Advantageous or positive effect to an environmental resource or receptor.

Where adverse or beneficial effects are identified, these will be assessed against the following scale:

- Minor;
- Moderate; or
- Major.

In general, residual effects found to be 'moderate' or 'major' are deemed to be 'significant'. Effects found to be 'minor' are considered to be 'not significant', although they may be a matter of local concern. 'Negligible'

effects are considered to be 'not significant' and not a matter of local concern. Each technical chapter of the ES will provide further explanation and definition on the scale of effect significance, i.e. minor through to major.

Short to long-term (temporary) effects will be considered to be those associated with the demolition and construction phase and permanent effects will be those associated with the completed operational Proposed Development. Local effects will be defined as those affecting the site and neighbouring receptors, whilst effects upon receptors in the CoL will be considered to be at a district level. Effects affecting the Greater London area will be considered to be at a regional level, whilst effects, which affect different parts of the country, or England as a whole, will be considered to be at a national level.

Mitigation measures will then be identified to either eliminate or reduce adverse effects. These will be incorporated into either the design of the Proposed Development; demolition and construction commitments or operational or managerial standards/procedures. Where mitigation measures are inherent (e.g. industry standard best practice) this will be outlined up front in the ES chapter and included within the assessment of effects.

Alternatives Assessment

The EIA process provides an opportunity to consider alternative development options with their respective environmental effects before a final decision is taken on the design. In accordance with the EIA Regulations and statutory guidance, the ES will describe those alternatives that were considered by the Applicant, project team and architects, including:

- 'Do nothing scenario' – the consequences of no redevelopment taking place on the site;
- 'Alternative designs' – the ES will summarise the evolution of the design of the Proposed Development; the modifications which have taken place to date and the environmental considerations which have led to those modifications. A summary of the main alternatives considered, such as alternative use combinations, floor heights, massing, and materials used will be presented together with a justification for the final design.

Regarding the consideration of 'alternative sites', the site is considered to be an appropriate and suitable site for the construction of an office led scheme. The Proposed Development has therefore been designed as a direct response to the specific site's potential and no alternative sites have been considered for the Proposed Development.

Cumulative Effect Assessment

In accordance with the EIA Regulations, the EIA will give consideration to 'cumulative effects'. By definition these are effects that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the Proposed Development. For the cumulative assessment, two types of effect will be considered:

- The combined effect of individual impacts, for example noise, airborne dust or traffic on a single receptor (effect interactions); and
- The combined effects of nearby committed development schemes, which may, on an individual basis be insignificant but, cumulatively have a likely significant effect.

Schemes that will be considered within the cumulative assessment comprise:

- Those with planning permission (or with a resolution to grant consent) and those under construction;
- Located within an approximate 1km radius of the site; and
- Result in an increase of more than 10,000m^2 GEA in floor area (for retail and commercial schemes) and / or residential schemes providing over 150 units (unless smaller schemes are considered to have significant effects despite a lower floorspace or number of units).

Table 2 sets out the provisional list of schemes to be considered within the cumulative effect assessment. The locations of these cumulative schemes are illustrated on Figure 4.

Table 2: Cumulative Schemes to be included within ES Volume I

No	Address	Application Number	Description	Status
1	Royal Mint Street	PA/11/00642	Redevelopment of site for a mixed-use development comprising the erection of two buildings of between 3 and 15 storeys, providing 354 residential units (Use Class C3), a 236 room hotel together with 33 serviced apartments (Use Class C1), flexible retail/financial services / restaurant / café / drinking establishment / health clinic / business space (1172m^2) (Use Classes A1, A2, A3, A4, D1 and B1), restaurant, bar, gallery, leisure (731m^2) (Use Class A3/A4/D1/D2), community uses including sports and training facilities, neighbourhood police base and office space within the railway arches (1,014m^2) (Use Class D1/D2/B1), creation of new public open space, alterations to the existing highway, and new pedestrian link, together with associated works including landscaping, providing of parking, servicing and plant area.	Consented
2	Former Goodmans Fields – Land North of Hooper Street	PA/11/03587	Hybrid planning application for residential-led mixed-use redevelopment of the site comprising: 1) Outline Application - All matters reserved (except for access) Development of North East (NE) and South East (SE) quadrants of the site to provide: Podium blocks of between 7-10 storeys (max 46.075m AOD) with two towers on each podium block of between 19-23 storeys (max 85.425m AOD) and dwellings fronting Gower's Walk; Up to 700 residential units (Use Class C3); Up to 5,265m^2 (GEA) of flexible commercial and leisure floor space (Use Classes A1 - A5, B1a, D1 and D2) at ground floor level including a health centre (up to 1,626m^2 GEA); Associated vehicular, pedestrian and cycle access; At least 8,230m^2 of Public Open Space; and Related infrastructure and engineering works. 2) Full details Development of the North West (NW) quadrant of the site to provide: Podium block between 6-10 storeys (max 46.075 AOD) and two towers up to 19 Storeys (max 76.17m AOD) and 21 storeys (max 85.4m AOD); 250 bedroom hotel (Use Class C1) including a restaurant (Use Class C3) at ground to sixth floor level; 164 residential units (Use Class C3); 857m^2 (GEA) ancillary gym and swimming pool at ground and first floor level for residents use; 1,758m^2 (GEA) flexible commercial / leisure floorspace (Use Class A1 - A5, B1a and D2) at ground floor level; 18,447m^2 (GEA) basement level across the site to provide 253 car parking spaces, 35 motor cycle spaces, 50 electric car charge points, 1388 cycle parking spaces and ancillary facilities for storage, management facilities and plant; Public Open Space to form part of the wider outline public open space strategy; and Associated access, landscaping, surface car parking and cycle parking and related infrastructure and engineering works.	Under Construction
3	15-17 Leman Street	PA/11/03693	Redevelopment of site comprising the construction of a 23 storey, 251 bedroom hotel (GEA 10,836m^2, Class C1) including ancillary cafe, bar and restaurant (Class A3/A4) with associated servicing and access.	Consented

No	Address	Application Number	Description	Status
4	Aldgate Place	PA/13/00218	Demolition of existing buildings and creation of a mixed use development, comprising three towers of 22, 25 and 26 storeys and a series of lower buildings ranging from 6 to 9 storeys. Provision of 463 private and affordable residential dwellings (use class C3), together with office (use class B1), hotel (use class C1), retail including restaurants, cafes and drinking establishments (use classes A1-A4) and leisure (use class D2) uses; creation of new pedestrianized street, public open spaces, children's play spaces and associated car and cycle parking together with associated highways works and landscaping.	Consented
5	27 Commercial Road	PA/13/02338	Demolition of existing buildings and creation of a development, of a 19/21 storey hotel, comprising 269 bedrooms and associated bar and restaurant facilities, with one disabled parking space (on site), 24 cycle parking spaces at basement and ground level and a service/drop off bay off Whitechurch Lane.	Consented
6	Tower House, Trinity Square	PA/11/00163	Erection of a 9-storey building with basement, comprising a 370-room hotel (Use Class C1) with associated ancillary hotel facilities including cafe (Use Class A3), bar (Use Class A4) and meeting rooms (Use Class B1) with plant and storage at basement and roof level. The application also proposes the formation of a pedestrian walkway alongside the section of Roman Wall to the east of the site; the creation of a lift overrun to facilitate a lift shaft from ticket hall level to platform level within the adjacent London Underground station and associated step free access works; works of hard and soft landscaping; and other works incidental to the application.	Under Construction
7	Holland Estate	PA/08/02347	Refurbishment of the retained existing dwellings on Holland Estate, the replacement of 43 dwellings, (13 x one bed flats, 9 x two bed flats, 18 x three bed flats and 3 x four bed flats) totalling 143 habitable rooms within Ladbroke House, Bradbury House, Evershed House and Denning point; the erection of 209 new residential units containing studio, 1, 2, 3, 4 and 5 bedrooms, provision of a new community centre (use class D1) of 644m^2 and a new Eastend Homes local housing office and head office of 1,078m^2 (use class B1) and 6 new retail units providing some 1,490m^2 comprising use classes A1, A2 and A3 and the introduction of an Estate wide landscaping scheme.	Under Construction
8	111-120 Whitechapel High Street	PA/05/00229	Erection of a building comprising basement plus 23 storey building (with roof terrace) providing (i) parking, plant and 755m² of Class A1, A2 or A3 (retail, office and food and drink) uses at basement level; (ii) 1,367m² of either Class A1, A2, A3, D2 (retail, food and drink, and leisure) uses on the ground floor; (iii) 1,609m² of either Class A1, A2, A3, B1, D1 (retail, food and drink, offices or leisure (D2) uses on the first floor; (iv) 8,430m² of offices (Class B1) on the 2nd to 6th floors; and (v) 217 residential units on the 7th to 22nd floors, together alterations to the entrance of the Aldgate Station Underground Station - Amendment to scheme approved in September 2002 (Ref: PA/02/0074).	Under Construction
9	4-6 and 16-22 Middlesex Street	PA/05/00471	Redevelopment to provide a mixed use development comprising a 17 storey office building rising to a maximum height of 76m (and providing 41,361m^2 office floorspace), 8 storey hotel plus plant room; building (providing 207 guest rooms, and comprising 15, 002m^2 floorspace), together with 872m^2 of Class A1-A4 use (retail) floorspace, and ancillary car parking, servicing, landscaping and new vehicular access.	Under Construction

No	Address	Application Number	Description	Status
10	61-75 Alie Street	PA/07/01201	Demolition of existing buildings and erection of two buildings of 7 and 28 storeys to provide 235 residential units, A1/A3 (retail/restaurant/cafe) floor space and B1(business), formation of associated car and cycle parking and highway access, hard and soft landscaping and other works associated to the redevelopment of the site. The application is supported by an Environmental Impact Assessment (EIA).	Under Construction
11	Royal Mint Street Block A	PA/15/02773	Erection of a part 11 and part 12 storey building, consisting of the provision of 196 residential units on the first to eleventh floors, 796sqm of retail floor space on the ground floor and 2341sqm of commercial floor space based on the first and second floors. Creation of new public open space, new pedestrian link and new access to DLR (Tower Gateway station), including associated landscaping works, parking provision, secured cycle storage areas, refuse and servicing and plant areas.	Submitted
12	Blossom Street	PA/14/3548 (PA/10/02764)	Redevelopment of the former Nicholls and Clarke urban block and adjoining former depot site, Loom Court and land and buildings north of Fleur de Lis Passage and Fleur de Lis Street, including retention and refurbishment of buildings, for commercially led mixed use purposes comprising buildings of between 4 and 14 storeys to provide B1 (office), A1 (retail), A3 (restaurants and cafés), A4 (public house) and 40 residential units; together with new public open spaces and landscaping, new pedestrian accesses, works to the public highway and public realm, the provision of off-street parking, and all necessary ancillary and enabling works, plant and equipment.	Consented
13	Former Beagle House Now Known As Maersk House, Braham Street, London, E1	PA/15/01209 (Previously PA/09/ 011209)	Demolition of all existing structures and erection of a mixed use development comprising flexible retail floorspace (2,010sq.m) at ground level (Use Classes A1-A3), with office (Use class B1) floorspace above (33,459 sq.m (GIA)) contained within a single building of ground floor plus 17 storeys (and an additional two storeys of enclosed plant at roof level and two basement levels) allowing for a maximum height of 88.15m AOD to parapet, and associated public realm landscaping.	Consented
14	51-54 Fenchurch Street	14/00363/FULMAJ	Demolition of existing building and re-development of the site for a new ten storey office (Class B1(a)) building with use of part of the ground floor for provision of 2 units (one unit Class A1/A3 retail and the other unit for Class A1/A3 retail or Class B1(a) offices), roof top and basement M&E plant, provision of waste storage, basement cycle parking, realignment and reprovision of Star Alley and associated highway works and other works incidental to the proposals (6,334m^2).	Consented
15	Emperor House & Roman Wall House	13/00166/FULMAJ	Demolition of existing buildings and redevelopment of the site to provide an office (Class B1) and retail (Class A1/A3/A4) building comprising basement, lower ground, ground and ten upper floors, together with associated works. (25,439m^2 GEA).	Consented
16	76-86 Fenchurch St, 1-7 Northumberland Alley, 1 Carlisle Ave	08/00824/FULMAJ	Demolition of existing buildings and redevelopment of a building ranging from 9 to 15 storeys (plus ground and mezzanine floors) to comprise retail (A1-A3), office (B1) and ancillary space, including 14 car parking spaces, 49 motorcycle spaces and 137 bicycle spaces, with vehicle access from Carlisle Avenue.	Under Construction

No	Address	Application Number	Description	Status
17	15-16 Minories	13/01055/FULMAJ	Demolition of 15 Minories and 62 Aldgate High Street and redevelopment to provide a Class B1 office building with Class A1 retail (18,537m^2). Extension and recladding of 16 Minories and change of use from offices (Class B1) to a hotel (Class C1), Class A3 restaurant and Class D1 (health)/ Class D2 (community) use (17,367m^2). Erection of new residential building (Class C3) providing 87 units (7,829m^2). Relandscaping of open space and public realm improvements.	Consented
18	9-13 Aldgate High Street	13/00590/FULMAJ	Demolition of the existing office building (Class B1) and redevelopment to provide a new hotel (Class C1) comprising 275 bedrooms and ancillary services within a 13 storey building (9734.33m^2 GEA).	Under Construction
19	10 Trinity Square	11/00317/FULMAJ	Alteration, part demolition, extension and change of use from offices (Class B1) to provide a 121 room hotel (Class C1) [31,281m^2 GEA] , 41 residential apartments (Class C3) and ancillary facilities [11,582m^2 GEA]; excavation under Seething Lane Garden to create basements to accommodate function room, plant, parking and servicing arrangements; replacement of Seething Lane Garden with an improved area of public open space together with the construction of two pavilions to provide access to basement levels; and other works incidental to the proposals.	Under Construction
20	100 Minories	12/00263/FULMAJ	Demolition of the existing building on site and erection of an hotel (Class C1 use) consisting of basement levels, ground and eight upper floors together with ancillary restaurant, bar, retail and tourist office facilities. (Total floorspace 18,884m^2 GEA).	Under Construction
21	40 Leadenhall Street	13/01004/FULEIA	Partial demolition and works of refurbishment and reinstatement to 19-21 Billiter Street; demolition of all other buildings on the site; redevelopment to provide a new building comprising two basement levels and ground plus part 10, 14 and 34 storeys plus plant (total height 170m AOD) containing offices (B1) and flexible retail/financial and professional services/cafe and restaurant uses (A1/A2/A3) at ground floor level; food and drink (A3/A4) uses at levels 13 and 14; change of use at ground and first floor of 19-21 Billiter Street to retail/cafe and restaurant/bar use (A1/A3/A4); the provision of hard and soft landscaping; alterations to Fenchurch Buildings and other incidental works. (125,699sq.m GIA).	Consented
22	60-70 St Mary Axe	08/00739/FULEIA	Demolition of all existing buildings and replacement with an office building (90m high) with one retail unit at ground floor level with associated landscaping and public realm enhancement works at street level. Provision of servicing from Goring Street [39,166 sq.m. GEA]	Consented
23	52-54 Lime Street	14/00027/FULMAJ	Application under section 73 of the Town & Country Planning Act 1990 to vary condition 35 of planning permission (application no. 12/00870/FULEIA) dated 11th June 2013 to enable minor material amendments to the approved scheme including alterations to the external envelope, external canopy, basement depth and internal layout. [Revised GEA 60,464sq.m]	Under Construction
24	120 Fenchurch Street	11/00854/FULEIA	Demolition of existing structures on the site and redevelopment to provide a mixed use building of 15 storeys, plus mezzanine, lower ground, two basements and a publicly accessible roof garden, to provide Class B1 office use and Class A retail uses including a restaurant at 14th floor level, together with associated public space and landscaping, motorcycle, car and bicycle parking, servicing and plant accommodation (62,643sq.m).	Under Construction

No	Address	Application Number	Description	Status
25	Mitre Square	13/01082/FULMAJ	Application under Section 73 to vary condition 42 of planning permission 10/00371/FULMAJ dated 27 June 2011, to amend the approved office entrance, servicing location, retail provision and consequential minor changes.	Under Construction
26	Bevis Marks House, 24 Bevis Marks	14/00433/FULMAJ	The demolition of the existing buildings and construction of 2 basement levels and ground plus 16 storey building (89m AOD) comprising office (Class B1) use [35,658sq.m GEA] and retail (Class A1/A3) uses [758sq.m GEA] with associated servicing and plant facilities. [Total 36,416sq.m GEA].	Submitted
27	130 Fenchurch Street	14/00496/FULMAJ	Demolition of the existing building and erection of a new building of two basements, ground and 17 upper storeys comprising office (Class B1) use [40,502sq.m GEA] and flexible retail (Class A1/A3) floorspace [558sq.m GEA] and associated cycle parking, servicing, storage and plant. [Total 41,060sq.m GEA].	Consented
28	River Plate House	12/00811/FULMAJ	Demolition of the existing building with partial retention of the facade to South Place in connection with construction of a 9 storey development. Redevelopment of the site behind the partially retained facade to South Place and erection of a new 9 storey office building (ground floor plus 8 storeys) (Class B1(a)) with alternative use of part ground and part lower ground for either retail (Class A1/A2/A3/A4) or Class D2 (gymnasium) or Class B1(a) (offices), roof top and basement mechanical and electrical (M & E) plant, together with servicing facilities, one disabled car parking space and cycle parking and other associated ancillary works. (Total floorspace: 23,928m^2).	Consented
29	Bloomberg Place	11/00935/FULEIA	Construction of two new buildings comprising floorspace within Classes B1 (office) and A1 (retail) of the use Classes Order; the reconstruction of the remains of the Temple of Mithras and new display space; the provision of a new entrance to Bank Station; the creation of new open space accessible to the public and pedestrian routes; three basement levels; and the provision of ancillary servicing and other incidental works (Total GEA: 110,510m^2).	Under Construction

No	Address	Application Number	Description	Status
30	Principal Place	2011/0698	Full planning permission for the demolition of the rear of 233 Shoreditch High Street, perimeter walls, viaduct structure across Plough Yard and all other structures on the site and the erection of a decking structure and buildings comprising: Building 1: a part 10, part 16 storey building to provide 76,465m^2 (GEA) of office floorspace (Use Class B1) together with 1,471m^2 (GEA) of retail floorspace (Use Class A1-A4) at ground floor level. Building 2: a 50-storey block comprising 243 private residential units (111 x one bed, 121 x two beds and 8 x three beds) together with 242m^2 (GEA) of retail floor space (Use Class A1-A4) at ground floor level. Building 3: a 14-storey block providing 39 intermediate housing units (12 x one bed, 21 x two beds and 6 x three beds) and 116m^2 (GEA) of retail floorspace (Use Class A1-A4) at ground floor. Building 4: a 6-storey block providing 17 affordable rent units (3 x one bed, 6 x two beds, 6 x three beds and 2 x four beds). Building 5: a single storey block linked to buildings 3 and 4 comprising 263m^2 (GEA) of flexible floorspace (Use Class A1-A4/D1/D2/B1). A single storey kiosk comprising 100m^2 (GEA) of retail floorspace (Use Class A1-A4). Together with two separately accessed basements, 51 residential parking spaces (2 blue badge) and 22 other (commercial) car parking spaces (2 blue badge), open space with hard and soft landscaping; retention and creation of new vehicular and pedestrian accesses, servicing areas and roof top plant and all other associated works (Total GEA: 75,186m^2)	Under Construction
31	The Stage Shoreditch	2012/3871	The demolition of buildings and structures; the excavation, preservation, and exhibition of the remains of the Curtain Theatre (D1 Use). The excavation of a basement structure containing A1-A4/B1/C3 uses. The provision of four buildings comprising a 40-storey residential tower with shared A1-A4/B1/C3 back of house uses and retail in A1-A4 use at ground floor; a 9-storey B1 office building with shared A1-A4/B1 back of house uses and flexible A1-A4/B1 uses at ground floor and first floors, and retail in A1-A4 use at ground floor, and associated servicing facilities; a 13-storey B1 office building with shared A1- A4/B1 back of house uses and retail in A1-A4 uses at ground floor, and flexible A1-A4/B1 uses at ground floor; a 2-storey pavilion containing D1/D2 uses. Demolition, alteration, extension and change of use to the railway viaduct to create a range of A1-A4 retail uses at ground and railway bed level along with the laying out of an open space. The laying out of open space on land currently occupied by a service yard and shed adjacent to the railway viaduct that will connect Great Eastern Street and Hewett Street to Plough Yard. The temporary removal and reinstatement of three Grade II listed bollards on Curtain Road. (Total area: 11,200m^2).	Under Construction
32	The Stage - Electricity Sub Station	2012/3873	Demolition of the sub-station and the construction of a 13-storey B1 office building with shared back of house uses and flexible retail/restaurant/bar use at ground floor to be serviced from other land in the ownership and control of the applicant, including basement and also including associated works. The appearance of the proposed building is reserved. The building provides 15,313m^2 of B1 office floorspace; 614m^2 of flexible retail/restaurant/bar floorspace (A1 - A4); and 614m^2 of shared back of house (sui generis).	Resolution to grant

No	Address	Application Number	Description	Status
33	5-29 Sun Street, 1-17 Crown Place 8-16 Earl Street and 54 Wilson Street London EC2M 2PS	2009/2464	Demolition of existing buildings on site (excluding 5-11 Sun Street (bar rear elements) and construction within eastern part of the site of a 2 basement plus part eleven, part twelve, part seventeen, part twenty, part twenty one, part twenty four storey (105m AGL) office building providing 53,279m^2 of use Class B1 and 1,568m^2 of flexible retail/office (Use Class A1, A2, A3, A4 and B1) floor space, plus the refurbishment of 5- 11 Sun Street within the western part of the site and construction of ground plus three storey terrace for a 34 room hotel (2,591m^2 C1 Use Class) and 194m^2 of flexible retail (Use class A1, A2 and A3); together with the provision of vehicular access, and 220 cycle spaces off Earl Street, hard and soft landscaping and enabling works associated with the development.	Consented
34	Goodman's Fields – SE Block	PA/15/01955	Development of the South East block comprising a podium block between 6-12 storeys and three towers of 21 storeys, 22 storeys and 23 storeys to provide 415 residential units (use class C3), 3,398sqm (GEA) of flexible commercial space including a health centre (use class A1, A2, A3, B1A and D1), public open space and associated landscaping, surface car parking, cycle parking and related infrastructure and associated works. Application for variation of condition no. 2 (Approved Plans) of planning permission dated 26/03/2015, ref: PA/14/02817. The submitted plans replace the 3 bed duplex penthouse unit within each of the 3 approved towers with 2x 2-bedroom units. This increases the total number of units from 415 to 418 and the number of habitable rooms from 1111 to 1117.	Consented
35	100 Bishopsgate	11/00332/FULEIA	Erection of three buildings to comprise office (B1), retail (A1-A4), library (D1) and Livery Hall (Sui Generis) uses with associated public space and landscaping, disabled car parking, cycle parking, servicing and plant.	Consented
36	Sugar Quay	12/01104/FULMAJ	Demolition of the existing building and construction of a new building of basement, ground and part 9, part 11 storeys plus plant comprising 165 residential units with associated residential facilities and 658m^2 of retail / cafe and restaurant (A1-A4) use at ground floor, creation of vehicular access point from Lower Thames Street, works of hard and soft landscaping and ancillary works (total area 26,030m^2 GEA).	Consented
37	Seal House	08/01044/FULMAJ	Erection of a single building incorporating 18,339m^2 (GEA) of B1 office uses, 118m^2 (GEA) of A1/A2/A3/A4 retail uses and demolition of elevated pedestrian crossing together with associated parking, servicing and plant (11 storeys 50.65m AOD).	Consented
38	33 King William Street	11/00933/FULMAJ	Demolition of the existing buildings and redevelopment to provide a new office building at basement, lower ground, ground and nine upper floors plus roof plant (29,603.6m^2). Retail (Class A1, A2, A3 or A4) and/or offices (Class B1) uses at ground and lower ground floor levels (751.5m^2 GEA). Discontinuance and removal of the City Walkway to the southern boundary of 33 King William Street on the north side of Upper Thames Street and the bridge over Upper Thames Street.	Consented

No	Address	Application Number	Description	Status
39	11-19 Monument Street	13/00049/FULMAJ	Demolition of existing buildings and erection of a building to comprise office (class B1) and retail (class A1/A3) floorspace with associated cycle parking, servicing, storage and plant. Total area 13,069m^2 GEA.	Consented
40	1 Angel Court	10/00889/FULMAJ	Redevelopment of 33 Throgmorton Street and 1a-1d Angel Court and extensive refurbishment of the 1 Angel Court for office (B1) and retail (A1, A2, A3) and minor alterations to 41 Lothbury. Total area 43,823m^2.	Under Construction
41	5 Broadgate, EC2M 2QS	10/00904/FULEIA	Demolition of 4 and 6 Broadgate and redevelopment to provide a building of two basements, ground, mezzanine and 12 storeys plus roof top plant (maximum height 83.5m AOD) for B1 commercial office purposes (108,213m^2 GEA); the creation of a new pedestrian route from Broadgate Circle to Sun Street Passage; works of hard and soft landscaping to Finsbury Avenue Square, Broadgate Circle, Sun Street and Sun Street Passage; the provision of a revised access on Broad Lane; the provision of car, cycle and motorcycle parking in the basement; works to the exposed flank wall of 8-10 Broadgate; the creation of a new pedestrian route through the base of 3 Broadgate and the provision of plant and other works ancillary to the main building.	Under Construction
42	London Wall Place, EC2	10/00832/FULEIA	Demolition of existing buildings and structures and erection of two buildings comprising an 18 storey west building and 14 storey east building providing 66,839m^2 of office (Class B1) floorspace and 2,075m^2 of retail floorspace (Classes A1/A2/A3). Alterations to City Highwalk at Willoughby Highwalk, removal, realignment and reinstatement of Bassishaw Highwalk across London Wall, alterations to Moorfields Highwalk over Fore Street Avenue, removal, realignment and reinstatement of Alban Highwalk between Wallside/The Postern and Alban Gate and removal of Alban Gate Rotunda at London Wall and Alban Gate. Removal of stair from St Alphage podium level to St Alphage Garden and Salters Garden. Hard and soft landscaping and necessary enabling works, including alterations to and within the public highway.	Under Construction
43	6-8 Bishopsgate	15/00443/FULMAJ	Demolition of existing buildings and redevelopment to provide a new building comprising lower ground and basement levels (including part basement mezzanine), ground and mezzanine levels plus part 8, part 20 and part 40 storeys plus plant [185.1m AOD to provide office (Class B1) use [70,053m^2 GEA], flexible shop/cafe and restaurant (Class A1/ A3) uses [418m^2 GEA] at part ground floor and mezzanine levels and flexible shop/cafe/restaurant/office (A1/ A3/B1) uses [235m^2 GEA] at part ground floor and mezzanine levels; and a publicly accessible roof top pavilion (sui generis) [795m^2 GEA] at level 40; the provision of hard and soft landscaping. [TOTAL 71,501m^2 GEA]	Consented

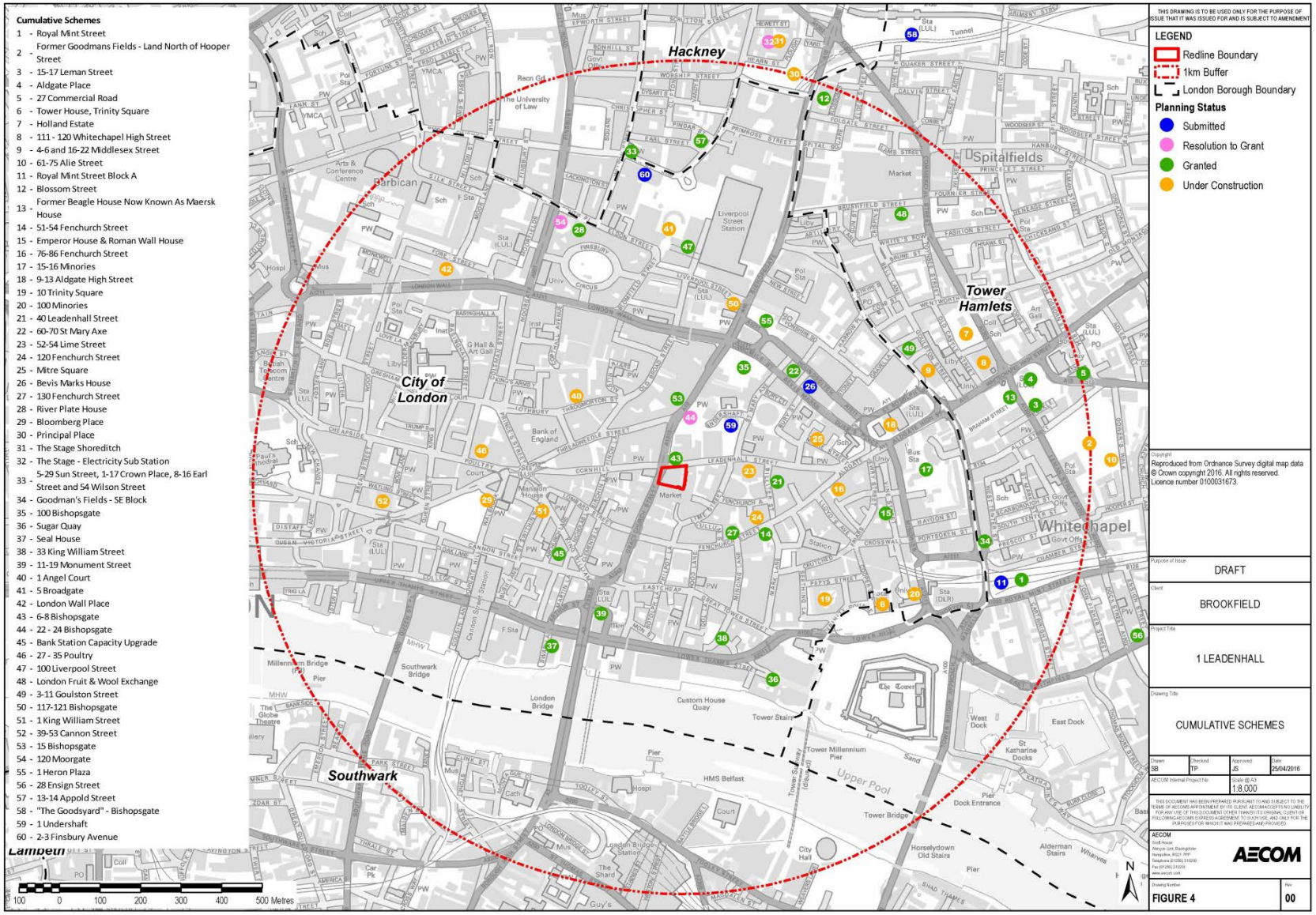
No	Address	Application Number	Description	Status
44	22-24 Bishopsgate	15/00764/FULEIA	Construction of a building arranged on three basement floors, ground and 61 upper floors plus mezzanines and plant comprising floorspace for use within Classes A and B1 of the Use Classes Order and a publicly accessible viewing gallery and facilities (Sui Generis); hard and soft landscaping works; the provision of ancillary servicing and other works incidental to the development. (200,527m^2 GEA)	Resolution to Grant
45	Bank Station Capacity Upgrade	TWAO	The works include a new southbound running tunnel to carry a diversion of the Northern Line together with a new passenger platform at Bank Station to serve the diverted line. The Order also authorises cross passages from the proposed new platform to the existing Northern Line southbound platform (which will become a new underground passenger concourse serving the Northern Line) as well as other works and conveniences to improve passenger access between the Northern Line, Central Line and Docklands Light Railway including new step free passenger access at street level within a proposed new station entrance in Cannon Street.	Consented
46	27 - 35 Poultry London EC2R 8AJ	13/01036/FULMAJ	Refurbishment, partial demolition and extension in association with change of use from bank (Class A2) and office (Class B1) uses to provide a 252 bedroom hotel (Class C1) and restaurants (Class A3) with ancillary hotel uses including bar, health and leisure facilities, event spaces, roof top terraces with a bar/restaurant and swimming pool and associated landscaping, highway works and plant.	Under Construction
47	100 Liverpool Street	14/01285/FULEIA	Refurbishment and extension of the existing building including retention of building's structural frame and construction of new facade and the provision of three additional floors and rooftop plant to provide commercial office (B1) accommodation and flexible commercial floorspace comprising additional office (B1), retail (A1/A2/A3), and leisure (D2) uses at lower ground, ground and first floor levels and flexible office (B1)/restaurant (A3) use at 9th floor level; provision of car and cycle parking; hard and soft landscaping; alterations to facilities associated with the bus station; and the provision of other works ancillary to the main building. (Total 68,303m^2 GEA).	Consented
48	London Fruit and Wool Exchange	PA/11/02220	Demolition of White's Row multi-storey car park, 99-101 Commercial Street (Barclays Bank branch), 54 Brushfield Street (The Gun public house), partial demolition of the London Fruit and Wool Exchange behind the retained Brushfield Street façade, and the erection of a six-storey building with a basement, for business, employment and retail use (Use Classes B1/A1/A2/A3 and A4) with landscaping and associated works, together with a new pavilion building for retail accommodation (Use Class A1)	Consented
49	3-11 Goulston Street	PA/12/02045	Demolition of the existing buildings and erection of a nine storey building to provide a 395 room hotel (Use Class C1), together with the creation of a new pedestrian route and other works incidental to the development.	Consented

No	Address	Application Number	Description	Status
50	117-121 Bishopsgate	09/00192/FULMAJ	Redevelopment behind partial retained facades on Bishopsgate and Liverpool Street to provide retail (A1) use at ground and basement and office (B1) at (part) ground and 1st to 8th floors.	Under Construction
51	1 King William Street	13/00366/FULMAJ	Alterations and recladding of the modern rear part of 1 King William Street, extension of office (B1) floorspace at level 7, additional plant and refurbishment of the existing building. (15,109sq.m)	Under Construction
52	39-53 Cannon Street	13/00339/FULMAJ	Demolition of the existing building and erection of a new 8 storey plus basement building for: (i) office (Class B1) use (11,622sq.m); (ii) retail (Class A1 & A3) use (822sq.m) and a single unit for a flexible use for either Class B1 or A1 purposes (246sq.m) at part ground floor level and basement levels, (iii) provision of a publicly accessible open space, (iv) a relocated subway entrance.	Under Construction
53	15 Bishopsgate	14/01251/FULMAJ	Demolition of existing building and construction of a new building comprising a lower ground, basement, ground and six upper storeys for office use (Class B1) (7579sq.m) with retail (Use Class A1/A2/A3/A4) at part lower ground, basement and ground floor levels (1463sq.m), five retail pavilion units (Use Class A1/A2/A3/A4) (860 sqm), landscaping and associated works. Demolition of upper level city walkways.	Consented
54	120 Moorgate,	11/00231/FULMAJ	Erection of a building to comprise office (Use Class B1 use) and retail (Classes A1 - A3 use) floorspace with associated parking, servicing and plant and retained bank (Class A2) at basement, ground floor and first floor (total GEA 18,457 sq.m, height 56.28 m AOD). This is a revision (received on 21st September 2015) to the 2011 scheme (11/00231/FULMAJ) proposing a reduction in building volume by stepping back the rear facade onto South Place Mews at 7th to 10th floor levels.	Resolution to Grant
55	1 Heron Plaza	10/00152/FULEIA	Alterations to 142- 150 Bishopsgate and 1-17 Devonshire Row (odd numbers), relocation of 1 Stone House Court and redevelopment of Stone House (128-140 Bishopsgate and 77-84 Houndsditch), Staple Hall (87-90 Houndsditch) and 1, 3 and 5 Stone House Court, to provide mixed use development comprising a luxury hotel, residential accommodation, retail uses (A1 - A3), hard and soft landscaping works including provision of a new public plaza, alterations to vehicular and pedestrian access and highways layout together with ancillary plant, servicing and associated works. 55,286 m^2. (GEA); 150.92m AOD (height).	Consented

No	Address	Application Number	Description	Status
56	28 Ensign Street	PA/13/03068	Demolition of existing building and erection of a new part 4, 6 and 14 storey building (ground plus 13 storeys) to provide 65 residential units (Use Class C3); flexible commercial use of part of the ground floor for either Class A1/A2/B1 use; and other landscaping and highways works incidental to the application (amended application).	Consented
57	13-14 Appold Street	2015/1685	Demolition of existing building and erection of a 45 storey mixed use office (Use Class B1) and business hotel (Use Class C1) with ancillary retail / restaurant use (A1/A3) at ground and lower ground and ancillary servicing and plant.	Consented
58	'The Goodsyard' - Bishopsgate	PA/14/0211 and 2014/2425	An OUTLINE application for the comprehensive mixed use redevelopment of the site comprising: Residential (Class C3) comprising up to 1,356 residential units; Business Use (Class B1) – up to 65,859m^2 (GIA); Retail, financial and professional services, restaurants and cafes and hot food takeaways (Class A1, A2, A3 and A5) – up to 17,499m^2 (GIA), of which only 2,184m^2 (GIA) can be used as Class A5; Non-residential Institutions (Class D1); Non-residential Institutions (Class D1) – up to 495m^2 (GIA); Assembly and Leisure (Class D2) – up to 661m^2 (GIA); Public conveniences (sui generis) – up to 36m^2 (GIA); Ancillary and plant space – up to 30,896m^2 (GIA); Basement – up to 8,629m^2 (GIA); Formation of new pedestrian and vehicular access and means of access and circulation within the site; and Provision of 22,642m^2 of new public open space and landscaping. The redevelopment proposes a total of 12 buildings that range in height, with the highest being 177.6 m AOD and the lowest being 23.6 m AOD. With all matters reserved save that FULL DETAILS are submitted for alterations to and the partial removal of existing structures on the site and the erection of three buildings for residential (Class C3), namely Plot C (ground level, plus 26-30 storeys, plus plant); Plot F (ground level, plus 46 storeys, plus plant); Plot G (ground level, plus 38 storeys, plus plant) comprising up to 940 of the total residential units; and retail and food and drink uses (A1, A2, A3, A5); and use of the ground and basement levels of the Braithwaite Viaduct for retail and food and drink uses (A1, A2, A3, A5). Works to and use of the Oriel and adjoining structures for retail and food and drink uses (A1, A2, A3, A5).	Submitted (application called in by Mayor)
59	1 Undershaft	16/00075/FULEIA	Demolition of the existing buildings and construction of a ground plus 72 storey building (309.6m AOD) for office use (Class B1) [131,970sq.m GEA], retail (Class A1-A3) [2,145sq.m GEA] at lower ground floor, a publicly accessible viewing gallery (Sui Generis) [2,930sq.m GEA] at level 71-72 and a restaurant (Class A3) [1,220sq.m] at level 70. Public Realm improvement works, ancillary basement cycle parking, servicing and plant. [Total 154,100sq.m GEA]	Submitted

No	Address	Application Number	Description	Status
60	2-3 Finsbury Avenue	16/00149/FULEIA	Demolition of existing buildings and construction of a building arranged over 3 basement floors, ground and 32 upper floors plus mezzanine and 3 rooftop plant levels (168.4m AOD) to provide office accommodation (Class B1); flexible retail uses (Class A1-A3); cafe/restaurant uses (Class A3); flexible retail uses (Class A1/A3); a flexible space for office, conferencing, events and/or leisure use (Class B1, D1, D2 and/or sui generis) and a publicly accessible roof terrace and associated facilities; hard and soft landscaping works; servicing facilities; and other works incidental to the development (total floor area 92,123sq.m GEA).	Submitted

Figure 4: Location of the Cumulative Schemes in relation to the Application Site



It should be noted that some of the schemes are 'under construction' and some are due to be occupied imminently. As a result these schemes may be considered 'as built' within the baseline (particularly those studies that involve massing modelling, such as wind microclimate studies). Where relevant, this will be stated within the ES chapter.

Further to the above list, there may be additional schemes outside of the 1km distance that shall be considered in connection with specific environmental topics, e.g. the Transport Assessment and Townscape, Heritage and Visual Impact Assessment. Townscape, Heritage and Visual Impact Assessment effects are potentially more extensive than the majority of the technical aspects covered within Volume I of the ES. Justification of the reasons behind including other schemes within the aforementioned studies will be provided in each technical ES chapter.

Demolition and Construction

The ES will provide details of the proposed demolition and construction programme together with specific construction activities and methods, and their anticipated duration. Information will be provided on, but not limited to site preparation, demolition and construction logistics, including: site access and egress; materials and waste management; land or soil remediation; welfare facilities; and working hours.

Estimates of demolition volumes and the quantities of materials to be used throughout the construction phase will be considered, and an estimate of the peak periods of daily heavy goods vehicle (HGV) movements will be provided.

The ES will define and assess the potential effects of a reasonable worst-case scenario. The peak period or level of activity will be assessed in terms of traffic, noise and air quality effects. The peak period will be defined on the basis of the maximum number of HGV movements and an indication of the plant and equipment location on site in relation to the excavation and construction boundary.

The ES will present an outline of the Construction Environmental Management Plan (CEMP). The mitigation measures identified as a result of the site preparation demolition, excavation and construction assessment will be presented within the ES for future inclusion within a CEMP. It is likely that specific mitigation measures will be defined to reduce effects specifically on or arising from:

- Site preparation, demolition, excavation and construction traffic and workforce presence on site;
- Working close to neighbouring boundaries;
- Site access and egress (including mitigation for any loss of public right of way and road closures);
- Noise and vibration;
- Soil removal and land remediation;
- Water usage and site drainage;
- Energy usage and monitoring;
- Emission of dust and other pollutants; and
- Waste generation, management and disposal.

The mitigation measures and outline CEMP will take account of the requirements of the CoL's Code of Practice for Deconstruction and Construction Sites (2013) and the London Councils' guidance on 'The Control of Dust and Emissions from Construction and Demolition' (2006).

Socio-economics

The assessment will consider the socio-economic effects likely to arise from the Proposed Development, during both the construction and operational phases.

Baseline Context

The CoL is located within Central London, with an estimated population of approximately 8,000 residents. The CoL is a particularly important economic centre with its high concentration of financial and professional services firms and their associated contribution to national economic output. A total of around 380,000

employee jobs are supported within the CoL, with a significant concentration of employment within professional, scientific and technical jobs.

The 2011 Census indicates that around 79% of the working age population of the CoL is economically active, compared to 72% across Greater London as a whole and 70 per cent across England, and recently the proportion of the labour force who are unemployed was recorded at 4%, which is below comparable averages.

The CoL has 32.09ha of open space, of which 25.66ha is publicly accessible which are a valuable resource for workers and residents alike. There are 376 open spaces across the CoL including four historic parks and a large number of churchyards. Of these open spaces, 80% are under 0.2ha in size, with an average size of 0.12ha.

Potential Impacts

The Proposed Development is expected to generate several socio-economic effects, some of which would be temporary, whilst others would be long-term and permanent. The following effects will be considered in the assessment:

- Role of the Proposed Development in the generation of direct, indirect and induced employment opportunities at the local and regional level during both the construction and operational phases, including taking account of existing employment on-site;
- Provision of office space; and
- Provision of public amenity space.

A cumulative effects assessment will assess potential combined socio-economic effects of the Proposed Development and the other key reasonably foreseeable developments (under application, with extant planning permission or under construction).

Scope of Assessment

The methodology for the assessment of socio-economic effects will be made with reference to the standard EIA significance criteria terminology, in terms of the likely nature, scale, permanence and significance of effects.

The assessment will include a review the relevant policy at the local (CoL), regional (Mayor of London, GLA) and national levels to identify the key issues of relevance to the Proposed Development.

A baseline assessment will be undertaken, using a range of sources to provide a description of the socio-economic conditions within the local area and at borough level including enterprise, employment and economy. This will be done using established statistical sources such as:

- 2011 Census Data;
- Business Register and Employment Survey (BRES) (2013);
- Claimant Count Data (2016);
- London Office Policy Review; and
- Office of National Statistics Labour Force and Neighbourhood Statistics (2015/16).

Policy thresholds and best practice will be used to assess the significance of the effects. In the absence of specific guidance on assigning significance, professional judgement will be used to assess the impact of the Proposed Development on the social and economic baseline. The assessment will aim to be objective and quantify impacts and their effects as far as possible; however some impacts can only be evaluated on a qualitative basis.

Effects will be assessed on the basis of:

- Magnitude of change - this entails consideration of the absolute number of people or businesses affected and the size of area in which impacts will be experienced;

- Scale of the impact - this entails consideration of the relative magnitude of each effect in its relevant context (for example, impacts on local employment will be considered in the context of the overall size of the local labour market); and
- Scope for adjustment or mitigation - the assessment will be concerned in part with economies. These adjust themselves continually to changes in supply and demand, and the scope for the changes brought about by the Proposed Development to be accommodated by market adjustment will therefore be a criterion in assessing significance.

Transport

The transport chapter in the ES will assess the effects of the Proposed Development, including the cumulative impact, on the transport network in the surrounding area.

Baseline Context

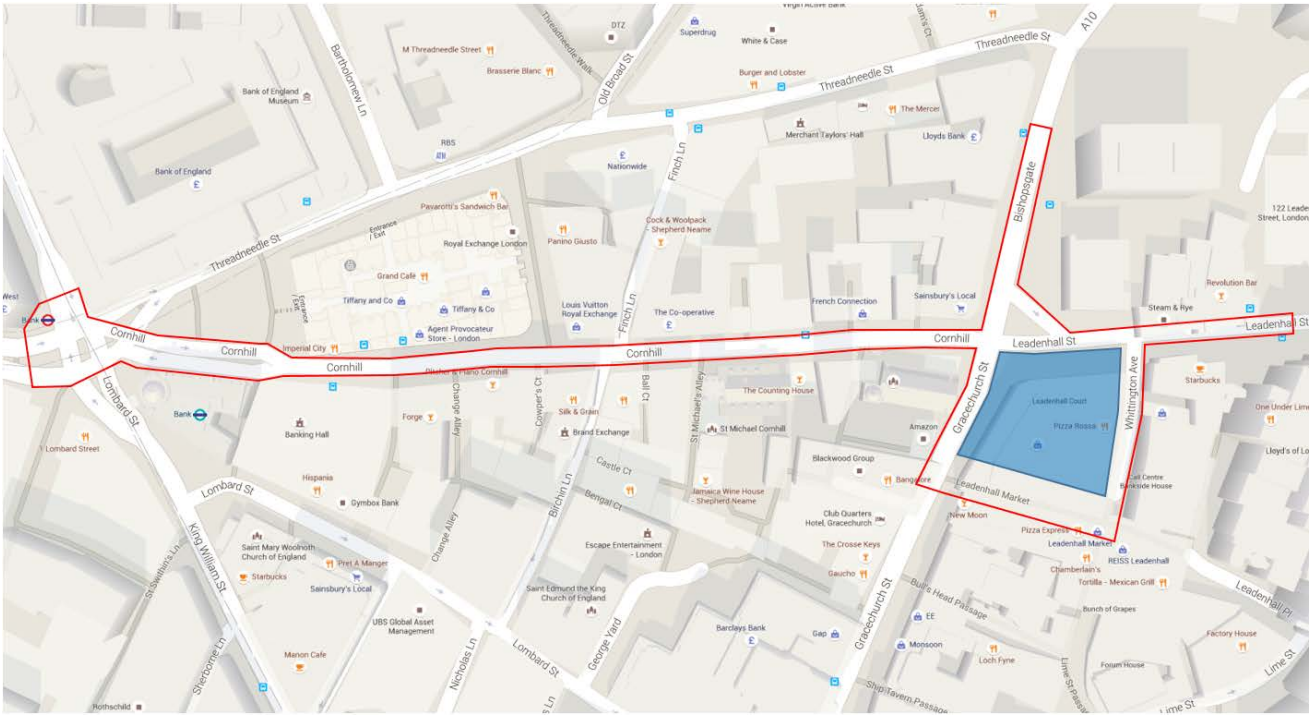
A review of the baseline conditions will include pedestrian, highway and public transport networks.

Pedestrian

The site is bounded by Leadenhall Street to the north, Whittington Avenue to the east, Leadenhall Market to the south, and Gracechurch Street to the west. There is a high level of pedestrian activity on Gracechurch Street and Leadenhall Street, which are the main routes to and from public transport nodes.

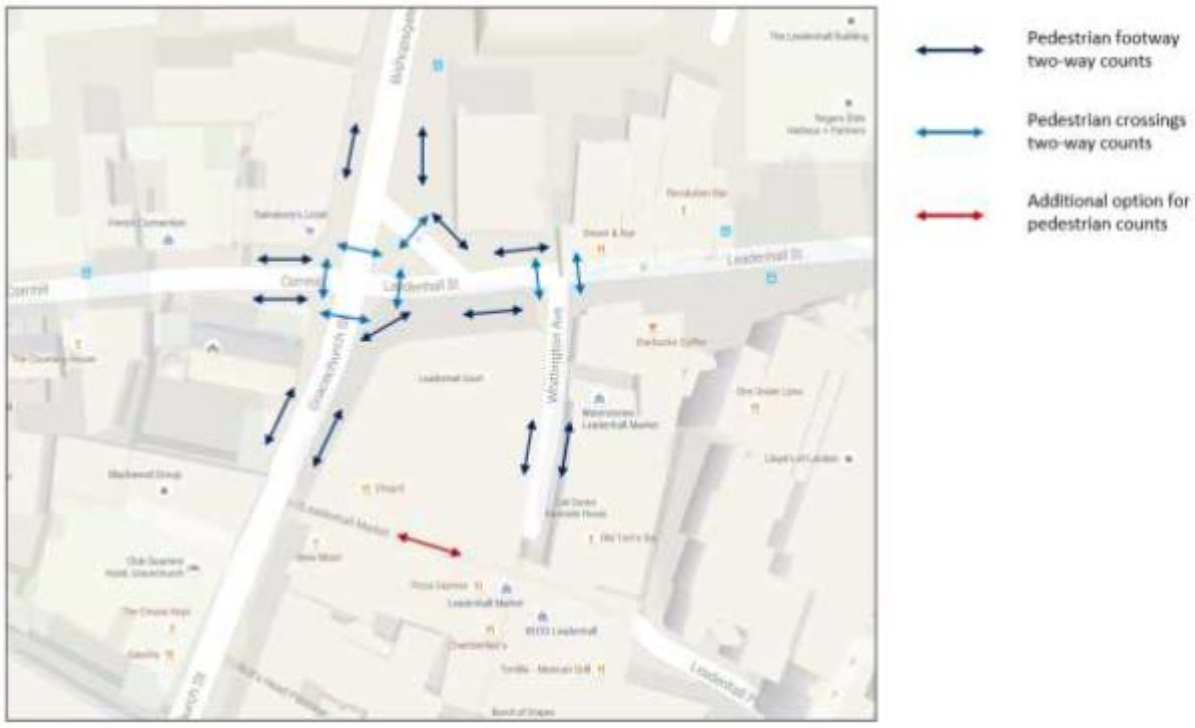
A Pedestrian Environment Review System (PERS) assessment will be undertaken to review existing pedestrian facilities, including footways and crossings, and accessibility to bus stops. The scope of the PERS audit is shown in Figure 5.

Figure 5: Proposed Scope for PERS Audit



Pedestrian surveys will be undertaken on a weekday between 7am and 7pm to count pedestrian flows around the site. Figure 6 shows the scope of the pedestrian counts.

Figure 6: Proposed Locations for Pedestrian Counts



Cycling

The site is well connected by cycle routes, with Gracechurch Street and Leadenhall Street being classified as TfL signed cycle routes. The nearest TfL cycle Superhighway is CS2, an east to west route along the A11, Whitechapel High Street. The site currently provides 43 cycle parking spaces at lower ground floor level.

Traffic

Leadenhall Street, Whittington Avenue, and Leadenhall Market are maintained by the CoL, with Gracechurch Street forming part of the Transport for London Road Network (TLRN). The local highway network is currently subject to works to change the layout of the Aldgate gyratory and connecting roads.

It is proposed to undertake all-movement manual classified traffic counts on a weekday between 7am and 7pm at the following junctions:

- Gracechurch Street / Leadenhall Street; and
- Leadenhall Street / Whittington Avenue.

It is proposed to place to automatic traffic counters over a seven day period at the following locations:

- Leadenhall Street (east of the j/w Whittington Avenue and west of the j/w Lime Street;
- Bishopsgate (north of the j/w Leadenhall Street and south of the j/w Threadneedle Street);
- Gracechurch Street (south of the j/w Leadenhall Market);
- Cornhill (east of the j/w Finch Lane); and
- Lombard to Fenchurch Street.

The development proposals do not include any car parking, however it is anticipated there would be an increase in the number of delivery and service vehicle trips attracted by the site. It is not proposed to undertake any junction capacity assessments as part of the ES transport chapter or Transport Assessment.

Public Transport

The site has a PTAL (Public Transport Accessibility Level) of 6b which indicates a high level of public transport accessibility.

The PTAL report for the site will be used to identify the provision of public transport services near the site. The following data sources will be used to understand existing passenger volumes:

- TfL London Underground Rolling Origin Destination Survey (RODS);
- TfL DLR network Rolling Origin Destination Survey (RODS);
- London Buses boarding and alighting data / Oyster data; and
- Department for Transport (DfT) rail statistics.

Potential Impacts

- Increase in demand for public transport;
- Adequate provision for pedestrians on surrounding footways;
- Adequate access and facilities for cyclists;
- The provision of adequate access and layout for off-street delivery and servicing arrangements;
- Whittington Avenue public realm improvements; and
- Amendments to kerb alignment on east edge of Gracechurch Street.

Scope of Impacts

The transport chapter will report on the transport effects of the Proposed Development during construction and operation. The transport chapter will provide baseline conditions for the public highway and public transport network, and outline the development proposals.

The assessment of effects will review the development proposals during construction and operation, and assess the schemes identified for the cumulative impact assessment. The transport effects of the Proposed Development will be related to the baseline and assessed against a future year 'with development scenario' to understand the net impact.

The transport chapter will identify proposed mitigation measures to reduce impact and consider the residual effects.

Guidance provided by the Department for Transport has been consulted in order to identify significance criteria applicable to the assessment. For a number of effects there are no ready thresholds of significance, therefore case interpretation and judgement will be applied based on knowledge of the site or a method of bespoke assessment.

Effects will be characterised as:

- Beneficial – effects that produce benefits in terms of transportation and access;
- Negligible – effects that produce insignificant change, 0 to 10% magnitude of change; and
- Adverse – effects that produce a negative impact in terms of transportation and access.

In order to quantify the effect of the Proposed Development on the local transport network, the assessment will include an analysis of estimated trip generation and distribution. This will quantify the effect of the Proposed Development on the local transport network and will inform the assessment of the overall effect of the Proposed Development on the local highway and public transport network. The method to estimate trip generation and distribution will be agreed with the CoL and TfL at the pre-application stage.

The effect of the development proposals on each mode of transport will also be assessed in detail with mitigation measures proposed where appropriate. The effect of the development will be assessed with regard to severance, delay, fear and intimidation, amenity, and accidents and safety; in accordance with IEMA guidance. The transport chapter will identify proposed mitigation measures to reduce impact and consider the residual effects.

The information provided within the transport chapter will largely be based on the information contained within the Transport Assessment. The planning application will be referable to the GLA and TfL, therefore the Transport Assessment will be prepared in accordance with TfL's Transport Assessment Best Practice Guidance document (April 2010). The assessment will demonstrate how the development accords with relevant policies within the London Plan and CoL Local Plan.

The Transport Assessment will include an outline Travel Plan for the proposed office development; a Delivery & Servicing Plan; and an outline Construction Logistics Plan, therefore this information will be used within the ES transport chapter. The Transport Assessment will identify the development impacts, the severity of the impacts, and any mitigation, as well as describing the transportation benefits the scheme will deliver. The Transport Assessment will include the relevant committed development sites in the surrounding area to be agreed with the CoL and TfL.

Air Quality

Baseline Context

The CoL has declared the entire borough an Air Quality Management Area (AQMA), due to exceedances of the annual mean air quality objective (AQS objective) and hourly AQS objective for nitrogen dioxide (NO_2) and the daily mean particulate matter (PM_{10}) AQS objective.

The data sources that will be considered in the baseline conditions review will include CoL air quality monitoring and The Department for Environment, Food and Rural Affairs (Defra) background pollutant maps.

The nearest monitoring site is at Aldgate. This site would not be suitable for model verification as it is not representative of the development site and its surroundings. However, given the site use (retail and office) it is not considered that monitoring is required for this assessment, in line with other similar developments in the vicinity of the site.

Sensitive receptors will be identified from a review of aerial photography and OS mapping. A representative set of receptors will be selected from those identified. Where committed/cumulative receptors are anticipated to be within the air quality study area during either the construction phase or operational phase these will be discussed based on the predicted outcomes at nearby existing receptors or these will be considered explicitly if there are no nearby existing receptors.

Potential Impacts

The potential air quality impacts of the development are considered to be:

- Impacts of dust during the demolition and construction phases of the development;
- Impacts of vehicle and plant emissions during the demolition and construction phases of the development;
- Impacts of road traffic emissions from traffic generated during the operational phase of the Proposed Development;
- Impacts of any on-site energy plant emissions generated during the operational phase of the Proposed Development; and
- Combined road traffic and on-site energy centre impacts.

Scope of the Assessment

The scope of the air quality assessment will include:

- The identification of baseline air quality conditions and nearby sensitive receptors;
- Consideration of any demolition and construction phase dust impacts;
- Modelling of road traffic emissions if there is any increase in traffic due to the development (NO_2, PM_{10} and fine particulate matter ($PM_{2.5}$)) using the ADMS Roads detailed dispersion model;
- Modelling of on-site energy plant emissions using the ADMS 5 detailed dispersion model;
- Combined assessment of road traffic and on-site energy generation pollutant contributions at existing sensitive receptors; and

- Completion of an air quality neutral assessment.

Demolition and Construction Methodology

The potential impacts from demolition and construction dust emissions generated during the demolition and construction phase of the Proposed Development will be considered using an approach based on the Institute of Air Quality Management (IAQM) Guidance for assessing impacts from construction activities (IAQM, 2014). This is a screening assessment and risk based qualitative assessment approach, as recommended by the Greater London Authority (GLA) Sustainable Design and Construction Supplementary Planning Guidance (April, 2014).

Demolition and construction plant emissions will not be explicitly modelled, as these are considered to be a small emission source relative to ambient local conditions in the vicinity of the site. However, suitable mitigation measures for site plant will be presented as part of the mitigation measures, based on advice presented in the GLA Code of Construction Practice and the IAQM guidance. The standards required for the Non-Road Mobile Machinery (NRMM) Low Emission Zone for the Proposed Development will also be outlined.

The number of demolition and construction vehicles that will be in operation during the construction phase of the Proposed Development will be considered in the context of the guidance from IAQM/Environmental Protection UK (EPUK) (2015) and the Design Manual for Roads and Bridges (DMRB) (Highways Agency, 2007).

Operational Methodology

If the development generates traffic above the IAQM screening criteria, the detailed dispersion model ADMS-Roads will be used to assess existing baseline air quality and to predict future air quality to assess both the impacts on local air quality.

The road traffic scenarios that will be considered as part the assessment will include:

- Baseline scenario;
- Opening Year – without development scenario, including committed developments; and
- Opening Year – with development scenario, including committed developments

The detailed dispersion model ADMS 5 will be used to identify potential impacts of on-site energy generation. As a minimum the element of the Proposed Development which houses the on-site energy centre will be included in the model. Other significant nearby buildings will also be included, based on the proximity and height of those building's relative to the energy generation emission source. The combined impact on predicted pollutant concentrations from both roads and on-site energy generation will be compared with relevant air quality objectives.

The opening year 'without development' and 'with development' scenarios will both include vehicle trips associated with general growth from the baseline situation and also relevant committed developments. The opening year 'with development' scenarios will also include additional traffic associated with the Proposed Development. The inclusion of relevant committed developments in the traffic data utilised in the assessment will allow an inherently cumulative assessment of the Proposed Development to be undertaken.

Air quality modelling for road sources and on-site energy generation emissions will use the same year of meteorological data and key parameters such as surface roughness. One year of hourly sequential meteorological data will be utilised from Heathrow Airport. Where appropriate sensitive receptor locations will be modelled using the same national grid references in both models, to allow background, road and energy centre pollutant concentrations to be combined.

Contour plots will not be provided as part of the air quality assessment. This is because contour plots are subject to interpolation (i.e. estimation) and in this case two sets of interpolation associated with the energy centre model outputs and also the roads model outputs. A description will be provided outlining the location of maximum off-site contributions from the Proposed Development energy centre.

The year of meteorological data utilised will be selected with the aim of aligning as many input parameters as possible (monitoring data, traffic data) to limit the numbers of parameters which could adversely affect model performance. Qualitative reference would be made to any potential variations in impacts that could be expected from differing years of meteorological data.

Air Quality Neutral

An air quality neutral assessment will be prepared for the Proposed Development as part of the ES. In April 2014, an Air Quality Neutral Planning Support was published by the GLA (Air Quality Consultants, 2014). This document provides guidance on how to complete an air quality neutral assessment with regards to emissions from on-site energy and local road vehicles associated with development proposals. The Air Quality Neutral Assessment is based on the mass of key emissions from the Proposed Development (oxides of nitrogen and particulates) compared against defined benchmarks for a development of this type.

Overall Significance Mitigation

The overall significance of air quality impacts will be described based on the approach outlined in the IAQM and EPUK guidance (IAQM/EPUK, 2015). In determining the overall significance of effects reference will also be made to the magnitude of change in air quality predicted relative to the normal inter-annual variations expected around the Proposed Development, relevant planning policy (e.g. GLA SPG, EBC Air Quality Action Plan) and to the findings of the air quality neutral assessment as appropriate.

Where necessary, mitigation and monitoring measures will be recommended to reduce air quality impacts at sensitive locations around the Proposed Development. Mitigation requirements will be determined based on an evaluation of the results of the air quality assessment, a review of source apportionment of pollutants (i.e. background contributions, road sources and energy centre), the location of existing receptors to local pollutant sources, and relevant planning policy.

Noise and Vibration

Baseline Conditions

The current primary noise and potential vibration sources affecting the site consist of traffic on the surrounding road network, particularly Leadenhall Street and Gracechurch Street. Noise from aircraft may also influence noise levels at the site.

There are a number of receptors which are sensitive to noise and vibration and are located in close proximity to the site. Noise is therefore a key planning consideration.

A baseline noise survey will be undertaken in line with BS 7445:1991 (Parts 2-3) and 2003 (Part 1). A combination of long-term and short-term noise measurements will be carried out at locations around and within the site in order to:

- Characterise representative daytime and night-time noise levels at existing noise sensitive receptors for subsequent use in setting appropriate fixed plant noise emission criteria;
- Establish ambient and maximum noise levels around the site in order to construct a detailed noise map; and
- Assess the suitability of the site for its intended use.

Figure 7 displays the measurement locations. Long-term continuous noise monitoring will be undertaken for a minimum of five days at each location if the locations are suitably secure. Should security of noise monitoring equipment be considered a risk, short-term attended noise monitoring will be carried out during day and night periods. The following acoustic parameters will be recorded: L_{Aeq}, L_{A10}, L_{A90} and L_{Amax}.

Noise data logged during the survey is considered to be representative of the current noise climate at and around the site and is therefore considered suitable for the purpose of the assessment.

Potential Impacts of the Development

The current primary noise source at the site and surrounding area is traffic noise on the local road network.

Potential noise effects may occur at any existing residential, commercial, hospitality and healthcare receptors due to the Proposed Development as a result of:

- Construction and demolition activities;
- Changes in road traffic flows; and
- Fixed plant associated with the Proposed Development.

Figure 7: Noise Monitoring Locations



Scope of the Assessment

The suitability of the site for development will be assessed in terms of noise and vibration, and will be considered in line with local guidance and the NPPF. Details will be provided on suitable glazing and ventilation strategies in order to achieve the indoor ambient noise levels recommended in BS 8233:2014 'sound insulation and noise reduction for buildings – Code of practice'. Where necessary, mitigation measures will be recommended to achieve internal vibration levels given in BS 6472:2008 'Guide to evaluation of human exposure to vibration in buildings – Part 1'.

A construction noise and vibration assessment will be undertaken based on construction activity, plant use and traffic movement information. Noise levels at receptors will be calculated using BS 5228-1:2009 (and update A1 2014 Part 1 Noise) data and procedures. Vibration risks will be assessed based on the types of plant used and their proximity to receptors, using guidance in BS 5228-2:2009 and BS 7385:1990 (Part 1) and 1993 (Part 2). From the results of the construction noise and vibration assessment, preliminary mitigation measures will be advised in line with BS 5228 and CoL planning policy.

Building services noise associated with the operation of the completed development will be assessed in line with BS 4142:2014 and recommended limits such that noise does not exceed the typical L_{A90} background noise level. The plant on the Proposed Development will be selected and attenuated to achieve these limits during the design development.

Noise levels associated with construction traffic and future operational traffic flows will be assessed in line with Calculation of Road Traffic Noise (CRTN) issued by the Department of Transport in 1988. The significance of the impact on road traffic noise levels will be assessed based on a range of relevant guidance including the Design Manual for Roads and Bridges (DMRB) and mitigation measures detailed where necessary.

Existing nearby sensitive receptors will be considered within the design development of the Proposed Development and assessed within the Noise and Vibration Impact Assessment submitted as part of the ES.

It is assumed that the Proposed Development will not give rise to any vibration or ground borne noise at surrounding sensitive receptors and therefore it is not proposed to undertake an assessment of operational vibration.

The following significance criteria outlined within the Methodology section of this Scoping Report will be applied within the Noise and Vibration Chapter of the ES. Where adverse or beneficial effects are identified, these will be seen to represent effects as described by the following scale:

- Minor – slight, very short or highly localised effect;
- Moderate – limited effect (by extent, duration or magnitude), which may be important at a local scale; or
- Major – considerable effect (by extent, duration or magnitude) of more than local significance or in breach of recognised acceptability, legislation, policy or standards.

Cumulative effects of combined construction works and operational traffic from nearby cumulative schemes will be assessed.

The ES chapter will be supported by a technical appendix which will contain useful reference material and tabulated noise survey results.

Ground Conditions

Baseline Context

The earliest available historical mapping indicates that the site has been developed since at least 1851. The site is labelled as Leadenhall Court from 1991.

The geology beneath the site comprises superficial deposits of the Langley Silt Member underlain by the Taplow Gravel Formation (River Terrace Member) over bedrock of London Clay. The Langely Silt member and London Clay are designated as Unproductive Strata by the Environment Agency (EA), whilst the Taplow Gravel Formation is designated as a Secondary (A) Aquifer. The River Thames is located approximately 480m south of the site, with landmark Envirocheck data suggesting that there are 22 groundwater abstractions within 250m of the site. However, the site is not within a Source Protection Zone. The Landmark Envirocheck data also shows that there are no historic or current landfills in the vicinity of the site.

Potential Impacts

Potential impacts and their effects on the site could be from:

- Potential soil contamination;
- Potential surface water / groundwater contamination;
- Potential unexploded ordnance (UXO); and
- Demolition and construction processes.

Scope of the Assessment

The model procedures for the Management of Land Contamination, CLR 11, have been developed to provide the technical framework for applying a risk management process when dealing with land affected by contamination. The process involves identifying, making decisions on, and taking appropriate action to deal with land contamination in a way that is consistent with government policies and legislation within the UK. The guidance presented in CLR11 is relevant to the Proposed Development and has been considered in developing the methodology below.

The evaluation will be specific to the environmental site setting, the Proposed Development, and likely civil engineering construction elements (i.e. deep piled foundations etc.). The following evaluation methodology will be followed:

- Review of the Legislative and Planning Policy Context;
- Explanation of the Assessment Methodology and Significance Criteria;
- Review of available third party information;

- Collection of up to date environmental information (including an Envirocheck Report);
- An evaluation of the potential for the historical use of the site to represent a potentially contaminative use and the likelihood of residual contamination being present in the ground or groundwater;
- Description of the baseline conditions to include - Geological Conditions, Made Ground, Hydrogeology, Contamination Potential, Presence of Underground Structures, UXO and Asbestos;
- The potential for source-pathway-receptor pollutant linkages to exist;
- Assessment of the potential impacts (both demolition and construction phase and operational phase of the Proposed Development); and
- Assessment of residual and cumulative impacts.

The outcome of the above assessment will form part of the EIA report.

Water Resources, Drainage and Flood Risk

Baseline Context

According to the EA's flood zone maps, the site lies within Flood Zone 1. Flood Zone 1 delineates areas identified as at low risk of flooding from fluvial or tidal sources.

Based on a review of the EA maps of flooding from surface water, there does not appear to be a significant risk of flooding from surface water. However, according to the CoL Strategic Flood Risk Assessment (SFRA) (2012) the site falls within a Critical Drainage Area (CDA), but not within a Local Flood Risk Zone (LFRZ).

The EA groundwater maps and the British Geological Survey website, indicates that the geology at the site consists of superficial deposits of the Langley Silt Member underlain by the Taplow Gravel Formation (River Terrace Member) over bedrock of London Clay (Base of London Clay is approximately 37m deep). The Langely Silt member and the London Clay are designated as Unproductive Strata by the EA, whilst the Taplow Gravel Formation is designated as a Secondary (A) Aquifer.

The River Thames is located approximately 550m south of the site. The site is not within a groundwater Source Protection Zone (SPZ).

Potential Impacts and Scope of the Assessment

The Proposed Development may impact the water environment by:

- Causing pollution both during demolition, construction and operation stage;
- Increased in water demand;
- Increased foul water discharge; and
- Increased on and offsite flood risk etc.

Water Resources, Drainage and Flood Risk ES Chapter

The Water Resources, Drainage and Flood Risk ES chapter will include a review and summary of relevant legislation and national, regional and local planning policy relevant to the water environment.

The assessment methodology and significance criteria will be defined and an assessment of the magnitude of effect against the importance of the receptor will be undertaken to determine the significance of effect. The proposed methodology used to assess the significance of effects on water resources and flood risk has been based on the methodology given in the Department for Transport's document 'The Water Environment Sub-Objective' Transport Analysis Guidance (TAG) TAG Unit A3 - Environmental Impacts, which brings together the Design Manual for Roads and Bridges (DMRB), Volume 11, Section 3, Part 10 document and the 'Guidance on the Methodology for Multi-Modal Studies (GOMMMS)' document. Whilst this guidance was produced to facilitate the comparison of transport schemes, the definitions provided take into account the sensitivity and vulnerability of the water resource and are therefore applicable to the activities associated with the Proposed Development. Mustow *et al.,* (2005) expanded the GOMMMS methodology in their publication: Practical Methodology for Determining the Significance of Effects on the Water Environment' to

make the application of the method more standardised and less open to the subjectivity of the assessor, and it is this method that will be used in this assessment.

A conceptual Site Source Pathway Receptor model will be produced to identify potential water resource receptors. Information will be obtained from the relevant bodies (including the EA and TWUL) to determine the baseline for the water resource receptors, including groundwater and surface water bodies, water supply wastewater and drainage infrastructure. The baseline assessment will determine the importance of the receptor to effects, based on attributes such as water quality or water supply. At the scoping stage the following have been identified as potential water resource receptors: River Thames, sewer network and groundwater.

An assessment of the potential direct and indirect effects of the Proposed Development, for both the demolition and construction and the operational phases of the Proposed Development, will be undertaken. Recommendations will be made for mitigation measures in order to minimise the potential effects of the Proposed Development on water resources and flood risk. Any residual effects will be identified as well as the potential for cumulative effects associated with other developments.

Wind Microclimate

Baseline Context

The baseline assessment will comprise the existing surroundings, in the context of the existing building on the site (or cleared if appropriate) in order to establish the current wind microclimate at the site and will be assessed via a wind-tunnel modelling exercise. The prevailing winds for London blow from the south-westerly quadrant and this sector accounts for approximately 45% of wind for London. There is a secondary prevailing wind from the north-east, which is most prevalent in the late spring/early summer and winds from this direction are generally cold. The dominance of the south-westerly wind can typically have a significant impact on the wind environment at a site.

Potential Impacts

Given the size and geometry of the Proposed Development, in addition to the site's location in relation to surrounding buildings and nearby areas of public realm, it is important to avoid undesirable wind speeds being generated at ground or accessible upper levels. Undesirable wind speeds could make some spaces within and around the Proposed Development uncomfortable or potentially even unsafe for pedestrian use.

Scope of the Assessment

The ES will include a Wind (Microclimate) Chapter, prepared by RWDI, a specialist wing engineering consultancy. The ES will quantify the potential changes to the local wind environment (both on-site and within the surrounding area) in terms of pedestrian amenity and public open space and quantify these in relation to their 'usability' for a range of pedestrian activities defined by the Lawson Comfort Criteria.

Scale models (typically at 1:300) will be built of the following scenarios:

- The buildings currently occupying the site and the existing surrounding buildings / area (the baseline);
- The complete Proposed Development massing occupying the site and the existing surrounding buildings / area; and
- The Proposed Development's massing occupying the site, and the surrounding buildings / area including the massing of nearby cumulative schemes.

The models will be manufactured and tested in a boundary layer wind tunnel test facility. Mean and peak wind speeds will be measured around the base of the buildings forming the Proposed Development and other surrounding buildings, paths, roads, and areas of open spaces, for all wind directions. These results will be combined with long-term meteorological climate data for the London area.

The results of this analysis will then be benchmarked against the well-established Lawson Comfort Criteria to determine the suitability of the different areas both within and surrounding the site for sitting, standing, entering a building, leisure walking, business walking, or crossing the road. The suitability of the conditions both within the site and surrounding the site will be presented and discussed within the ES. Should mitigation measures be required to ensure that wind conditions are suitable for their intended use, the areas requiring mitigation will be identified and mitigation measures will be developed.

Where necessary, mitigation measures will be tested through additional rounds of wind tunnel studies. The potential for strong winds to occur will also be quantified.

The results of all of the above assessments will be presented within the ES Chapter.

Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare

The Proposed Development would bring about a significant change to the massing of the site. This would likely result in changes to the availability of daylight and sunlight received within surrounding buildings. The amount of overshadowing cast on areas of open amenity spaces adjacent to the site would also be expected to change from the existing situation.

Dependent upon the internal and external lighting plan for the Proposed Development, there is a possibility of increased levels of light pollution affecting nearby properties.

Should the facades of the Proposed Development be highly reflective in design, there is also a possibility, at certain times of the year, certain times of the day and in particular weather conditions, of adverse instances of solar glare, which may affect approaching motorists or pedestrians.

Potential Impacts

The following likely significant effects with respect to daylight, sunlight, overshadowing, light pollution and solar glare have been identified:-

- Temporary changes to daylight, sunlight, overshadowing, light pollution and solar glare during the demolition and construction works;
- Changes to the duration and quality of daylight and sunlight, as well as the incidence and duration of overshadowing experienced by surrounding sensitive receptors on completion of the Proposed Development;
- Increased levels of light pollution from internal and external lighting schemes of the Proposed Development; and
- Adverse solar glare instances resulting from façade treatments of the Proposed Development.

Scope of the Assessment

A daylight and sunlight assessment of the Proposed Development will be undertaken with respect to the aforementioned microclimatic issues.

The assessment of daylight and sunlight would be based upon the Building Research Establishments (BRE) Site Layout Planning for Daylight and Sunlight; A Guide to Good Practice 2011 and BS8206-2:2008.

The assessment will be based on a scale three-dimensional model of the existing and Proposed Development situations.

Sun hours on the ground and transient overshadowing assessments will be undertaken, using the above analysis model in order to establish the extent to which surrounding areas of amenity space and those within the Proposed Development are affected by the construction of the Proposed Development.

An analysis of the likely significant effects of solar glare from the Proposed Development, will be made from selected key viewpoints located at pedestrian and vehicular junctions. It is possible, however, that this assessment will be scoped out due to the final façade treatment of the Proposed Development.

An analysis of the likely significant effects of light pollution will be made in areas where residential accommodation is in close proximity to the Proposed Development. However, it is likely that this assessment will be scoped out as a result of an absence of residential accommodation in the immediate vicinity.

Given the surrounding context, which includes multiple site locations in which towers are envisaged, an assessment which considers the cumulative effect will be required.

A qualitative assessment of the likely significant effects of the demolition and construction works will be undertaken using professional judgement.

Townscape, Heritage and Visual Impact Assessment

An assessment of the townscape, heritage and visual effects of the Proposed Development in relation to its local and wider townscape setting, its effects on designated and non-designated heritage assets and its effects on the visual amenity of people experiencing views of it will be undertaken by Richard Coleman Citydesigner.

Baseline Context

The site is centrally located within the City of London, at the intersection of Leadenhall Street, Cornhill, Gracechurch Street and Bishopsgate. The Proposed Development is a tall building, which will form part of the emerging 'Eastern Cluster'. Due to its prominent location, surrounded by a dense grain of historic and contemporary buildings, it will potentially affect the setting of a number of listed buildings and conservation areas in direct proximity of the site and in the wider area, as well as the setting of Tower of London World Heritage Site.

The existing building on the site was built in the mid-1980s, with a scheme by Whinney Mackay-Lewis Partnership for Sun Alliance. It is described in *The Buildings of England* (Bradley/Pevsner, 1998) as "a large red-granite-clad block of offices that is an early attempt to humanise a big block by evoking pre-war traditions with clear horizontal divisions between arcaded lower floors and plainer upper storeys".

The history and character of the existing building and the surrounding townscape will be set out and appraised in the THVIA report following site inspections and archival reviews of historic and architectural information on the area.

The existing building is not listed and the site is adjacent to, but not within, a conservation area. The potential townscape impacts of the Proposed Development on the surrounding conservation areas will be assessed. These are: *Leadenhall Market Conservation Area, Bank Conservation Area, St Helen's Place Conservation Area, Eastcheap Conservation Area, Bishopsgate Conservation Area* and *Finsbury Circus Conservation Area.* There are other conservation areas further away from the site, whose setting may also be affected.

The potential effects of the Proposed Development on a number of listed buildings located in the proximity of the site will be considered. These include:

1) Leadenhall Market (Grade II*), adjacent to the south of the site;
2) Lloyds Building (Grade I), east of the site;
3) 3-7 Lime Street (Grade II), east of the site;
4) 147 and 148 Leadenhall Street (Grade II), north of the site;
5) 139-144 Leadenhall Street (Grade II), north of the site;
6) Church of St Andrew Undershaft, St Mary Axe (Grade I) and Iron Gates and Railings to entrance of Church of St Andrew Undershaft (Grade II), both east of the site;
7) Royal Bank of Scotland (Grade II), north of the site;
8) 7 and 9 Bishopsgate (Grade II), north of the site;
9) Westminster Bank, 15 Bishopsgate (Grade I), north of the site;
10) Lloyds Bank, 39 Threadneedle Street (Grade II), north of the site;

11) British Linen Bank, 37 and 38 Threadneedle Street (Grade II), north of the site;

12) 39 Cornhill (Grade II),west of the site;

13) Church of St Michael (Grade I), west of the site;

14) 48 Cornhill (Grade II), west of the site;

15) 50 Cornhill (Grade II), west of the site;

16) 54 and 55 Cornhill (Grade II), west of the site;

17) Church of St Peter (Grade I), west of the site;

18) Gateway to yard of Church of St Peter, St Peter's Alley (Grade II), west of the site;

19) 65 Cornhill (Grade II), west of the site;

20) 66 and 67 Cornhill (Grade II), west of the site;

21) Australia and New Zealand Banking Group, 71 Cornhill (Grade II), west of the site;

22) Barclays Bank, 7-9 Gracechurch Street (Grade II), south of the site;

23) 81 and 82 Gracechurch Street (Grade II), south of the site; and

24) Credit Lyonnais, 39 and 40 Lombard Street (Grade II), south of the site;

Key Issues and Requirement for Assessment

Following a desktop assessment, the following key issues that will require assessment have been identified:

a) The performance of the Proposed Development when experienced from within the existing townscape context, particularly in terms of its height, scale, massing, external materials and how it meets the skyline and the ground;

b) The potential effects of the Proposed Development on visual amenity, when experienced in a wide range of views, including short, medium and long distance views, and by different people;

c) The potential effects of the Proposed Development on cultural heritage, including the setting of listed buildings, conservation areas, and identified non-designated heritage assets;

d) The potential cumulative townscape, heritage and visual effects of the Proposed Development when assessed in combination with other major developments either under application or with extant planning permission. A definitive list of cumulative developments for consideration will be agreed in advance with planning officers at the City of London (CoL);

e) Assessment of townscape effects and effects on visual amenity will be undertaken using Accurate Visual Representations (AVRs) of the Proposed Development set into the baseline photographs of the existing conditions. The AVRs will be produced by visualisation specialists Miller Hare. The following viewpoints have been chosen for this purpose, following desktop and field study.

Proposed Viewpoints

The proposed viewpoints to be included in the assessment of the townscape, heritage and visual effects of the Proposed Development are found in Table 3 and Figure 8 and Figure 9, respectively.

The AVRs will be expressed either as wirelines or fully rendered. The precise balance of wireline and rendered AVRs will need to be finalised, in discussion with CoL, once each view has been fully surveyed and the visibility of the Proposed Development is confirmed in each case.

The viewpoints are chosen to illustrate the maximum visual conjunction between the Proposed Development and the townscape, including heritage assets. They do not include every position from which the Proposed Development will be visible, but are representative views showing the most likely significant effects. Some views have been scoped out on the basis that the effects experienced from them will not be significant, owing to non-sensitive townscape or likely obscuration of the Proposed Development by foreground development.

The principal types of viewing location that have been identified are:

a) Views that have been identified as significant, by CoL or others, e.g. In relevant planning policy and guidance documents (including the London Plan LVMF) and conservation area appraisals;

b) Other locations or views of particular sensitivity, including those viewpoints in which the Proposed Development may significantly affect the listed buildings, non-designated heritage assets, and conservation areas;

c) Representative townscape locations from which the Proposed Development will be visible;

d) And locations where there is open space between the viewer and the Proposed Development so that it will be prominent rather than obscured by foreground buildings.

Assessment Methodology

The methodology for the townscape, heritage and visual impact assessment is based on Best Practice set out in the third (2013) edition of Guidelines for Landscape and Visual Impact Assessment (GLVIA), produced by the Landscape Institute with the Institute of Environmental Management & Assessment. However, these principles are better suited to assessing landscape than townscape, and so they can form only a general guide to the method to be used.

The methodology recognises that townscape, heritage and visual effects are separate topics in EIA, but considers that to report on them completely separately within the Townscape, Heritage and Visual Impact Assessment (THVIA) report would be to make artificial distinctions. In reality, both townscape and built heritage within it are experienced by people in a visual way. In the THVIA, therefore, the assessor may draw out the distinctions between townscape, heritage and visual effects where pertinent.

Assessment of the effect of the Proposed Development on a receptor (an area of townscape, a heritage asset, or view) is made on the basis of professional judgement which takes into account relevant planning policies and guidance. It is based on the following method.

The sensitivity of the receptor as existing will be assessed as high, medium, or low, depending on the importance, value and quality of the receptor, and nature and expectation of the viewer. The assessment takes into account the setting of any Grade I, II* or II listed buildings, the setting of conservation areas and character areas, and the amenity value of the viewing location and area in which it is located.

The magnitude of the change resulting from the Proposed Development will be assessed as high, medium, or low, according to the change to the townscape, view or heritage asset's setting.

These two measures are combined to provide a measure of the significance – major, moderate, minor, negligible, or 'no change' – of the effect on the receptor which will result from the Proposed Development, the most significant effects being effects of high magnitude on receptors of high sensitivity.

Effects are assessed as beneficial, adverse, or neutral. The assessment as beneficial or adverse is a 'net equation', since, with regard to the receptor that is being assessed, there may be both positive and negative effects as a result of the development.

For each of the identified views in the assessment to be produced, there will be images of the view as existing and as proposed. Where appropriate, the view as proposed will be shown as a fully rendered image, showing the proposed new buildings and landscape treatment in a realistic manner. In other cases, the proposed buildings will be shown diagrammatically, in a wireline outline.

Where other developments in the wider area, which are proposed or have been granted consent, would be visible to a significant extent in the view, a further image showing these schemes together with the Proposed Development will be produced.

For each of the identified views, a description of the view as existing will be given, identifying its visual quality and sensitivity to change. A description of the view as proposed will then be given with an assessment, based on the method set out above, of the significance of the effect that the development will have on the view. A further assessment will consider cumulative effects if any for each view.

The THVIA document will form a separate volume of the ES.

Table 3: Proposed Views

(Please note: Exact locations for Views 8, 14 and 27 are to be confirmed following further consultation with the CoL)

View No.	*Location*
1	Primrose Hill [LVMF 4A.1]
2	Parliament Hill [LVMF 2A.1]
3	Kenwood [LVMF 3A.1]
4	Alexandra Palace [LVMF 1A.1]
5	Blackheath Point [LVMF 6A.1]
6	Greenwich Park [LVMF 5A.2]
7	Tower Bridge: upstream [LVMF 10A.1]
8	Tower of London (*exact point to be confirmed*)
9	The Queen's Walk at City Hall [LVMF 25A.1]
10	London Bridge downstream: close to the South Bank [LVMF 11B.2]
11	The South Bank: St. Gabriel's Wharf viewing platform – centre of north-east rail [LVMF 16B.2]
12	Waterloo Bridge, downstream – at the centre of the bridge [LVMF 15B.2]
13	Waterloo Bridge, downstream – close to Westminster bank [LVMF 15B.1]
14	Fleet Street (*exact point to be confirmed*)
15	St. Paul's Cathedral Golden Gallery
16	Poultry, opposite Grocer's Hall Court, looking east
17	Bank, outside NatWest Building, looking east into Cornhill
18	Cornhill, in front of Royal Exchange, looking east
19	Cornhill, at south entrance of Royal Exchange, looking east

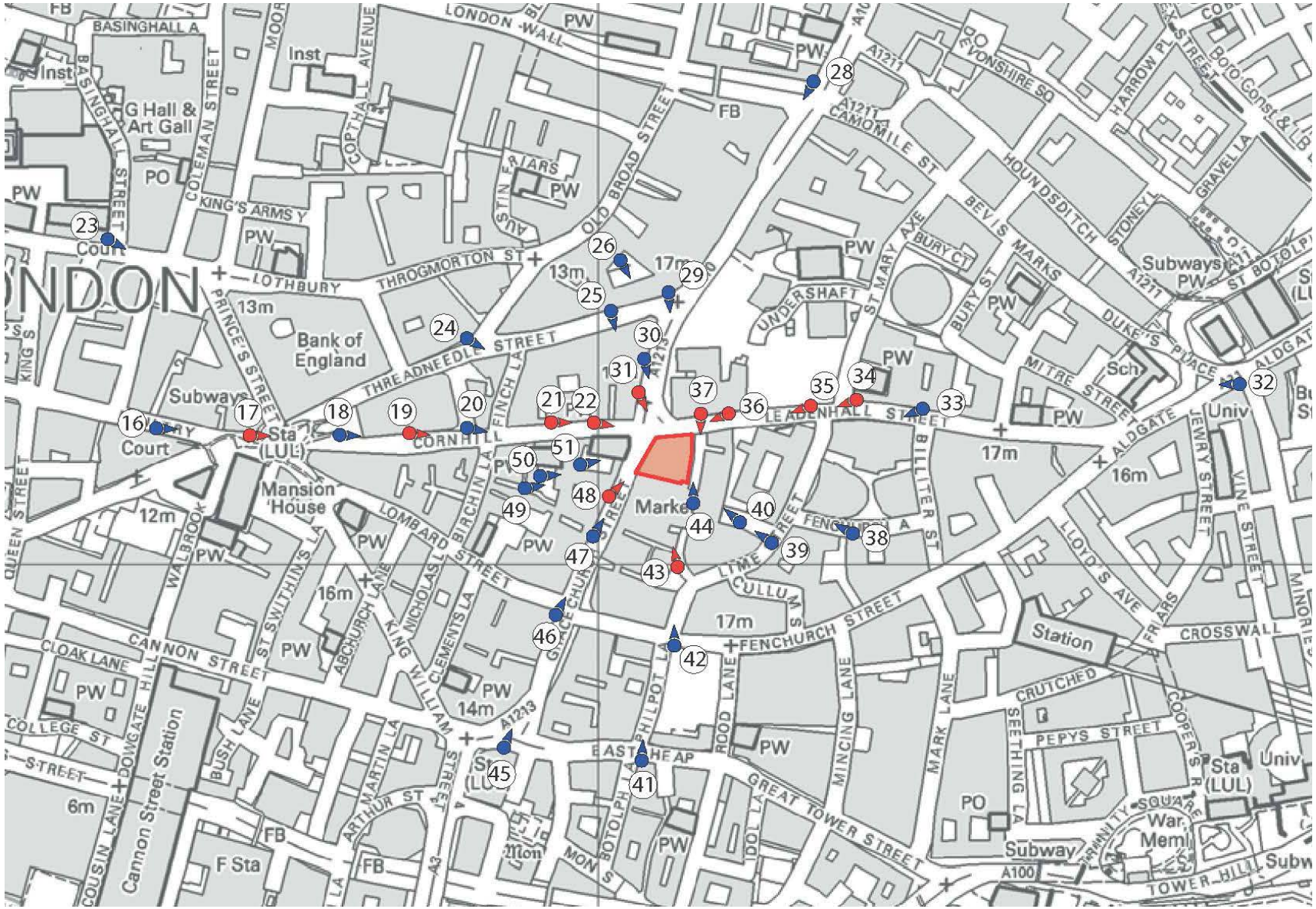
View No.	*Location*
20	Cornhill, at junction with Royal Exchange Buildings, looking east
21	Cornhill, outside No. 68, looking east
22	Cornhill, outside Nos. 66-67, looking east
23	Gresham Street, at junction with Basinghall Street, looking east
24	Threadneedle Street, at junction with Old Broad Street, looking east
25	Adam's Court, looking south over Threadneedle street
26	Courtyard at the interior of Adam's Court, looking south
27	Finsbury Circus (*exact point to be confirmed*)
28	Bishopsgate, at junction with Wormwood Street, looking south
29	Bishopsgate, at junction with Threadneedle Street, looking south
30	Bishopsgate, outside No. 7, looking south
31	Bishopsgate, outside Nos. 1-3, looking south
32	Aldgate High Street, at junction with Minories, looking west
33	Leadenhall Street, opposite Billiter Street, looking west
34	Leadenhall Street, at junction with St Mary Axe, looking west
35	Leadenhall Street, outside No. 122, looking west
36	Leadenhall Street, outside Nos. 145-146, looking west
37	Leadenhall Street, looking south into Whittington Avenue
38	Fenchurch Avenue, at junction with Hogarth Court, looking west
39	Lime Street, looking west into Leadenhall Place
40	Leadenhall Place, looking west
41	Eastcheap, at junction with Botolph Lane, looking north into Philpot Lane
42	Fenchurch Street, looking north into Lime Street
43	Lime Street Passage, looking north
44	Leadenhall Market, looking north into Whittington Avenue
45	King William Street, outside No. 55, looking north into Gracechurch Street

View No.	*Location*
46	Gracechurch Street, at junction with Lombard Street, looking north
47	Gracechurch Street, outside No. 9, looking north
48	Gracechurch Street, at Corbet Court, looking north
49	St Michael's Alley, at junction with Castle Court, looking east
50	Garden of Saint Michael Cornhill, looking east
51	St Peter's Alley, looking east over garden of St. Peter-Upon-Cornhill

Figure 8: Location of Proposed Views



Figure 9: Location of Proposed Views



Other Environmental Considerations

07

Other Environmental Considerations

Energy and Sustainability

The City of London Local Plan (January 2015) policy DM 15.1 requires both a Sustainability Statement and Energy Statement to be submitted with all planning applications for major developments.

A separate Energy Strategy and Sustainability Statement (including a BREEAM Pre-Assessment) will be prepared and submitted to accompany the Planning Application which will address all energy and sustainability related issues.

Summary of Targets

- The Proposed Development will be designed to meet the current Part L 2013 regulations (with consideration of potential 2016 regulations) and the City of London policy requirements;
- The Proposed Development will be designed to achieve a minimum BREEAM "Excellent" rating;
- The Proposed Development will aspire to achieve a 35% on-site improvement over Part L 2013 through the energy efficient design, low carbon and renewable technologies where feasible;
- The Proposed Development will be connected to existing local district heat networks, if available, or allow for adaptation for connection into future networks; and
- The development will aspire to meet the Mayor's priority and best practice standards, where feasible.

Energy Strategy

The energy strategy will be structured in accordance with the energy hierarchy: Be Lean, Be Clean, Be Green, following The London Plan (March 2015 including Minor Alterations) and GLA guidance on preparing energy assessments (March 2016).

- 'Be Lean' – A review of the energy efficient measures incorporated to reduce energy demand (building form, building fabric and building services);
- 'Be Clean' – Connection to existing low carbon heat distribution networks within and beyond the site boundary, investigation of the feasibility of CHP/CCHP for the site; and
- 'Be Green' – An assessment of the feasibility of a range of renewable technologies for the site.

Sustainability Statement

This document will identify how the Proposed Development meets the objectives of the London Plan Policy 5.3 Sustainable Design and Construction, and the principles outlined in the Mayor of London Sustainable Design and Construction SPG (April 2014).

It will be accompanied by a BREEAM pre-assessment to establish the Proposed Development's possible score under BREEAM 2014 New Construction.

Flood Risk Assessment

The overall objective of the Flood Risk Assessment (FRA) is to meet with the requirements of the NPPF and CoL's Flood Risk Policies and which considers, with respect to surface water runoff management, the specific needs of the EA, the CoL and Thames Water Utilities Limited (TWUL).

The FRA will consider flood risks to the site from all sources. A review of flood risk from other sources will be undertaken based on the most up-to-date information available from the EA, the CoL SFRA, Local Flood Risk Management Strategy and other relevant consultees will also be included.

The FRA will identify how, if at all, the risk of flooding will change as a result of the Proposed Development (including taking climate change into account). The FRA will include recommendations for flood risk mitigation to manage flood risks to an acceptable level, considering the vulnerability of the Proposed Development to flooding, so that the development remains safe throughout its lifetime.

Environmental topics to be ‘scoped out’ of the EIA

08

Environmental Topics to be 'scoped out' of the Environmental Statement

The aim of the Scoping Phase is to focus the EIA on those environmental aspects that may be significantly impacted by the development proposals. In so doing, the significance of impacts associated with each environmental aspect becomes more clearly defined, resulting in certain aspects being considered 'non-significant'. It is the intention to scope the following out of the ES:

Archaeology (Buried Heritage Assets)

This section sets out the proposed scope and methodology for the assessment of archaeology (buried heritage assets) for the Proposed Development. The assessment of above ground or standing historic buildings and structures will be considered in the Townscape, Heritage and Visual Impact Assessment.

The scoping has been informed by an outline description of the environmental baseline conditions and a preliminary view of the issues likely to be associated with the Proposed Development. The assessment will be undertaken with reference to the following policy and guidance:

- NPPF;
- PPG - Conserving and Enhancing the Historic Environment (2014);
- Town and Country Planning Act 1990;
- English Heritage, 'Conservation Principles' (2008);
- Good Practice Advice Planning Note 2 and Note 3 published by Historic England;
- Historic England Greater London Archaeology Advisory Service (GLAAS) standards for archaeological work in London (HE, 2015);
- Chartered Institute for Archaeologists Standard and Guidance for Historic Environment Desk-Based Assessment (CIfA 2014); and
- Chartered Institute for Archaeologists Code of Conduct (CIfA 2014).

Baseline Context

Designated assets

There are no World Heritage Sites, Scheduled Monuments, Registered Battlefields or Registered Parks and Gardens within the footprint of the Proposed Development.

The National Heritage List records a Scheduled Monument, a Roman wall (NHL Entry No. 1002035) preserved in the basement of 90 Gracechurch Street, immediately south of the Proposed Development.

Leadenhall Market to the immediate south of the Proposed Development is a grade II* listed building. Numerous other listed buildings are situated in the immediate vicinity.

Non-designated assets

The Proposed Development site is not situated within an area of archaeological potential as identified in Map 11.2 of the CoL UDP. The Proposed Development is, however, located at the junction of Gracechurch Street and Leadenhall Street, at the summit of Cornhill, in the heart of the historic core of Roman and medieval London.

An initial review of available sources has confirmed that the Proposed Development is located at the northeast corner of Basilica-Forum and the medieval Leadenhall Market. Extensive rescue excavations undertaken between 1984 and 1986 revealed over 4m of stratified archaeological deposits including substantial remains of the 15th century medieval Leadenhall Market, Roman Basilica and the extensive remains of a number of earlier Roman buildings pre-dating the Basilica/Forum complex.

Three large open areas of excavation where subsequently excavated across the northern half of the site in 1985 and 1986. In the southern part of the site a number of small evaluation trenches were also excavated within the basement of the former Metal Exchange building (Milne and Wardle 1993).

The archaeological investigations confirmed that, in the mid-1st century, the Proposed Development site originally lay outside of the extent of Roman settlement and within the bounds of a cremation cemetery dated c. AD60. By AD 75-80 a series of 23 closely-spaced, strip buildings constructed from brickearth and timber had been constructed within the site as the Roman town expanded northwards. Each building had a rear yard, outhouses, wells, latrine pits and middens. The early Roman urban development had ended by c. AD100 when the area was levelled for the construction of the Basilica complex and its associated streets. The remains of the construction site for the Basilica were also recorded in the form of huts, stores buildings and offices (Milne and Wardle 1993). Overlying the Roman horizons, Saxon pits and the structural remains of the 15th century Leadenhall market were recorded.

The upstanding remains of one of the medieval market walls were recorded during the archaeological investigations but are known to have been demolished prior to the construction of Leadenhall Court.

An appraisal of the surviving archaeology with the Proposed Development area undertaken in 2011 (MOLA, 2011) noted that the rear basement wall of 2-3 Grand Avenue and extending to 8 Grand Avenue is constructed of masonry and probably forms part of the skin market documented on the site in the late 18th century. This forms the party wall with the current Leadenhall Court building.

Existing Basement Impacts

A review of the construction drawings for the existing Leadenhall Court building indicates that it has a double basement. The surface of the basement slab lies at 8.20m AOD, providing a basement depth of 9.30m. This does not include the thickness of the basement slab which may be up to 500mm thick.

A plan dated 1881 records a Roman 'concrete' floor surface at a depth of approximately 12.85m AOD and it is known that the 1980s excavation extended to the surface of the underlying natural Brickearth geology.

This evidence suggests that no archaeological remains survive within the footprint of the existing Leadenhall Court basements. This conclusion was also reached by a 2011 assessment of the archaeological context of Leadenhall Court (MOLA 2011).

Potential Impacts

The principal construction impact arising from the Proposed Development will be the excavation of new basement levels, below the existing basement, to a depth of c.3.90m AOD (a total depth of c13.60m). The review of the previous archaeological investigations carried out in the 1980s and an appraisal of the current site conditions indicate that all archaeological remains within the footprint of the current Leadenhall Court building have been removed.

It should, however, be noted that significant archaeological remains including a scheduled section of Roman forum wall and sections of masonry wall from the 18th century skin market survive within the basement walls of the adjoining properties; 90 Gracechurch Street and 2-8 Grand Avenue.

It is currently anticipated that the Proposed Development will be undertaken entirely within the footprint of the existing building's basement and will therefore not affect the Scheduled Monument; however, possible effects on listed fabric of the adjoining basement walls should be considered.

Beyond the footprint of the extant Leadenhall Court there is potential for below ground impacts in the form of:

- Groundworks for public realm improvements; and
- Groundworks for utility diversions and laying of new services.

The nature and extent of these works is unknown at the time of writing.

Outline Scope of Assessment

The proposed excavation of the new basement levels and any foundations for the Proposed Development will be undertaken within the footprint of the existing Leadenhall Court; an area in which no archaeological remains survive. Consequently there is limited potential for significant environmental effects on the archaeological resource as a result of the Proposed Development. It is therefore recommended that Archaeology (Buried Heritage Assets) is scoped out of the EIA.

Any intrusive works outside the footprint of the current building, such as utility or public realm works are likely to be limited in their depth and extent and could be appropriately assessed either in a technical note or stand-alone desk-based assessment prepared to support any future planning application.

Similarly a site walkover survey would confirm whether the existing Leadenhall Court basement wall contains any significant archaeological fabric. It is recommended that early consultation is undertaken with Historic England with regard to the scheduled and listed fabric in the party walls. Any effects to the party walls could be assessed and presented in a technical note or desk-based assessment.

Early consultation with the Senior Historic Environment Officer at the CoL will confirm the appropriate level and requirements for further archaeological assessment.

If required by the CoL, the following methodology for desk-based assessment would be followed.

Desk-based assessment

In order to place the site in its full archaeological and historical context, baseline information would be collected on the known heritage assets within the study area. The primary repositories of such information consulted will include but may not be limited to:

- National Heritage List for England;
- Greater London Historic Environment Record;
- Historic England Archive;
- The London Metropolitan Archive;
- The Guildhall Library;
- London Archaeological Archive and Resource Centre;
- Historic Ordnance Survey and pre-Ordnance Survey cartographic mapping;
- British Geological Survey and other available ground investigation reports or borehole data;
- A site walkover survey; and
- Various internet and documentary sources.

The archaeological datasets and the results from previous archaeological and geotechnical investigations will be collated and used to create a deposit model of the extent and depth (where known) of the archaeological resource. The deposit model and wider baseline data will then be used to assess the overall archaeological potential of those areas which fall outside of the existing basements.

Consultation will be undertaken throughout the assessment with the CoL's Senior Historic Environment Officer and Historic England.

Aviation

The Proposed Development is located within close proximity to arrival and departure flight paths from the major airports of London Heathrow and London City Airport.

Airports in the UK are strictly regulated under CAP393 Air Navigation: The Order and the Regulations which sets out the basic rules of aviation for the United Kingdom. The regulations and ODPM Circular 01/2003 Safeguarded Aerodromes, and CAP 738 document (CDR45) requires that new development needs to maintain safe and efficient use of airspace over London. CAP 738 documents a process that has been established against which buildings are assessed as to their potential effect on safe aircraft operations at aerodromes. This assessment is known as Safeguarding. The process sets out how safeguarded airports are to assess development against the criteria set out in the relevant regulations and is a key responsibility with respect to maintaining their license to operate.

Additionally the second edition of CAP 738 sets out the London Tall Buildings policy which specifically addresses the development of tall structures in a defined area. The policy is specifically aimed at preventing tall buildings from impacting the safe and regular operation of aircraft in the wider London airspace.

Internal aviation require 1000 foot (304.8m) obstacle clearance to allow for clear flight paths and therefore any development in the central London area cannot exceed 1000 feet (304.8m) in height.

The maximum height of the Proposed Development will be below the 1000 ft zone threshold within which the Civil Aviation Authority (CAA) would support an objection to a planning application. On this basis, it is proposed that an aviation impact assessment is scoped out of the EIA as it is not likely that the Proposed Development will result in significant impacts in terms of aviation, however the CAA and London City Airport will be consulted with in relation to the Development Proposals.

The relevant consultation will be appended to the ES.

Ecology

A Preliminary Ecological Appraisal (PEA) including a Phase 1 Habitat survey of the site was undertaken on 8th April 2016. The objective of the extended Phase 1 Habitat survey was to identify broad habitat types within and directly adjacent to the site boundary, highlight the potential for protected or particularly notable species, identify priority habitat and propose mitigation strategies for various scenarios for protected species management.

The Proposed Development site is comprised solely of buildings and associated hardstanding, and does not have the potential to support protected or notable species or species groups including badger (Meles meles), reptiles, great-crested newt (Triturus cristatus) and bats. Protected species or habitats therefore do not present a constraint to the development.

In order for the Proposed Development to contribute positively to enhancing opportunities for ecology the following features are recommended to be incorporated into the design, where possible:

- Living walls to provide foraging habitat for insects and birds and nesting opportunities for birds including the house sparrow (a flagship species for City of London);
- Green roofs to provide habitat for insects;
- Balcony gardens and window boxes for insects and birds; and
- Bird and bat boxes.

The PEA Report can be found in Appendix 1 of this EIA Scoping Report. No further ecological surveys or assessment are recommended as a result of the Phase 1 Habitat survey, and as such, it is advised that an ecological assessment chapter will be scoped out of the ES.

Electronic Interference (TV and Radio)

Electronic interference relates to the degradation or loss of reception of certain services (i.e. digital terrestrial and satellite television (TV), radio signals, mobile telephone signals etc.) by sensitive receptors. Sensitive receptors are considered to be domestic dwellings where TV is watched, or radio is listened to as an amenity. Places where TV or radio is part of a commercial offering, such as hotels, offices and shops, are not considered to be sensitive receptors. This differentiation has been consistently used by the relevant United Kingdom (UK) government agencies (currently Office of Communications (OFCOM)) since the inception of TV services in the UK.

An on-site survey was conducted on 14 April 2016, which coupled with desk-based studies and analysis investigated the potential for significant effects pertaining to Electronic Interference (TV and Radio). The results of this study are presented in Appendix 2; however, it was found that due to the existing terrestrial TV shadow cast by 20 Fenchurch Street ('The Walkie Talkie'), 150 Leadenhall Street, 6-8 Bishopsgate, and Tower 42, the potential terrestrial TV shadow cast by the Proposed Development will not exceed the existing baseline. It was found that the anticipated satellite TV shadow falls across commercial properties, and is therefore not considered to constitute a significant effect.

It should be noted that radios use signals at lower frequencies than TV signals. As a result, radio signals can bend to a greater extent around obstructions and are able to make constructive use of reflected signals. Therefore, as radio signals are able to operate successfully in urban environments there is considered to be 'no significant' risk to radio reception (both analogue and digital) as a result of the Proposed Development. It was determined that the Proposed Development does not pose the potential to have a significant effect on mobile telephone communication networks.

As a result of the on-site survey and desk based studies, it is considered that there will be no significant environmental effects to TV and radio reception as a result of the Proposed Development and therefore it is proposed that a full Environmental Statement (ES) chapter is scoped out of the ES.

Waste and Recycling

To facilitate the Proposed Development, the existing building on-site is due to be demolished. In accordance with the principles of the Waste Management Plan for England (2013) and the National Planning Policy for Waste (2014), a principal aim during construction will be to reduce the amount of waste generated and exported from the site. This approach complies with the waste hierarchy, where the intention is first to prevent, reuse, recycle and finally, to dispose of waste offsite as necessary. All relevant contractors involved during the demolition and construction phase will be required to investigate opportunities to minimise and reduce waste generation in line with WRAP's 'Halving Waste to Landfill' initiative. Whilst the requirement for Site Waste Management Plans were revoked as of 1st December 2013 and as such, are no longer mandatory, it is considered best practice to produce a Construction Resource Management Plan (CRMP) or similar, which will outline the ways in which the waste hierarchy will be adhered to. Details of the CRMP will be made available during the post-planning phase, once all of the necessary information concerning demolition and construction is known.

As well as a CRMP, the planning application will be accompanied by a concise Operational Waste Management Strategy, which will include estimated volumes of waste arisings associated with the operational phase of the Proposed Development and their management. The Operational Waste Management Strategy will outline the relevant national (England), regional (London) and local (CoL) legislation, policy and guidance for the management and handling of operational waste arisings and how the Proposed Development intends to comply with these requirements. This process will be supported through consultation with the CoL, so as to develop a robust and sustainable Operational Waste Management Strategy.

The Proposed Development is anticipated to provide commercial land uses of a similar nature to those currently on site (i.e. office (B1) and retail (A1-A4). It is therefore considered, that whilst waste arisings from the Proposed Development will be greater than those currently generated, the composition of waste will not change from that arising from the existing development, i.e. of inert non-hazardous waste. Additionally, the increase in waste arisings will be within the same order of magnitude as existing levels of waste generation. It is acknowledged that waste management infrastructure within the CoL is operating close to capacity, and that new development will place a further strain on existing infrastructure. However, waste arisings will be managed under existing commercial contracts, and through following the proximity principle, all waste arisings will be managed within the Greater London area, in line with the London Plan (2015). Within the London Plan, the CoL has been set an apportionment target of 100,000 tonnes per annum, half of which is to comprise commercial and industrial waste; however, the London Plan recommends that London Borough's pool their targets, so as to manage all of London's waste within the Greater London area. It is therefore envisaged that waste arisings from the Proposed Development will be managed under a commercial contracts within the Greater London area. Resultantly, it is proposed that a Waste and Recycling chapter is scoped out of the ES, with the management and handling of demolition and construction waste outlined within a CRMP, produced during the post-planning stages, and operational waste management and handling processes detailed within the Operational Waste Management Strategy.

Proposed Structure of the Environmental Statement

09

Proposed Structure of the Environmental Statement

The ES will comprise the following set of documents:

ES Non-Technical Summary (NTS): this document will provide a concise summary of the Proposed Development, alternative designs that were considered, environmental effects and mitigation measures.

ES Volume I: This will contain the full text of the EIA with the proposed chapter headings as follows:

- Introduction;
- EIA Methodology;
- Alternatives and Design Evolution;
- The Proposed Development;
- Demolition and Construction;
- Socio-economics;
- Transport;
- Air Quality;
- Noise and Vibration;
- Wind Microclimate ;
- Daylight, Sunlight, Overshadowing and Solar Glare;
- Ground Conditions;
- Water Resources, Drainage and Flood Risk;
- Effect Interactions; and
- Residual Effects and Conclusions.

ES Volume II: Townscape, Heritage and Visual Impact Assessment: the ES will include a stand-alone Townscape, Heritage and Visual Impact Assessment, accompanied by a full set of views and verified images.

ES Volume III: Technical Appendices: these will provide supplementary details of the environmental studies conducted during the EIA including relevant data tables, figures and photographs.

Summary and Conclusions

10

Summary and Conclusions

This report requests a Scoping Opinion of the CoL pursuant to Regulation 13 of the Town and Country Planning (Environmental Impact Assessment) (England) Regulations 2011. The EIA Scoping Report suggests a comprehensive scope of work based on previous experience of the assembled team of specialists and existing knowledge of the site. The CoL and consultees are invited to consider the contents of this Scoping Report and comment accordingly within the five-week period prescribed by the EIA Regulations.

Appendix 1

Phase 1 Habitat Survey

One Leadenhall

Preliminary Ecological Appraisal

April 2016

Prepared for:

Brookfield Property Partners (UK) Limited

REVISION SCHEDULE					
Rev	**Date**	**Details**	**Prepared by**	**Reviewed by**	**Approved by**
1	11/04/2016	Draft for internal review	PW Senior Graduate Ecologist Grad CIEEM	MW Technical Director of Ecology FCIEEM	MW Technical Director of Ecology FCIEEM]

This report has been prepared and provided in accordance with the Code of Professional Conduct of the Chartered Institute of Ecology and Environmental Management.

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Where field investigations are carried out, these have been restricted to a level of detail required to meet the stated objectives of the services. The results of any measurements taken may vary spatially or with time and further confirmatory measurements should be made after any significant delay in issuing this Report.

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SUMMARY

This report presents the results of a Preliminary Ecological Appraisal (PEA) for the proposed alterations of a property known as One Leadenhall in the City of London, through provision of retail property and office space.

The PEA is informed by a desk-based data search and an extended Phase 1 Habitat survey which was conducted by an ecologist from AECOM on the 8th April 2016.

The objective of the extended Phase 1 Habitat survey was to identify broad habitat types within and directly adjacent to the Site boundary, highlight the potential for protected or particularly notable species, identify priority habitat and propose mitigation strategies for various scenarios for protected species management.

The Proposed Development site is comprised solely of buildings and associated hardstanding, and does not have the potential to support protected or notable species or species groups including badger (*Meles meles*), reptiles, great-crested newt (*Triturus cristatus*) and bats. Protected species or habitats therefore do not present a constraint to the development. It is recommended that ecology is scoped out of the Environmental Statement.

In order for the Proposed Development to contribute positively to enhancing opportunities for ecology the following features are recommended to be incorporated into the design:

- Living walls to provide foraging habitat for insects and birds and nesting opportunities for birds including the house sparrow (a flagship species for City of London);
- Green roofs to provide habitat for insects;
- Balcony gardens and window boxes for insects and birds; and
- Bird and bat boxes.

1 INTRODUCTION

AECOM was instructed by Brookfield Property Partners to carry out a Preliminary Ecological Appraisal (PEA) of the site of a Proposed Development, known as One Leadenhall, at Leadenhall Court in the City of London. The central grid reference for the site is TQ33078110 and the boundary of the site is shown on Figure 1. The site is approximately 2248m^2 / 0.225ha in size and is proposed for the construction of retail properties and office space.

This PEA was commissioned to identify whether there are known or potential ecological receptors (nature conservation designations, and protected and notable habitats and species) that may constrain or influence the design and implementation of the Proposed Development. The approach applied when undertaking this PEA accords with the *Guidelines for Preliminary Ecological Appraisal* published by the Chartered Institute of Ecology and Environmental Management (CIEEM 2012). The PEA addresses relevant wildlife legislation and planning policy as summarized in Section 2 of this report.

In order to deliver the PEA, a desk study and an extended Phase 1 Habitat Survey were undertaken by an appropriately experienced ecologist, to identify ecological features within the Proposed Development site and the wider potential zone of influence of the Proposed Development. The potential zone of influence was defined with reference to the project description provided by Brookfield Property Partners (UK) Limited and the layout of the existing development, as shown in Figures 2, 3 and 4 in Appendix 1. Additional details are provided in Section 3: Methods.

The purpose of the PEA was to:

- identify and categorise all habitats present within the site and any areas immediately outside of the site where there may be potential for direct or indirect effects (the “zone of influence”);
- carry out an appraisal of the potential of the habitats recorded to support protected or notable species of fauna and flora;
- provide advice on any potential ecological constraints and opportunities in the zone of influence, including the identification (where relevant) of any requirements for follow-up habitat and species surveys and/or requirements for ecological mitigation; and
- provide a map showing the location of the identified ecological receptors of relevance.

The purpose of this report is to inform the design of the Proposed Development prior to submission of a planning application. The report identifies the scope of further work (where necessary) that would be required to support a planning application. High level recommendations are made on potential options for the avoidance, mitigation or compensation of the potential impacts of the Proposed Development (where known) on the identified ecological receptors, and of potential enhancements to the biodiversity and ecosystem services.

2 WILDLIFE LEGISLATION AND PLANNING POLICY

2.1 Wildlife Legislation

The following wildlife legislation is potentially relevant to the Proposed Development:

- The Wildlife and Countryside Act (WCA) 1981 (as amended)
- The Countryside and Rights of Way (CRoW) Act 2000
- The Natural Environment and Rural Communities (NERC) Act 2006
- The Conservation of Habitats & Species Regulations 2010 (as amended)

The above legislation has been considered when planning and undertaking this PEA using the methods described in Section 3, when identifying potential constraints to the Proposed Development, and when making recommendations for further survey, design options and mitigation, as discussed in Section 5. Compliance with legislation may require the attainment of relevant protected species licences prior to the implementation of the Proposed Development.

Further information on the requirements of the above legislation is provided as Appendix 2.

2.2 National Planning Policy

The National Planning Policy Framework (NPPF) was published on 27 March 2012 and details the Government's planning policies for England and how these are expected to be applied.

The NPPF states the commitment of the UK Government to minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity. It specifies the obligations that the Local Authorities and the UK Government have regarding statutory designated sites and protected species under UK and international legislation and how this it to be delivered in the planning system. Protected or notable habitats and species can be a material consideration in planning decisions and may therefore make some sites unsuitable for particular types of development, or if development is permitted, mitigation measures may be required to avoid or minimise impacts on certain habitats and species, or where impact is unavoidable, compensation may be required.

2.3 Regional Planning Policy

There are a number of policy documents at the regional level with relevance to biodiversity, which are summarised below. The London Plan[i] contains the following policies of relevance to ecology.

<u>The Mayor's London Plan, Spatial Development Strategy for Greater London (2011)</u>

- *Policy 2.18 Green Infrastructure* states that development proposals should protect, promote, expand and manage the extent and quality of London's network of green infrastructure;
- *Policy 5.3 Sustainable Design and Construction* states that development proposals should promote and protect biodiversity and green infrastructure, for example through the provision of green roofs;

- *Policy 5.10 Urban Greening* states that development proposals should integrate green infrastructure, which could include tree planting; green roofs and walls; and soft landscaping;

- *Policy 5.11 Green Roofs and Development Site Environs* states that major development proposals should include roof, wall and site planting, especially green roofs and walls where feasible;

- *Policy 7.19 Biodiversity and Access to Nature* describes the protection that should be given to internationally and nationally designated sites, Sites of Importance for Nature Conservation (SINCs), protected species and priority species identified in the UK, London and borough BAPs; and

- *Policy 7.21 Trees and Woodlands* states that trees and woodlands should be managed in accordance with the London Tree and Woodland Framework.

Revised Early Minor Alterations to the London Plan (2013)

The REMA[ii] to the London Plan were published in October 2013. The alterations set out proposed changes to the London Plan to address the NPPF.

Reference is made to a number of biodiversity policies; however the proposed amendments are aimed at replacing earlier references to government guidance now superseded by the NPPF and therefore propose no material alterations to these policies.

The Mayor's Biodiversity Strategy (2002)

The Mayor's Biodiversity Strategy[iii] details the Mayor of London's vision for protecting and conserving London's natural open spaces. The strategy aims to protect wildlife habitats, encourage businesses to incorporate green design into their development proposals and protect London's most vulnerable wildlife.

2.4 Local Planning Policy

Relevant local planning policies for the City of London are detailed in the following documents:

City of London Local Plan: Strategic Policies

Core Strategic Policy CS15: Sustainable Development and Climate Change:

- *4. [Requires] development to positively address:*

- *(vi) the need to enhance biodiversity and provide for its conservation and enhancement, particularly for the City's flagship species and the City's priority habitats (urban green spaces, churchyards and cemeteries, built structures and the tidal Thames).*

Core Strategic Policy CS19: Open Spaces and Recreation:

- *1. [Seeks] to maintain a ratio of at least 0.06 hectares of high quality, publicly accessible open space per 1,000 weekday daytime population:*

- *(v) encouraging high quality green roofs, roof gardens and terraces, particularly those which are publicly accessible, subject to the impact on the amenity of adjacent occupiers..*

Policy DM19.2 Biodiversity and urban greening:

Developments should promote biodiversity and contribute to urban greening by incorporating:

- *green roofs and walls, soft landscaping and trees;*
- *features for wildlife, such as nesting boxes and beehives;*
- *a planting mix which encourages biodiversity;*
- *planting which will be resilient to a range of climate conditions; and*
- *maintenance of habitats within Sites of Importance for Nature Conservation.*

Table 2.1 provides a summary of relevant local planning policies. For the precise wording of each specific policy please refer back to the source document. This planning policy has been considered when assessing potential ecological constraints and opportunities identified by the desk study and field surveys; and, when assessing requirements for further survey, design options and ecological mitigation, as described in section 5.

Table 2.2.1: Summary of Local Planning Policy

Document	Planning Policy	Purpose
City of London Local Plan 2015	CS15: Sustainable Development and Climate Change	Highlights the need to enhance biodiversity in the City of London.
	CS19: Open Spaces and Recreation	To encourage the provision of high quality green roofs, roof gardens and terraces, particularly those which are publicly accessible.
	DM19.2 Biodiversity and urban greening	To encourage developments to incorporate features which enhance biodiversity e.g. green roofs and features for wildlife.
City of London Biodiversity Action Plan	-	Habitat action Plans for Urban Greening, Built Structures, and Tidal Thames. Flagship Species: House Sparrow, Peregrine, Black Restart, Bats and Stag Beetle.

3 METHODS

3.1 Desk Study

A desk study was carried out to identify nature conservation designations, and protected and notable habitats and species potentially relevant to the Proposed Development.

A stratified approach was taken when defining the desk study area, based on the likely zone of influence of the Proposed Development on different ecological receptors; and, an understanding of the maximum distances typically considered by statutory consultees. Accordingly, the desk study identified any international nature conservation designations within 10km of the site boundary; other statutory nature conservations designations within 1km of the site boundary; and, local non-statutory nature conservation designations, and protected and notable habitats and species within 1km of the site boundary.

The desk study was carried out using the data sources detailed in Table 3.1. Protected and notable habitats and species include those listed under Schedules 1, 5 and 8 of the Wildlife and Countryside Act 1981 (as amended); Schedules 2 and 4 of The Conservation of Habitat & Species Regulations 2010 (as amended); and species and habitats of Principal Importance for nature conservation in England listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Records of non-native controlled weed species were also collated, such species are listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

Table 3.1: Desk study data sources

Data Source	Accessed	Data Obtained
Multi-Agency Geographic Information for the Countryside (MAGIC) website	07/04/2016	• International statutory designations within 10km • Other statutory designations within 1km • Information on habitats and habitat connections (based on aerial photography) relevant to interpretation of planning policy and assessment of potential protected and notable species constraints
Greenspace Information for Greater London	11/04/2016	• Non-statutory designations within 1km • Protected and notable species records within 1km (records for the last 10 years only)
Ordnance Survey 1:2500 Pathfinder maps and aerial photography	11/04/2016	• Information on habitats and habitat connections (based on aerial photography) relevant to interpretation of planning policy and assessment of potential protected and notable species constraints

3.2 Field Survey

The field survey comprised a Phase 1 Habitat survey and an appraisal was made of the potential suitability of the habitats present to support protected and notable species.

3.2.1 Phase 1 Habitat Survey

A Phase 1 Habitat survey was undertaken in accordance with the standard survey method (Joint Nature Conservation Committee, 2010). Phase 1 Habitat survey is a standard method of environmental audit. It involves categorising different habitat types and habitat features within a survey area. The information gained from the survey can be used to determine the likely ecological value of a site, and to direct any more specific survey work which may need to be carried out prior to the submission of a planning application. The standard Phase 1 Habitat survey method can be "extended" to record target notes on protected, notable and invasive species.

The survey was undertaken on 8th April 2016 by a suitably qualified AECOM ecologist who recorded and mapped all habitat types present within the survey area, along with any associated relevant ecological receptors observed. The survey area encompassed all safely accessible parts of the site and adjacent habitats where access permission had been granted in advance of survey, or this land was visible from within the site boundary or from public rights of way, or other publicly accessible areas.

Where relevant ecological receptors were present, target notes (Appendix 3) were recorded and the position of these shown on the Phase 1 Habitat map (Figure 1). Typical and notable plant species were recorded for different habitat types and reflect the conditions at the time of survey. This was not intended to be a detailed inventory of the plant species present in the survey area, as this is not required for the purposes of Phase 1 Habitat survey.

3.2.2 Appraisal of potential suitability of habitats to support protected and notable species

An appraisal was made of the potential suitability of the habitats present to support protected and notable species of plants or animals (as defined in Section 2.1). Field signs, habitat features with potential to support protected species and any sightings or auditory evidence were recorded when encountered, but no detailed surveys were carried out for any particular species.

A note was made of visible instances of invasive non-native plant species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), including Japanese knotweed (*Fallopia japonica*). Locations of plants or stands of any such invasive non-native plant species found were recorded.

Section 5 of this report identifies further requirements for species survey based on the results of the habitat survey. These surveys should be completed prior to submission of a planning application as the results are likely to be material for determination of the planning application.

3.3 Desk Study and Field Survey Limitations

The aim of a desk study is to help characterise the baseline context of a Proposed Development and provide valuable background information that would not be captured by a single site survey alone. Information obtained during the course of a desk study is dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for a particular habitats or species does not necessarily mean that the habitats or species do not occur in the study area. Likewise, the presence of records for particular habitats and species does not automatically mean that these still occur within the area of interest or are relevant in the context of the Proposed Development.

The recording of invasive non-native plant species listed on Schedule 9 of the Wildlife and Countryside Act was constrained by the time of year that the survey was undertaken. Most such species are not visible or cannot be reliably mapped outside the growing season (May to September), and some species are only apparent during certain months. Populations of annual plant species may fluctuate markedly between years dependent on the growing conditions present in any given season.

Where habitat boundaries coincide with physical boundaries recorded on OS maps the resolution is as determined by the scale of mapping. Elsewhere, habitat mapping is as estimated in the field and/or recorded by hand-held GPS. Where areas of habitat are given they are approximate and should be verified by measurement on site where required for design or construction.

4 RESULTS

4.1 Nature Conservation Designations

4.1.1 Statutory Designations

There are no sites with European or national statutory designation within 1km of the Site. There are no Local Nature Reserves (LNRs) within 1km of the Site.

4.1.2 Non-statutory Designations

Table 4.1 details the non-statutory nature conservations designations identified by the desk study based on the method given in Section 2.1 of this report. The designations are listed in descending order, with those closest to the site listed first.

Table 4.1: Sites with non-statutory designations for nature conservation

Designation	Reason(s) for Designation	Relationship to the Site
River Thames and tidal tributaries Metropolitan M031	The river provides an important wildlife corridor across London and is a home to bird and fish species	The river lies approximately 500m to the south of the urban areas adjacent to the Site
The Barbican and St Alphage's Gardens Borough Grade II CiBII02	This site contains amenity grassland, planted shrubbery, pond/lake, scattered trees, semi-improved neutral grassland and vegetated wall/tombstones.	These gardens lie approximately 1 km NW of the Site.
London Wall and the wall of the Tower of London Borough Grade II THBII07	This site contains vegetated wall/tombstones, noted for the presence of London rocket *(Sisymbrium irio).*	This SINC lies approximately 800m SE of the Site
Pepys Garden, Seething Lane and St Olave's Churchyard Local CiL01	Two small gardens with plenty of mature trees. Habitats include amenity grassland, flower beds, planted shrubbery and scattered trees	This SINC lies approximately 450m SE of the Site
St Paul's Cathedral gardens Local CiL02	The grounds of St Paul's Cathedral contain many fine mature trees. Habitats include amenity grassland, flower beds, planted shrubbery, and scattered trees	This SINC lies approximately 1km W of the Site
Cleary Gardens Local CiL03	The garden contains amenity grassland, planted shrubbery, scattered trees, scrub and vegetated wall/tombstones.	This SINC lies approximately 900m WSW of the Site
St Botolph's Bishopsgate Church Grounds	A mature spacious garden, with trees, lawns, hedges and some substantial areas of tall shrubbery.	This SINC lies approximately 400m N of the Site

Local CiL04	Habitats include amenity grassland, hedge, planted shrubbery, scattered trees, and vegetated wall/tombstones	
Aldermanbury Gardens Local CiL05	A garden on the site of the former Wren church of St Mary, with uncommon ferns on the tombstones. Habitats include amenity grassland, flower beds, hedge, scattered trees, and vegetated wall/tombstones	This SINC lies approximately 730m WNW of the Site
Roman Wall, Noble Street Local CiL06	This section of the Roman wall supports a range of wild flowers.	This SINC lies approximately 960m WNW of the Site
Finsbury Circus Local CiL07	The oldest public park in London, dating from 1606, with mature trees. Habitats include amenity grassland, flower beds, planted shrubbery, and scattered trees	This SINC lies approximately 570m NNW of the Site
St Katharine's Dock Local THL15	Marina with open water, wintering birds, access to nature. Habitats include a water body and vegetated walls	This SINC lies approximately 1 km SE of the Site

4.2 Habitats

4.2.1 Phase 1 Habitat Types

The habitats recorded, their extent and distribution are shown in Table 4.2 and Figure 1. The areas are approximate only. The associated target notes are provided in Appendix 3, illustrative photographs are provided as appropriate in Appendix 4. Relevant information from the desk study on particular habitats is noted in Table 4.2.

Table 4.2: Habitats present, in descending order based on spatial area occupied

Habitat	Brief description	Area (ha)	% of Site area
Buildings	There is one building within the site boundary.		90%
Hardstanding	Footpaths and roads on the boundary of the site.		10%

Buildings

There are no natural habitats on site. There were no street trees, no shrubs and no vegetation on the roof.

The only Phase 1 Habitats on site are the four storey building and footpaths adjoining the building on Whittington Avenue, Leadenhall Market, Leadenhall Street and Christchurch Street.

The building is occupied and in use, primarily for offices and commercial use on the ground floor facing the streets. The building was constructed in 1978, underwent a major refurbishment in 1989 and some soft refurbishments in 2014.

Access was gained to the roof. The roof is flat and does not contain any pitched spaces. The roof is flat and consists of flat concrete tiles as well as fire retardant pebbles (see photos). Plant rooms are present on the roof and are locked, well lit and contain no gaps or crevices suitable for bat entry/egress. The plant room panels are made of metal. The centre of the roof is constructed of glass as it overhangs a ground floor courtyard in the centre of the building. It consists of glass panels held in place with metal structures. No gaps or cracks were present between the glass and metal panels suitable for bat entry/egress. At the southern edge of the site on the adjacent Leadenhall Market, a similar glass roof overhangs the street and connects to a building outside of site. This glass structure is open to the street and is well maintained in good condition.

The walls of the building consisted of concrete with no gaps or cracks suitable for bat entry/egress leading into the building. The building was in overall good condition.

The windows on all sides of the building were well-sealed, in good condition and lacked any gaps or cracks suitable for bat entry/egress.

No signs of birds were observed on the roof or on the walls of the building.

4.2.2 Notable Habitats

There are no notable habitats on site.

4.3 Protected and Notable Species

Table 4.4 provides a summary of potentially relevant species identified through a combination of desk study and field survey. The table summarises the conservation status of each species and provides comment on the likelihood of presence.

Species present on site are those for which recent direct observation or field signs confirmed presence. Species which are possibly present are those for which there is potentially suitable habitat based on the results of the Phase 1 Habitat survey, or this combined with desk study records. Species unlikely to be present are only mentioned where there are desk study records but there is no suitable habitat in the zone of influence, or there are other reasons why presence is unlikely. Brief comments are provided to support the determinations made in Table 4.3.

Where species are identified in Table 4.3 as likely or possible, they are likely to represent legal constraints or may be material to determination of a planning application. Further surveys will or may be required to determine presence or probable absence. Requirements for further surveys are identified in Section 5 of this report.

Table 4.3: Protected and notable species relevant or potentially relevant to the Proposed Development

Species	Legally Protected Species?	Species of Principal Importance?	Other Notable Species?	Present on Site?	Possibly Present on Site?	Present / Potentially Present in Wider Zone of Influence?	Supporting Comments
Kestrel *(Falco tinnunculus)*	-	-	✓	-	-	✓	Local Species of Conservation Concern Not present / not potentially present on site due to lack of suitable habitat
Grey Wagtail *(Motacilla cinerea)*	-	-	✓	-	✓	✓	Local Species of Conservation Concern Not present / not potentially present on site due to lack of suitable habitat
House sparrow *(Passer domesticus)*	-	-	✓	-	✓	✓	NERC Act Section 41 BAP Priority National Bird-Red BAP Priority London Local Species of Conservation Concern Not present / not potentially present on site due to lack of suitable habitat
Dunnock *(Prunella modularis)*	-	-	✓	-	✓	✓	BAP Priority London Local Species of Conservation Concern Not present / not potentially present on site due to lack of suitable habitat
Starling *(Sturnus vulgaris)*	-	-	✓	-	✓	✓	Bird-Red BAP Priority London Local Species of Conservation Concern Not present / not potentially present on site due to lack of suitable habitat
Noctule Bat *(Nyctalus noctula)*	✓	✓	-	-	-	✓	Cons Regs 2010 Sch2 Hab&Spp Dir Anx 4 NERC Act Section 41 BAP Priority National

Species	Legally Protected Species?	Species of Principal Importance?	Other Notable Species?	Present on Site?	Possibly Present on Site?	Present / Potentially Present in Wider Zone of Influence?	Supporting Comments
							W&CA Sch5 Sec 9.4b W&CA Sch5 Sec 9.4c BAP Priority London Local Species of Conservation Concern Not present / not potentially present on site due to lack of suitable habitat
Nathusius's Pipistrelle *(Pipistrellus nathusii)*	✓	✓	-	-	-	✓	Cons Regs 2010 Sch2 Hab&Spp Dir Anx 4 W&CA Sch5 Sec 9.4b W&CA Sch5 Sec 9.4c BAP Priority London Local Species of Conservation Concern Not present / not potentially present on site due to lack of suitable habitat
Box *(Buxus sempervirens)*	-	-	✓	-	-	-	Nationally Rare RedList_GB-DD Not present / not potentially present on site due to lack of suitable habitat
Meadow Crane's-bill *(Geranium pratense)*	-	-	✓	-	-		Local Species of Conservation Concern Not present / not potentially present on site due to lack of suitable habitat
Wild Clary *(Salvia verbenaca)*	-	-	✓	-	-	-	Local Species of Conservation Concern Not present / not potentially present on site due to lack of suitable habitat
London-rocket *(Sisymbrium irio)*	-	-	✓	-	-	-	Local Species of Conservation Concern

Species	Legally Protected Species?	Species of Principal Importance?	Other Notable Species?	Present on Site?	Possibly Present on Site?	Present / Potentially Present in Wider Zone of Influence?	Supporting Comments
							Not present / not potentially present on site due to lack of suitable habitat
Nigma walckenaeri spider	-	-	✓	-	-	✓	Local Species of Conservation Concern Not present / not potentially present on site due to lack of suitable habitat
Swift *(Apus apus)*	-	-	✓	-	-	✓	Local Species of Conservation Concern Not present / not potentially present on site due to lack of suitable habitat
Redwing *(Turdus iliacus)*	✓	-	-	-	-	✓	W&CA Sch1 Part 1 Bird-Red Not present / not potentially present on site due to lack of suitable habitat
Marsh Dock *(Rumex palustris)*	-	-	✓	-	-	✓	Local Species of Conservation Concern Not present / not potentially present on site due to lack of suitable habitat
Silver-washed Fritillary *(Argynnis paphia)*	-	-	✓	-	-	✓	Local Species of Conservation Concern Not present / not potentially present on site due to lack of suitable habitat
Peregrine *(Falco peregrinus)*	✓	✓	-	-	-	✓	Birds Dir Anx 1 W&CA Sch1 Part 1 BAP Priority London Local Species of Conservation Concern Not present / not potentially present on site due to lack of suitable habitat

Species	Legally Protected Species?	Species of Principal Importance?	Other Notable Species?	Present on Site?	Possibly Present on Site?	Present / Potentially Present in Wider Zone of Influence?	Supporting Comments
Red kite *(Milvus milvus)*	✓	✓	-	-	-	✓	Birds Dir Anx 1 W&CA Sch1 Part 1 Not present / not potentially present on site due to lack of suitable habitat
Black Redstart *(Phoenicurus ochruros)*	✓	✓	-	-	-	✓	W&CA Sch1 Part 1 BAP Priority London Not present / not potentially present on site due to lack of suitable habitat
Ring-necked Parakeet *(Psittacula krameri)*			✓	-	-	✓	LISI Category 4 Invasive species Not present / not potentially present on site
Butterfly bush *(Buddleja davidii)*	✓	✓	✓				LISI Category 3 Invasive species Not present / not potentially present on site
Tree-of-heaven *(Ailanthus altissima)*			✓				LISI Category 3 Invasive species Not present / not potentially present on site
Shaggy soldier *(Galinsoga quadriradiata)*			✓				LISI Category 3 Invasive species Not present / not potentially present on site
Evergreen oak *(Quercus ilex)*			✓				LISI Category 5 Invasive species Not present / not potentially present on site
False-acacia *(Robinia pseudoacacia)*			✓				LISI Category 4 Invasive species Not present / not potentially present on site

Key to symbols: ✓ = yes, see Supporting Comments for further rationale

Legally protected species are those listed under Schedules 1, 5 and 8 of the Wildlife and Countryside Act 1981 (as amended); and, Schedules 2 and 4 of The Conservation of Habitat & Species Regulations 2010 (as amended).

Species of Principal Importance as those listed under Section 41 of the NERC Act 2006. Planning Authorities have a legal duty under Section 40 of the same Act to consider such species when determining planning applications.

Other notable species include native species of conservation concern listed in the LBAP (except species that are also of Principal Importance), those that are Nationally Rare, Scarce or Red Data List, and non-native controlled weed species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

5 IDENTIFICATION OF ECOLOGICAL CONSTRAINTS AND RECOMMENDATIONS

5.1 Approach to the Identification of Ecological Constraints

Relevant ecological receptors that may represent constraints to the Proposed Development, or that provide opportunities to deliver ecological enhancement in accordance with planning policy, are identified in Section 4 of this report.

The NPPF and local planning policy (summarised in Section 2 of this report) specify requirements for the protection of features of importance for biodiversity. Planning policy is a material consideration when determining planning applications.

Compliance with planning policy requires that the Proposed Development considers and engages the following mitigation hierarchy where there is potential for impacts on relevant ecological receptors:

1. Avoid features where possible;

2. Minimise impact by design, method of working or other measures (mitigation) e.g. by enhancing existing features; and

3. Compensate for significant residual impacts, e.g. by providing suitable habitats elsewhere (whether in the control of Brookfield Property Partners (UK) Ltd or otherwise legally enforceable through planning condition or Section 106 agreement).

This hierarchy requires the highest level to be applied where possible. Only where this cannot reasonably be adopted should lower levels be considered. The rationale for the proposed mitigation and/or compensation should be provided with planning applications, including sufficient detail to show that these measures are feasible and would be provided.

In pursuance of the objective within the NPPF of providing net gains in biodiversity where possible, consideration should be given to the scope for enhancement as part of the Proposed Development. This should represent biodiversity gain over and above that achieved through mitigation and compensation. Enhancement could be achieved on and/or off the site.

The likelihood of the relevant ecological receptors constraining the Proposed Development has been assessed with reference to the scale described in Table 5.1. The higher the importance of the ecological receptor for the conservation of biodiversity at national and local scales, the more likely it is to be a material consideration during determination of the planning application for the Proposed Development.

Opportunities for ecological enhancement are not scaled in Table 5.1, but are identified in the accompanying appraisal (Section 5.5 of this report). There may be scope for ecological enhancement where existing habitat features could be improved or enhanced within the Proposed Development as designed, or with only minor amendment to the design of the Proposed Development. Ecological enhancement may not be possible where there is little scope to accommodate enhancement within the Proposed Development, e.g. due to a lack of utilisable space, or where land is required for essential mitigation. Consideration could be given to enhancing biodiversity in the vicinity of the site.

Table 5.1.1: Scale of Constraint to Development

Likelihood	Definition
High	An actual or potential constraint that is subject to relevant legal protection and is likely to be a material consideration in determining the planning application (e.g. statutory nature conservation designations and European/nationally protected species). Further survey likely to be required

	(as detailed in this report) to support a planning application.
Medium	An actual or potential constraint that is covered by national or local planning policy and, depending on the level of the potential impact as a result of the Proposed Development, may be a material consideration in determining the planning application. Further survey may be required (as detailed in this report) to support a planning application.
Low	Unlikely to be a constraint to development or require further survey prior to submission of a planning application. Mitigation is likely to be covered under Construction Environmental Management Plan (CEMP) or precautionary working method statement (e.g. generic requirements for the management of nesting bird risks).

5.2 Constraints and Requirements for Further Survey: Designations

5.2.1 Statutory Designated Sites for Nature Conservation

There are no statutory sites within 1 km of the Development therefore no recommendations have been made with regards to statutory designated sites for nature conservation.

5.2.2 Non-statutory Designated Sites for Nature Conservation

There are 11 non-statutory designated sites for nature conservation within 1 km of the Proposed Development, of which the closest is located approximately 300m to the south.

Based on the available information, none of the non-statutory designated sites identified in the desk study are considered to be relevant to the Development. These designated sites are too distant from the Site, which is within an urbanised area, to be affected by the Development.

5.3 Constraints and Requirements for Further Survey: Habitats

There are no habitat constraints requiring further survey.

5.4 Constraints and Requirements for Further Survey: Species

The site/building is unsuitable for bats due to the good condition of the building, the urban setting of the building in the City of London, and also by the fact that the building in in constant occupation and also that the adjacent habitat consists of busy offices and commercial premises, skyscrapers and busy road transport links. The site is not well connected ecologically (results of desk study). For these reasons, the building is of negligible potential for bats.

The site has no potential for birds due to the lack of suitable nesting/perching and foraging habitat and lack of evidence of birds on site during the visit in April (ideal season for nesting birds).

There are no suitable nesting ledges or foraging habitat for black redstart on site.

The constraints outlined here will need to be reassessed if there is a significant change to the type or scale of development proposed, or if there are any significant changes in the use or management of the land that would affect the habitats and species. If a planning application is made two years or more after a PEA it is advisable to review and update the survey data.

5.5 Opportunities for Ecological Enhancement

The City of London Built Structures Habitat Action Plan aims to enhance biodiversity in the Square Mile by promoting the opportunities for living roofs and walls in new and existing developments and buildings.

In order for the Proposed Development to contribute positively to enhancing opportunities for ecology the following features are recommended to be incorporated into the design:

- Living walls to provide foraging habitat for insects and birds and nesting opportunities for birds including the house sparrow (a flagship species for City of London);
- Green roofs to provide habitat for insects;
- Balcony gardens and window boxes for insects and birds; and
- Bird and bat boxes.

If implemented, these recommendations will contribute to the City of London Biodiversity Action Plan objectives to create opportunities for wildlife by incorporating green design into new developments and the built environment.

6 REFERENCES

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GLA (2013) Revised Early Minor Alterations to the London Plan. GLA

GLA (2002) Connecting with London's Nature. The Mayor's Biodiversity Strategy. GLA

Joint Nature Conservation Committee (2010) *Handbook for phase 1 habitat survey – a technique for environmental audit*. Joint Nature Conservation Committee, Peterborough

Figures

Figure 1: Phase 1 Habitat Map



Appendix 1: Site Layout

Figure 2: Existing Development Plan - Lower Ground Floor:

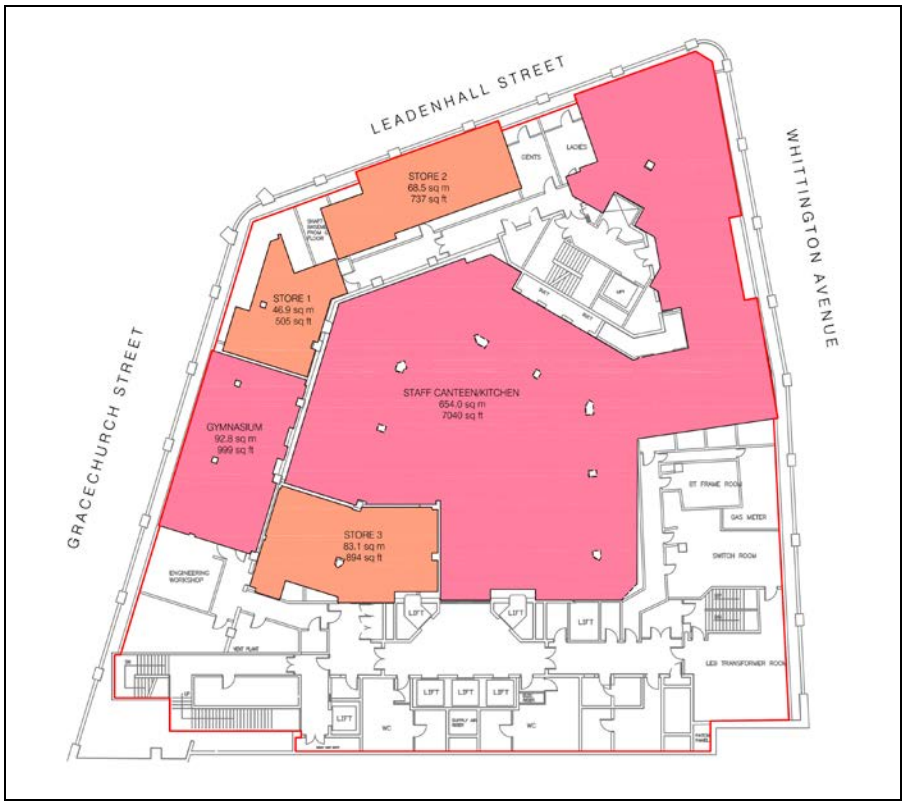


Figure 3: Existing Development Plan – Ground Floor:

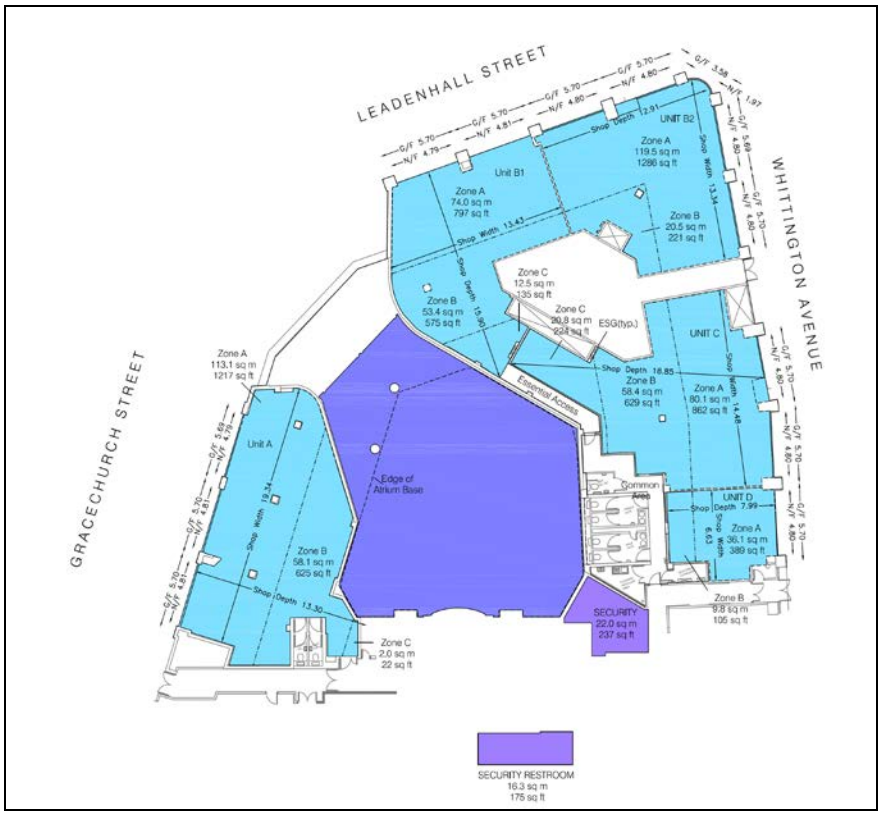
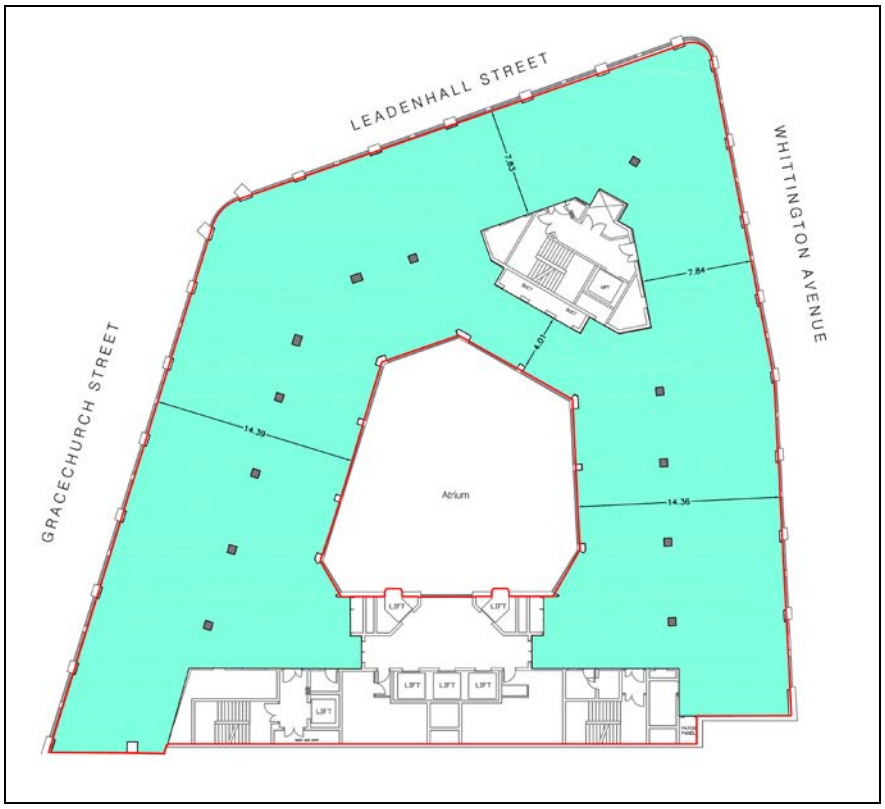


Figure 4: Existing Development Plan – First Floor:



Appendix 2: Legislation and Planning Policy

The Wildlife and Countryside Act, 1981 (as amended)
The WCA 1981 is the major domestic legal instrument for wildlife protection in the UK, and is the primary means by which the following are implemented:

- The Convention on the Conservation of European Wildlife and Natural Habitats ('the Bern Convention'); and

- The Council Directive 79/409/EEC on the Conservation of Wild birds (the 'Bird Directive')

The main relevant provisions of the Act are: allowance for the protection of the most important habitats and species by designating SSSI's, a level of protection to all nesting wild birds and specific bird species under Schedule 1.

The Countryside and Rights of Way (CroW) Act, 2000
Part III of this Act deals specifically with wildlife protection and nature conservation in England and Wales. The CroW Act strengthened the safeguards afforded to SSSIs.

Habitats & Species Regulations, 2010 (as amended)
The original Regulations transposed the EU Directive on Natural Habitats, and Wild Fauna and Flora 9/43/EEC) into domestic legislation. Amendments in 2007 and 2009 addressed a number of gaps and inconsistencies in the original legislation and provided a greater legal certainty and clarity in a number of areas. In April 2010 the Regulations were brought up to date to consolidate changes made since 1994. The Regulations afford a high level of protection to a variety of species that are considered important at a European scale. The Regulations identify European Protected Species and various habitats of importance within the European Union, with important sites for these habitats/species or both being designated as special Areas of Conservation (SAC). Any Proposed Development that may have a significant effect on a SAC or Special Protection Area (SPA) should be assessed in relation to the site's 'conservation objectives', i.e. the reasons for which the site is designated.

The new Regulations simplified the species protection regime to better reflect the Habitats Directive, providing a clear legal basis for surveillance and monitoring of European Protected Species (EPS). The Regulations also amended the WCA, updating Schedules 5 and 8 to consider provisions made by the Habitat Regulations 1994 in relation to the protection of EPS. They also offered further clarification to Part 4 of Section 9 considering "reckless" offences on wild animals, which was previously amended by the CROW Act 2000.

In 2012, the Regulations were further amended to place new duties on public bodies to take measures to preserve, maintain and re-establish habitat for wild birds. They were also amended to ensure certain provision of the Habitats Directive and the Birds Directive were transposed clearly and Section 15 was amended to make clear that Local Nature Reserves can be designated for re-establishing bird habitat

Natural Environment and Rural Communities (NERC) Act, 2006
Section 41 of the NERC Act requires the listing of habitats and species that are considered to be of principle importance for the conservation of biodiversity in England, including habitats and species in England that have been identified as priorities within the UK Biodiversity Action Plan (UKBAP).

The NERC Act requires that the section 41 list be used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section

40 of the NERC Act 2006 ‘to have regard’ to the conservation of biodiversity in England, when carrying out their normal functions.

Appendix 3: Target Notes

Target Notes:
There are no Target Notes.

Appendix 4: Photographs

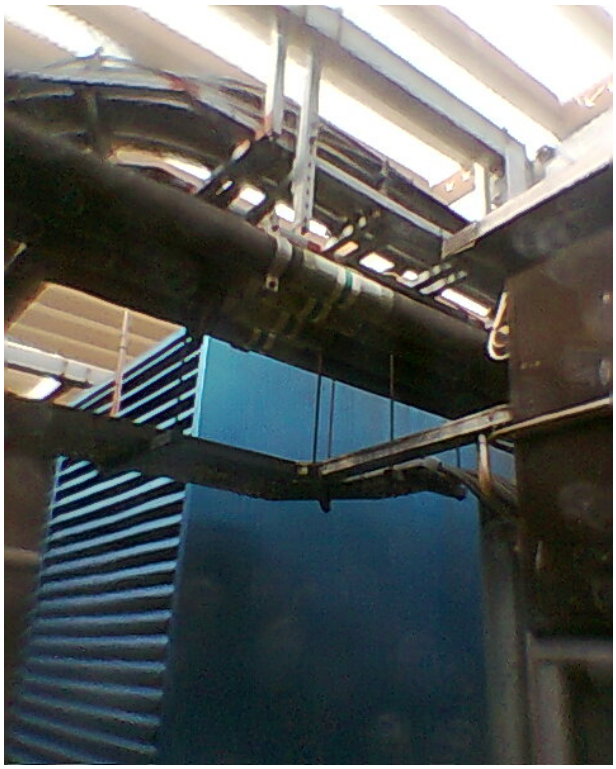
Photograph 1 – Outside of the building showing intact walls and windows



Photograph 2 – Top of building on roof showing plant rooms in good condition



Photograph 3 – Well-lit plant room interior with open roof



Photograph 4 – Inside of roof constructed of glass and metal frame in good condition



[i] Greater London Authority (GLA), (2011); 'The Mayor's London Plan, Spatial Development Strategy for Greater London.'
[ii] GLA, (2013); 'Revised Early Minor Alterations to the London Plan'
[iii] GLA, (2002); 'Connecting with London's Nature. The Mayor's Biodiversity Strategy.' GLA.

Appendix 2

Electronic Interference

(TV and Radio)

AECOM

One Leadenhall Electronic Interference (TV and Radio)

April 2016

Limitations

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Introduction

Electronic interference relates to the degradation or loss of reception of certain services (i.e. digital terrestrial and satellite television (TV), radio signals, mobile telephone signals etc.) by sensitive receptors. Sensitive receptors are considered to be domestic dwellings where TV is watched, or radio is listened to as an amenity. Places where TV or radio is part of a commercial offering, such as hotels, offices and shops, are not considered to be sensitive receptors. This differentiation has been consistently used by the relevant United Kingdom (UK) government agencies (currently Office of Communications (OFCOM)) since the inception of TV services in the UK. The sensitivity of receptors i.e. the ability to view TV programmes, is assumed to be high in order to provide a worst case scenario, this is as usage cannot be quantified.

Terrestrial TV signals are transmitted in digital format (Freeview). The only relevant interference mechanism affecting digital terrestrial TV signals is attenuation, due to buildings physically blocking and absorbing the signals. This is because terrestrial TV can be blocked by the introduction of new buildings. This same mechanism affects satellite TV signals. If the desired TV signals are too weak, the picture very quickly deteriorates into random 'blocks' and then disappears altogether. Therefore, the area in which this effect is experienced is classified as the TV shadow, which is produced as a result of the Proposed Development. This disruption will, even for the tallest of buildings, only extend for two or three kilometres (km) and often less in an urban environment. [Note: An urban environment, in this case, is one that is inhabited by significant numbers of buildings which are taller than standard two storey domestic dwellings. These two storey domestic dwellings are the receptors likely to be most affected by interference to their TV reception.]

It should be noted that radios use signals at lower frequencies than TV signals. As a result, radio signals can bend to a greater extent around obstructions and are able to make constructive use of reflected signals. Therefore, as radio signals are able to operate successfully in urban environments there is considered to be 'no significant' risk to radio reception (both analogue and digital) as a result of the Proposed Development. It should also be noted that Cable TV services are not at risk as a result of the Proposed Development as they are not transmitted through the air. Resultantly, radio signals and Cable TV services are not considered further within this report.

The effects of the proposed One Leadenhall development (hereafter referred to as the 'Proposed Development'), located within the administrative boundary of the City of London Corporation (CoL), on TV reception have been assessed through a combination of desk-based calculations and an on-site survey conducted on 14 April 2016. Consideration has also been given to the potential effects on mobile telephone signals.

Baseline Conditions

The area in which the Proposed Developed is situated (centred at National Grid Reference TQ 330 810) (hereafter referred to as the 'site') is an area populated by commercial buildings, with several tall buildings exceeding 50 metres above ordnance datum (m AOD). These buildings mainly comprise of office (B1) and retail (A1 – A5) space.

Digital terrestrial TV signals in the vicinity of the Proposed Development are provided by the Crystal Palace Transmitter, which transmits the digital 'Freeview' service. Using desk-based calculations it was found that the Proposed Development is located approximately 10 kilometres (km) and 355º East of True North (ETN) of the Crystal Palace Transmitter. Further desk-based calculations were then run to determine the extent of the existing terrestrial TV Shadow. The existing terrestrial TV shadow was calculated based on the height of buildings located within close proximity to the site (i.e. within 200m) and those that fall within the angle of terrestrial TV reception calculated for the site.

The desk-based calculations and on-site survey found that the existing built environment, in particular 20 Fenchurch Street ('The Walkie Talkie'), casts an extensive terrestrial TV shadow over the site (exceeding 1.5km), as demonstrated in Figure 1. Where possible, the heights of surrounding buildings (measured in

mAOD) have been taken from the CoL's Tall Buildings in the City of London report (Ref. 1), which details all existing buildings in the CoL that exceed 50m AOD. In particular, those buildings that were found to contribute to this existing terrestrial TV shadow are:

- 20 Fenchurch Street ('The Walkie Talkie') (177m AOD);
- Tower 42 (199.6m AOD);
- 150 Leadenhall Street (53.1m AOD); and
- 6 – 8 Bishopsgate (106m AOD).

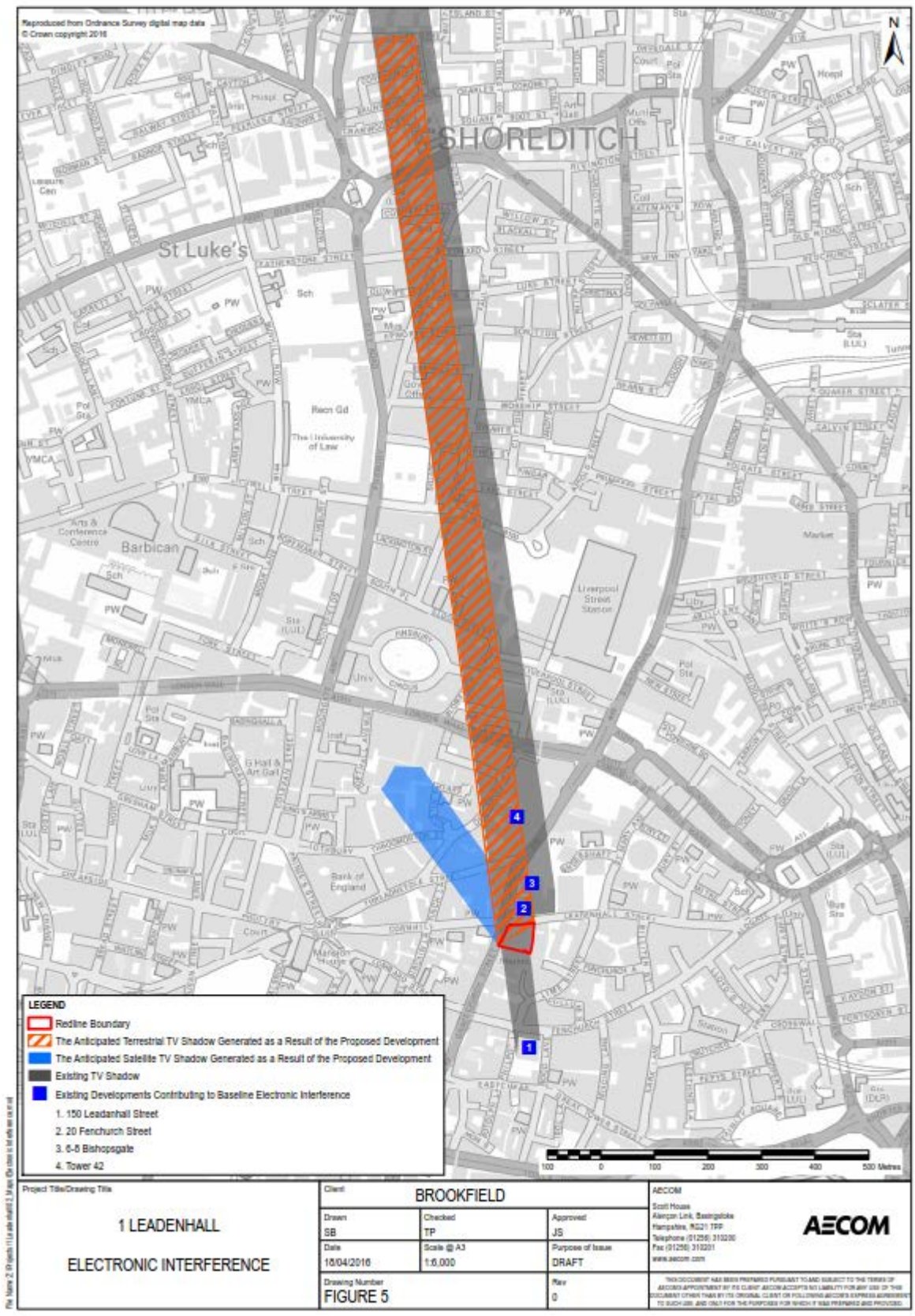
Assessment of Potential Impacts on TV Reception as a result of the Proposed Development

The maximum height of the Proposed Development is approximately 170m AOD, 7m in height less than 20 Fenchurch Street and 29.6m in height less than Tower 42. Furthermore, 20 Fenchurch Street is of a greater bulk and mass than the Proposed Development, and as a result of its location, it receives terrestrial TV reception from the Crystal Palace Transmitter at the same angle as the Proposed Development, thus obstructing all incoming terrestrial TV signals to the site. As a result, it is not anticipated that terrestrial TV reception transmitted by the Crystal Palace Transmitter is at risk as a result of the height and massing of the Proposed Development, due to the current terrestrial TV shadows cast by existing developments located within the City of London. It has been calculated that the terrestrial TV shadow cast by the Proposed Development will extend for approximately 1.5km and lie within the existing terrestrial TV shadow generated as a result of The Walkie Talkie building (as demonstrated in Figure 1) and will therefore not have an impact on sensitive residential receptors. As a result, the Proposed Development does not pose a significant environmental effect on digital terrestrial TV reception.

A satellite TV shadow anticipated to be generated as a result of the Proposed Development will extend to the north-west of the site. The satellite TV shadow will extend for up to approximately 350m (see Figure 1). However, this shadow will fall across commercial properties only, as ascertained during the on-site survey. Therefore, the satellite TV shadow generated as a result of the Proposed Development will not affect any residential satellite dishes, and thus, no potentially sensitive residential dwellings will be at risk of a loss or degradation to satellite TV reception as a result of the completion of the Proposed Development.

Mobile telephone communications use frequencies which are able to pass through solid objects, including buildings and it is therefore unlikely that the Proposed Development will have a significant effect on mobile telephone signals. During the on-site survey no mobile telephone masts were witnessed which were located within 5m of the site. However, it should be noted that there is currently one active mobile telephone mast on-site, which is operated by Vodafone and is present on the roof of the existing building along Gracechurch Street. As part of the demolition and construction programme, it is considered likely that this mast will be re-sited, or superseded by other existing Vodafone masts, so as to maintain coverage for Vodafone customers in this area. Therefore, it is considered that the Proposed Development will not have an impact on mobile telephone services.

Figure 1 Existing Terrestrial TV Shadow



Conclusion

In conclusion, it is proposed that a full Environmental Statement (ES) chapter is scoped out of the ES, as it is considered that there will be no significant environmental effects to TV and radio reception as a result of the Proposed Development. This is because the Proposed Development will cast a terrestrial TV shadow that will fall within the existing baseline terrestrial TV shadow and the satellite TV shadow will solely fall across commercial properties. Additionally, it is not considered that there will be any significant effects to mobile phone coverage within the vicinity of the site. Therefore it is considered that no significant effects pertaining to Electronic Interference (TV and Radio) will arise as a result of the Proposed Development.

References

Ref. 1 City of London Corporation (CoL); (2015); Tall Buildings in the City of London.

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