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IMPACT ASSESSMENT

(EIA) SCOPING REPORT

LON 05/06
ENVIRONMENTAL IMPACT ASSESSMENT (EIA) SCOPING
REPORT

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1. INTRODUCTION

- 1.1.1 Ramboll UK Limited ('Ramboll') has been commissioned by MSFT MCIO LTD to prepare an Environmental Impact Assessment (EIA) Scoping Request Report (the 'EIA Scoping Report') for the proposed development at Langley Business Park, Langley, (the 'site') referred to as LON05/06. The site is located within the jurisdiction of Slough Borough Council (SBC).
- 1.1.2 The proposed development comprises a data centre campus, split into two units of equal capacity, for which MC intends to submit a planning application for full planning permission (the 'application for consent').
- 1.1.3 The proposed development falls within Schedule 2 (10(b)) of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (hereinafter referred to as the 'EIA Regulations') and, by virtue of factors such as its size, nature or location, has the potential to have significant effects on the environment. On this basis, it is proposed that an EIA for the proposed development will be undertaken.
- 1.1.4 It is prudent to note that outline planning permission has been granted for a data centre campus across the site and that this has been implemented. That application was accompanied by an EIA allowing for the conclusion to be reached in the consideration of that application that the proposals were acceptable on technical and environmental grounds.

1.2 Purpose of this Scoping Request

- 1.2.1 This EIA Scoping Report has been prepared for submission to SBC to assist them in forming a 'Scoping Opinion' under the EIA Regulations. The Scoping Opinion will formally confirm the information that should be contained within the subsequent Environmental Statement (ES) for the proposed development.
- 1.2.2 The EIA Scoping Report explains our proposed approach to EIA; it reviews the potential environmental effects that may be associated with the proposed development and identifies those that are likely to be significant and will therefore be assessed within the subsequent ES.
- 1.2.3 This report has been produced with the information available at the time of writing and using professional judgement to ensure that a robust and representative EIA scope is presented.

1.3 Report Structure

- 1.3.1 This report is structured as follows:
- Section 1 introduces the purpose of this EIA Scoping Report;
 - Section 2 provides the description of the site and immediate surrounds;
 - Section 3 describes the proposed development;
 - Section 4 explains the EIA process and approach, including the scoping methodology, consultation, approach to cumulative effects and basis of the EIA;
 - Sections 5-18 present the justification for the environmental topics being scoped in or out of the ES. Each section includes a description of the potential effects on the environment for each environmental discipline, identifying which effects should be assessed in the subsequent ES and the proposed methodology to use in the next stage (the ES); and
 - Section 19 provides a summary of the environmental topics and information proposed to be included in and scoped out of the ES and outlines the next steps.
- 1.3.2 This EIA Scoping Report has been prepared in general accordance with the provisions of Regulation 15 of the EIA Regulations, as well as best practice methods. A summary of the requirements under Regulation 15 of the EIA Regulations has been provided in Table 1-1, along with a demonstration of our compliance.

Table 1-1: Report Requirements under Regulation 15 of the EIA Regulations

Report Requirements under Regulation 15 of the EIA Regulations	Adherence to Regulation 15 in this Scoping Report
A plan sufficient to identify the land	Included in Figure 2.-1.
A brief description of the nature and purpose of the development, including location and technical capacity	Proposed development is described in Section 3 and an indicative layout is provided in Figure 3.1.
An explanation of the likely significant effects of the development on the environment.	Likely significant environmental effects are explained in Sections 5-17.

1.3.3 Sections 5 – 18 have been prepared by the following, with the appropriate professional and technical competencies:

- Ramboll:
 - Transport;
 - Air Quality;
 - Noise and Vibration;
 - Biodiversity;
 - Ground Conditions;
 - Water Environment;
 - Climate Change;
 - Townscape and Visual;
 - Archaeology and The Historic Environment;
 - Socioeconomics;
 - Population and Human Health;
 - Waste and Material Resources; and
 - Major Accidents and Disasters.
- Daylight Sunlight and overshadowing: EB7

2. SITE DESCRIPTION

2.1 Site Location

2.1.1 The site is located in Langley, Slough at the Langley Business Centre. The approximate National Grid Reference (NGR) is TQ 01339 79639, postcode SL3 8DS (refer Figure 2.1).

2.1.2 The immediate surroundings comprise the following:

- North: Railway line approximately 10 m from the site boundary;
- East: Residential properties along Mead Avenue approximately 30 m from the site boundary;
- South: Residential properties along Meadfield Road approximately 20 m from the site boundary; and
- West: Station Road (B470) approximately 10 m from the site boundary.

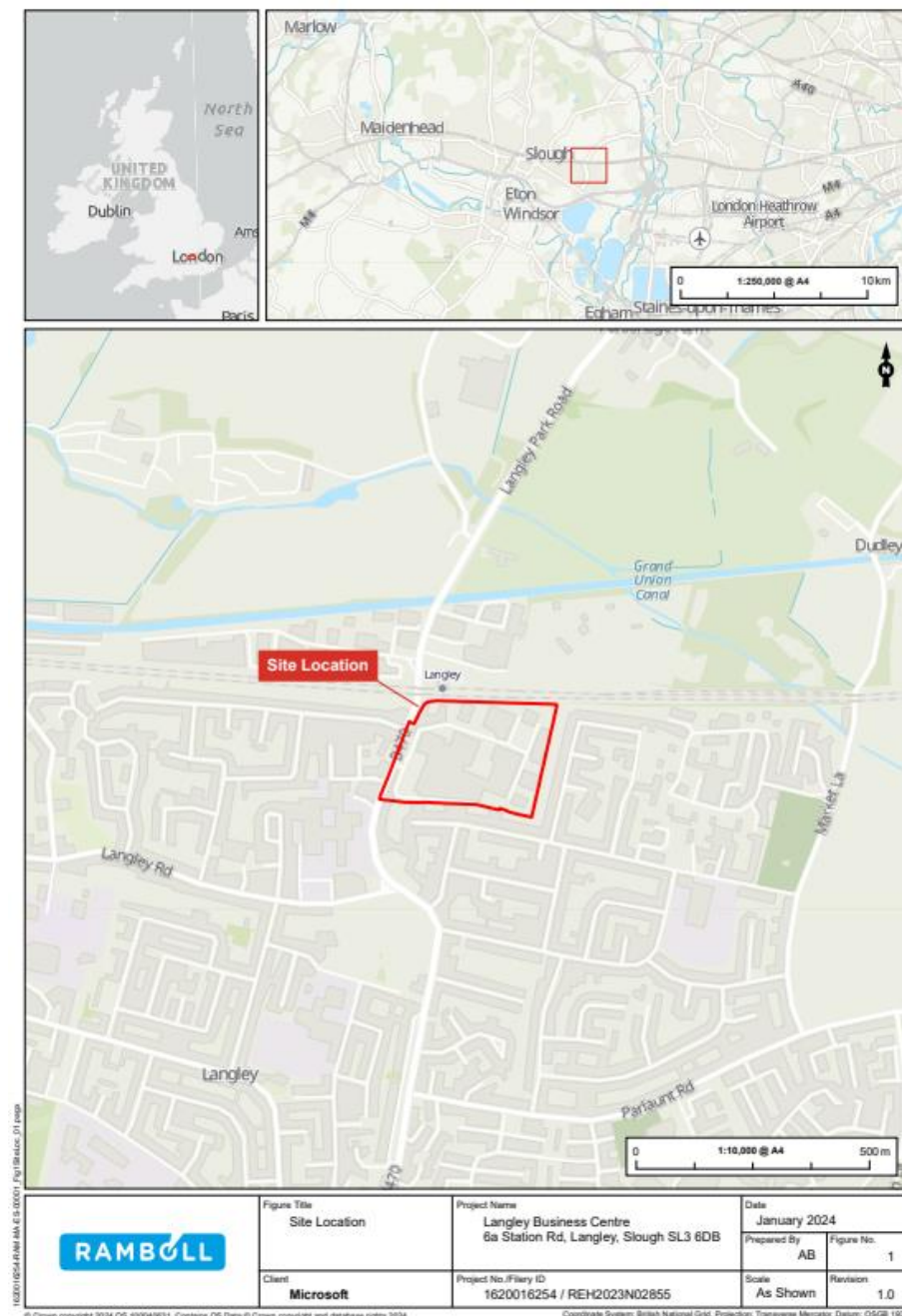


Figure 2-1 Site Location

2.2 Site Description

- 2.2.1 The site redline boundary is relatively square shaped parcel of land, covering a total site area of approximately 6.98 hectares (ha).
- 2.2.2 The site lies at an elevation of approximately 27.8 to 28.6 m above Ordnance Datum (AOD).



Figure 2-2 Site Location

2.3 Outline Consent

- 2.3.1 The site benefits from outline planning permission (P/00437/093) granted by SBC on 29 January 2021 for a data centre of up to 96,000 sqm gross, including office space and substation on Plot A. Plot B would comprise up to 9,650 sqm gross external area (GEA) with one or more land uses comprising homes, retail, pub, takeaway or energy centre.
- 2.3.2 The outline consent included height restrictions of 21 m and 26 m in the centre of Plot B and frontage onto Station Road (Plot A) of 12 m to 20 m.
- 2.3.3 All pre-commencement planning conditions have been discharged and demolition of former buildings undertaken in accordance with it. That planning permission has therefore been implemented and is extant.

2.4 Current Uses

- 2.4.1 As of December 2023, the industrial buildings which previously occupied the site have been demolished as part of the outline consent and the site has been cleared. Only Building 3 and Building 5 (Clare House) remain, however it is understood that they will be demolished before the proposed development is operational.
- 2.4.2 Mature trees line the western perimeter of the site along Station Road (B470).



Figure 2-3 Current Site Status

3. PROPOSED DEVELOPMENT

Description of Proposed Development

- 3.1.1 The planning application will seek "Full planning permission for redevelopment of site to deliver data centre campus consisting of (a) data centres with supporting administrative space (b) energy, power, and water infrastructure (c) site access and internal roads (d) site security arrangements (e) hard and soft, green and blue, landscaping and (f) other ancillary and auxiliary forms of development."
- 3.1.2 The planning application is for the development of an 83,960sqm data centre campus incorporating two data centre buildings conjoined with an ancillary administration block.
- 3.1.3 The scheme incorporates all service infrastructure essential for operation as a data centre, including (but not limited to) a substation, water tanks, and both above and below ground cabling and ducts. The campus will be equipped with back-up diesel generators which will be used to provide continuous power in the very rare case of a National Grid power failure.
- 3.1.4 Site security arrangements include a secure vehicle and pedestrian access (and associated guard house) into the site from Station Road and a secure perimeter fence line around its boundary. An internal vehicular loop around the data centre building is incorporated for servicing purposes.
- 3.1.5 Extensive green and blue infrastructure are proposed across the site, particularly along its boundaries with a specific focus on delivering a high-quality interface with Station Road.
- 3.1.6 Figure 3.1 shows the indicative layout of the proposed development.
- 3.1.7 The proposed new buildings would be up to approximately 21m (mAOD) in height reaching a maximum of 26m in the centre of the plot. Figure 3.2 depicts the proposed development heights.

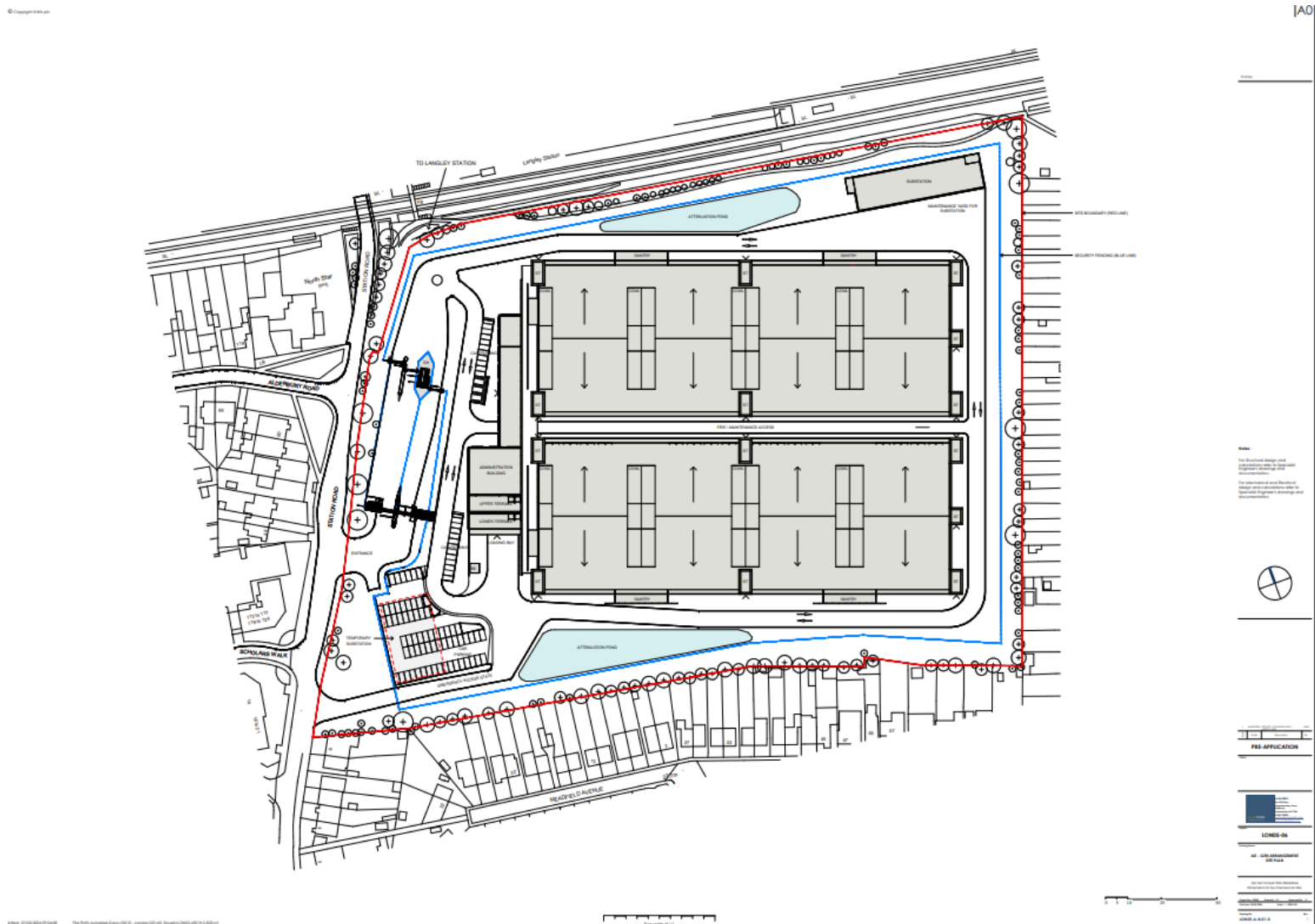


Figure 3-1 Indicative Proposed Site Layout

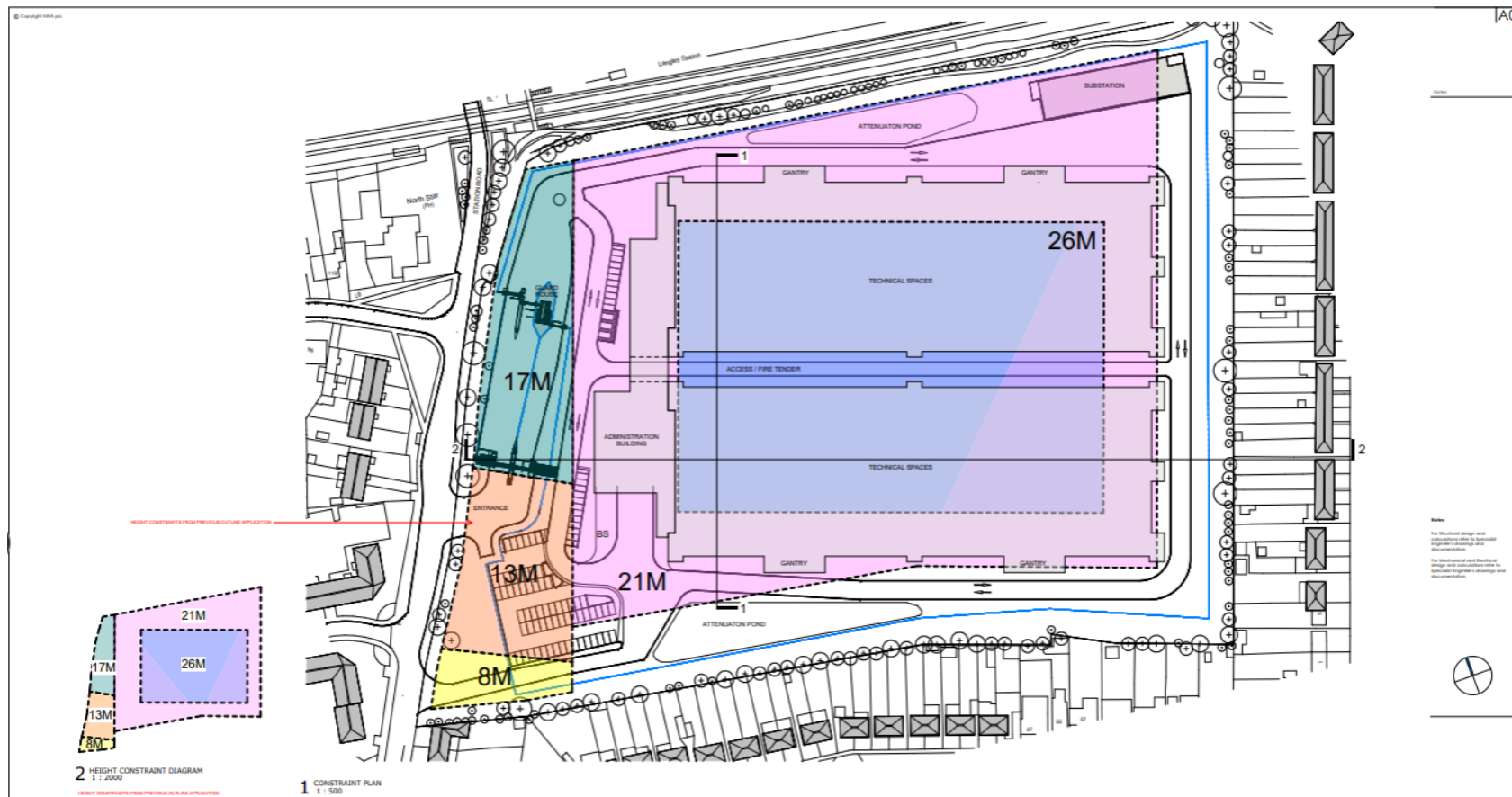


Figure 3-2 Indicative Proposed Development Heights

3.2 Phasing

- 3.2.1 A phased approach to development is being considered, comprising the construction and operation of an interim phase(s) up to full development ('Final Scheme'). The details of the phases are still under discussion and will be assessed as appropriate in the ES.
- 3.2.2 This scoping report has considered effects relating to the potential worst case development area, as shown in Figure 3.1. Using the worst-case development area means that any potential phasing scenarios should not alter the proposed scope as set out in this report, including the conclusions of what is proposed to be scoped in and out of the subsequent ES. The phasing will be considered in further detail in the assessment scenarios within the ES.

3.3 Construction and Operation Programme

- 3.3.1 Demolition has already been undertaken. Construction works are anticipated to commence on site in 2028, The construction program is expected to be completed by 2031.
- 3.3.2 Part of the site is expected to be first operational in late 2030, with additional phases operational in subsequent years – to be defined once the development phasing is confirmed. This will be detailed and assessed as appropriate in the ES.

4. EIA PROCESS AND APPROACH

- 4.1.1 EIA is a process which provides information about certain proposed developments and their likely effects on the environment. The EIA not only identifies likely significant effects (adverse and beneficial), but also identifies appropriate methods to mitigate any adverse effects that may arise. The EIA process consists of a number of defined steps, of which the screening and scoping stages form a part. This process is shown in Figure 4.1.

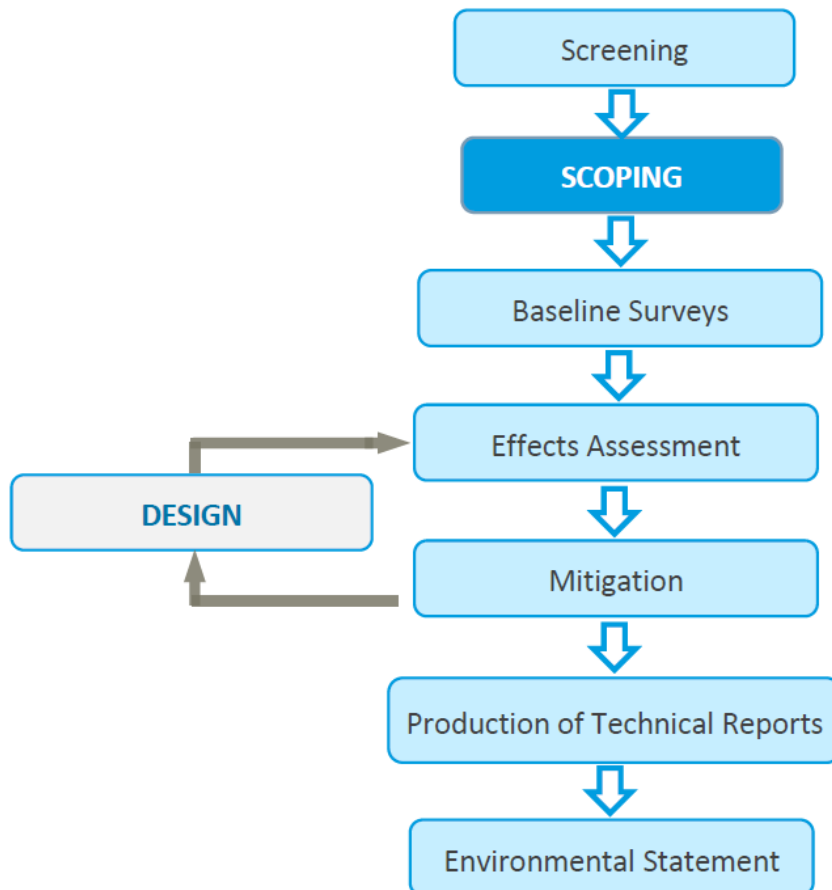


Figure 4-1 Summary EIA Process

4.2 Screening

- 4.2.1 The EIA Regulations require that for certain types of development an EIA must be undertaken before planning permission can be granted. The EIA Regulations set out the types of development which must always be subject to an EIA (Schedule 1) and other developments, which may only require an EIA where they are likely to have a significant effect on the environment by virtue of factors such as their nature, size or location (Schedule 2 developments).
- 4.2.2 Under the EIA Regulations, the proposed development is a Schedule 2: Urban Development project, falling under Schedule 2.10b (i and ii) as a development that involves more than 1 ha of non-residential development, and the overall area of the development exceeds 5 ha. As a result, a formal EIA Screening has not been undertaken, as the proposed development is considered to require an EIA. This mirrors the approach taken in the determination of the previous data centre application onsite.

4.3 Scoping

- 4.3.1 The primary purpose of this EIA Scoping Report is to define the scope of the ES, ensuring that only the likely significant environmental effects are carried forward to the ES. This enables the EIA to be focussed on the most important environmental issues and to be proportionate to the proposed development.
- 4.3.2 In this EIA Scoping Report, a preliminary assessment of the significance of each potential effect has been undertaken in order to decide which of the effects could be significant and therefore should be 'scoped in' and assessed in the subsequent EIA. The significance of any effect has been preliminarily assessed in terms of the relationship between two factors:
- i. The magnitude of the potential impact (including direct or indirect effects), including the consideration of duration and reversibility; and
 - ii. The importance of the receptor (the entity that is vulnerable to the effect), in terms of its value and sensitivity to the effect.
- 4.3.3 The EIA Regulations provide the applicant with the opportunity to seek a Scoping Opinion from the relevant planning authority, which formally confirms the information that should be contained within the ES. Therefore, this report constitutes a formal request for an EIA Scoping Opinion from SBC.

4.4 Consultation

- 4.4.1 Initial discussions regarding the scope of the EIA were held as part of the pre application inception meeting held on 10th January 2024. During the inception meeting it was discussed and agreed with SBC that the scoping of the EIA for this proposed development would be expected to similar to that of the outline application.
- 4.4.2 Formal consultation on the scope of the ES is undertaken via submission of this Scoping Report to SBC under the provisions of the EIA Regulations to obtain a Scoping Opinion.
- 4.4.3 During the preparation of the ES further consultation will be held with statutory consultees and other stakeholders to inform the methodologies used in the assessment, and to discuss the outcomes of the EIA and any proposed mitigation measures.
- 4.4.4 If consultation has been undertaken as part of the scoping (for example with the Environmental Health Officer), this is outlined within the relevant topic sections of this report.
- 4.4.5 Details of all consultation and how this has informed and influenced the environmental assessment and the design of the proposed development will be presented in the ES. The ES will demonstrate consideration of the points raised by statutory consultees and provide a table summarising their scoping responses and how they are considered in the ES.

4.5 Assessing Effects and Determining Significance

- 4.5.1 The EIA will assess the effects that are likely to arise as a consequence of a potential impact/change to environmental receptors following the application/consideration of embedded mitigation measures. Throughout the ES consistent terminology and assessment criteria will be used to describe these individual effects where appropriate, and unless specific alternative terminology and criteria exists in recognised topic specific guidance. The proposed assessment criteria are presented in Appendix 1.
- 4.5.2 Within the ES, significance will be evaluated with reference to definitive standards, accepted/published criteria and legislation (where available). Where it is not possible to quantify potential impacts and residual effects, qualitative assessments will be carried out, based on expert knowledge and professional judgement. Where uncertainty exists, it will be noted in the relevant assessment and a conservative approach adopted so that the significance will not be under-estimated.

- 4.5.3 The specific criteria used to determine the magnitude and sensitivity of receptors will be defined in each of the technical ES chapters and where possible a consistent matrix will be used to determine effects (refer to Appendix 1). Throughout the ES, effects will be predicted as either 'significant' or 'not significant'. Significant effects are considered material to the planning decision process.

4.6 Reasonable Alternatives

- 4.6.1 The EIA Regulations require that the ES provides an outline of the reasonable alternatives to the proposed development considered by the applicant and the reasons for the selection of the preferred option. The alternatives considered in the course of the design process, such as site location, land uses, layouts and design evolution, will be presented in the ES. The environmental factors that informed each of the options will be presented as relevant.
- 4.6.2 The Institute of Environmental Management and Assessment (IEMA) provides guidance in terms of the best practice consideration of alternatives with respect to:
- Alternative locations;
 - Alternative scales of development;
 - Alternative site layouts and access arrangements;
 - Different approaches to scheme design; and
 - Alternative processes and alternative phasing of construction.
- 4.6.3 The following alternatives will be considered in the ES, but it is acknowledged that this list is not exhaustive at this stage and will develop throughout the EIA:
- Alternative layouts – the design evolution will be considered in the ES including the existing outline consent.
- 4.6.4 It is noted that a 'Do Nothing' scenario, where the site would be left in its current state and land uses where the land would remain vacant from development is not a reasonable alternative given the site has been cleared and the outlined application is extant.

4.7 Cumulative Effects

- 4.7.1 The requirement to refer to the cumulative effects of a proposed development is included in Schedule 4 of the EIA Regulations, where it is stated, an ES should include:
- 4.7.2 "A description of the likely significant effects of the proposed development on the environment, which should indicate the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, beneficial and adverse effects of the proposed development..."
- 4.7.3 The EIA Regulations require that, in assessing the effects of a particular development proposal, consideration is also given to the cumulative effects which might arise from the proposal in conjunction with other existing and/or approved development proposals in the vicinity. The following two types of Cumulative Effects will be considered within the ES:
- Intra-Project effects of different types of impact from the proposed development on particular receptors at or surrounding the site. Potential impact interactions include the combined effects of noise, dust and visual impacts during construction of the proposed development on a particular sensitive receptor; and
 - Inter-Project effects which are combined effects generated from the proposed development with other existing and/or approved developments. These other developments may generate their own individually insignificant effects but when considered together could amount to a significant cumulative effect, for example, combined townscape and visual impacts from two or more (existing and/or approved) developments.

- 4.7.4 To ensure that Inter-Project (in-combination) cumulative effects are assessed as comprehensively and realistically as possible, the EIA would consider other projects which follow the following criteria:
- Development proposals for which planning permission has been granted (e.g., resolution to grant issued or signed legal agreement); and
 - Located within 1km of the site; and
 - 10,000 m2 Gross External Area (GEA) in floor area or would give rise to >150 residential units or relevant large-scale infrastructure projects.
- 4.7.5 Following a searching on SBC planning portal, there were no cumulative schemes that met the criteria that would require assessment within the EIA. Accordingly, inter-project effects arising from the proposed development in combination with 'cumulative schemes' during the demolition and construction works and also once the proposed development is complete and operational, will not be considered further in the EIA.

5. TRANSPORT

- 5.1.1 This section summarises the potential environmental impacts and likely significant effects that are at this stage anticipated to arise in connection with all stages of the proposed development for transport.

5.2 Scope of Effects

- 5.2.1 It is proposed that a technical assessment of the environmental transport effects of the proposed development is to be scoped-out of the ES. It is anticipated that the proposed development would have fewer trips than both the previous land use (Langley Business Park) and the consented scheme for the site (a 96,000sqm data centre with commercial units, an energy centre and up to 60 residential units totalling 9,650sqm) and therefore would not give rise to significant environmental effects in relation to transport. Further, it is envisaged that there would be fewer trips associated with the proposed development than associated with the operations of the now demolished former Langley Business Centre.

5.3 Site Information and Baseline Conditions

- 5.3.1 The site is situated within an established mixed-use area, in a mainly residential area to the east of Slough town centre, and to the north-west of Heathrow Airport on the western fringe of Greater London. The site is surrounded by housing to the east, south and west and is bounded by a railway line to the north.
- 5.3.2 The application site benefits from good transport infrastructure present in the locality which facilitates travel by non-car modes, such as walking and public transport. The site can be accessed off the B470 Station Road to the west of the site which provides the main vehicular and pedestrian access into the site.
- 5.3.3 Station Road (B470) is a single carriageway road to the west of the site, running north to south, linking to Langley Park Road to the north and Langley High Street and Langley Road to the south. Station Road has a 30mph speed limit but is subject to a 20mph speed zone, approximately 80m to the south of the main access. To the north of the site, Station Road passes underneath a railway bridge and has a height restriction of 3.8m and the road slightly narrows.
- 5.3.4 Langley Park Road connects to Iver Heath and the M25 to the north, Langley High Street connects through to Slough town centre to the west and Langley High Street connects to London Road, the M4, Heathrow Airport and west London to the south.

Pedestrians

- 5.3.5 Pedestrian access to the site will be taken off Station Road, via the main site access.
- 5.3.6 Station Road has street lighting and pedestrian footpaths either side of the carriageway. The footpath along the eastern boundary links to the Langley London Underground tube station to the north and Langley High Street and village centre to the south. There is a pelican crossing approximately 80m to the north of the main site access, which provides access to housing to the east of the site.
- 5.3.7 The closest Public Rights of Way (PRoWs) to site are a toe path running along the Grand Union Canal (Slough arm) to the north which can be accessed off Station Road and provides an east to west connection between Slough and Hayes. There is also a dedicated shared pedestrian footpath and cycleway accessed off Langley Park Road, which provides foot and cycle access only from Langley Park Road to London Road through the residential area to the south-west of the site.
- 5.3.8 As the site is surrounded by housing to the east, south and west, the area is well served by pedestrian footpaths and pedestrian crossings (especially across Station Road and Langley High Street), along with the dedicated PRoWs previously mentioned.

Cycling

- 5.3.9 Cycle access to the site will be taken via the main site access off Station Road.
- 5.3.10 There are no dedicated cycling facilities on Station Road. The closest bike lanes to the site are located on London Road to the south of the site and the shared footpath/cycleways off Langley Park Road.

Public Transport

- 5.3.11 The closest bus stops to the site are situated on Station Road, directly opposite the site entrance and approximately 50m to the south of the main site entrance. These stops provide services to Langley, Slough, Ivybridge and Uxbridge. There are further bus stops on Langley Park Road, Langley High Street and London Road which provide further services around the area and into west London.
- 5.3.12 Langley railway station is located approximately 200m to the north of the site and is accessible by a 3-minute walk, 2-minute cycle, or a 2-minute car journey. Langley station is situated on the Elizabeth Line which runs through central London on the Great Western Main Line west of Paddington station to Abbey Wood and via Whitechapel to the Great Eastern Main Line near Stratford; along the Great Western Main Line to Reading and Heathrow Airport in the west; and along the Great Eastern Main Line to Shenfield in the east. The Elizabeth line allows passengers to travel through central London without having to change trains.

5.4 Approach and Methodology

- 5.4.1 The highways and transport implications of the proposed development will be comprehensively considered within the TA which will be submitted with the planning application. There will be additional documents prepared which will address other specific highways and transport related issues such as a Construction Logistics Plan, Construction Travel Management Plan, Delivery and Servicing Plan and Travel Plan. The primary function of these documents will be to minimise the proposed developments associated highways and environmental impact. The scope of these documents can be confirmed through pre-application discussions.

5.5 Potential Impacts and Likely Effects

Construction

- 5.5.1 This phase would generate movements by HGVs and construction workers. It is considered that these movements would have a temporary minor impact on delay, amenity, severance, safety and fear and intimidation. A Construction Logistics Plan and/or Construction Traffic Management Plan will form part of the planning application and will set out ways of mitigating the impacts of construction traffic.

Completed Development

- 5.5.2 The proposed development is anticipated to generate significantly fewer vehicle trips than the previous use as a business park as well as the currently consented scheme for the site (which is for a larger data centre with additional residential, retail and energy uses), resulting in beneficial effects on highway safety, severance, amenity, fear and intimidation, and delay. A Travel Plan will be submitted setting out measures to further reduce the impact of the development on the surrounding transport networks, including measures to reduce the need for people to travel.

Trip Generation

- 5.5.3 Under its previous use as Langley Business Park, the application site provided approximately 35,302m² of B1 / B8 floorspace, and if fully occupied the site generated approximately 1,311 weekday daily two-way trips.

- 5.5.4 Under the currently consented scheme there would be some element of trips and parking created by the proposed residential and/or commercial uses fronting onto Station Road, along with some trips and parking associated with the proposed 96,000sqm data centre. As data centres have low employment densities and the limited private parking provided for the commercial units, it is unlikely that the currently consented scheme would generate a material increase (and may result in a decrease) in vehicle trips compared to the previous land use as Langley Business Park.
- 5.5.5 Subsequently, as the proposed development will only be providing a data centre campus with a gross external area of 83,960sqm (compared to the previously consented 96,000sqm data centre) and no residential or commercial elements, it is unlikely that the new proposals will generate a material increase compared to the previously consented scheme for the site as well as the previous business park use.
- 5.5.6 As such, transport is proposed to be scoped out of the ES. The net change in trip generation will be presented in detail in the Transport Assessment which will accompany the planning application.

Car Parking Provision

- 5.5.7 Car parking provision will be provided in accordance with SBCs parking standards and requirements. A Car Parking Management Plan could be produced as part of the TA and will set out the ways in which the onsite car parking would be managed.

Servicing

- 5.5.8 The TA will address service and delivery related traffic movements and demonstrate how this would be undertaken on-site. A Delivery and Servicing Plan could also be prepared for the planning application which will ensure that these elements are effectively managed and their environmental impact minimised.
- 5.5.9 The following potential effects have been scoped in and out of the assessment.

Table 5-1: Potential Construction Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Construction stage traffic assessment	No	Traffic movements by HGVs and construction workers generated by construction are expected to have only a temporary minor impact on delay, amenity, severance, safety and fear and intimidation. A Construction Logistics Plan and/or Construction Traffic Management Plan will form part of the planning application and will set out ways of mitigating the impacts of construction traffic.

Table 5-2: Proposed Development Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Operational stage traffic assessment	No	It is unlikely that the new proposals will generate a material increase in traffic compared to the previously consented scheme for the site as well as the previous business park use. A Transport Assessment will accompany the planning application.

6. AIR QUALITY

- 6.1.1 This section summarises the potential environmental impacts and likely effects that are at this stage anticipated to arise in connection with all stages of the proposed development relating to air quality.

6.2 Site Information and Baseline Conditions

- 6.2.1 The Site is within Langley and is bounded to the north by a railway line, to the south and east by residential properties, and to the west by Station Road (B470). The main railway line is electrified, and therefore emissions from railway locomotives are unlikely to constrain development within the site. Emissions from road traffic are likely to be the main source of air pollution at the Site.
- 6.2.2 The Site is not within an Air Quality Management Area (AQMA) therefore elevated pollutant concentrations would not be expected. However, the South Bucks District Council (SBDC) AQMA No. 2 declared for exceedance of the annual mean nitrogen dioxide (NO₂) objective is less than 1 km to the north and east of the Site.
- 6.2.3 Results of NO₂ monitoring undertaken by SBC near the Site indicate that the annual mean NO₂ objective was met between 2018 and 2022, with a decrease in NO₂ concentrations between 2019 and 2022. However, monitored NO₂ concentrations during 2020 and 2021 will have been impacted by reductions in human activity during the COVID-19 pandemic. Annual mean NO₂ concentrations were below 60 µg/m³ at these sites between 2018 and 2022 indicating that exceedance of the short-term NO₂ objective is unlikely, according to Defra Guidance (LAQM.TG(22)).
- 6.2.4 Particulate matter (PM₁₀ and PM_{2.5}) monitoring is conducted by SBDC, but not at locations identified as representative of the application site or surrounding road network.

6.3 Approach and Methodology

- 6.3.1 The air quality assessment will be undertaken in accordance with IAQM^{1,2}, Environmental Protection Agency³, and UK Environment Agency⁴ guidance. The method that will be applied is outlined below.

Consultation

- 6.3.2 Consultation will be undertaken with the SBDC Air Quality Officer regarding the scope of the assessment.

Study Area

- 6.3.3 The study area for the baseline assessment will be extended to include appropriate local monitoring sites.
- 6.3.4 Potential air quality impacts during the construction stage will be considered in line with the IAQM guidance¹, at human receptor locations up to 350 m from the site boundary or within 50 m of the route used by construction vehicles on a public highway up to 500 m from the site entrance depending on the nature and scale of the construction activities.

¹ Holman et al., 2016. IAQM Guidance on the assessment of dust from demolition and construction v1.1. Institute of Air Quality Management, London.

² Moorcroft and Barrowcliffe et al., 2017. Land-use Planning & Development Control: Planning for Air Quality v1.2. Institute of Air Quality Management, London.

³ Environmental Protection Agency Office of Environment Enforcement (OEE), 2019. Air Dispersion Modelling from Industrial Installations Guidance Note (AG4).

⁴ UK Environmental Agency. Guidance Specified generators: dispersion modelling assessment. Available at: https://consult.environment-agency.gov.uk/psc/mcp-and-sg-regulations/supporting_documents/Specified%20Generators%20Modelling%20GuidanceINTERIM%20FINAL.pdf

- 6.3.5 The study area for the operational stage assessment will include the site and surrounding sensitive human and ecological receptors.

Baseline Assessment

- 6.3.6 To establish the existing baseline air quality (NO₂, PM₁₀ and PM_{2.5}) in the vicinity of the Site, relevant data such as SBDC air quality monitoring results and Defra background maps will be reviewed and assessed.
- 6.3.7 Sufficient local authority monitoring information is available to allow the assessment to be completed without a site-specific air quality monitoring survey.

Construction Stage Assessment

- 6.3.8 Construction stage effects will be assessed qualitatively following guidance published by the IAQM on the assessment of the effects of construction on air quality¹. A detailed assessment of construction vehicle emissions will be undertaken if IAQM screening criteria² are met.

Operational Stage Assessment

- 6.3.9 There are two potential sources of emissions from the operational stage of the proposed development; emissions associated with development traffic and emissions associated with combustion plant used to provide emergency power to the data centre.
- 6.3.10 Annual average daily traffic flows associated with operation of the proposed development are likely to be below IAQM screening criteria however a detailed assessment of operational stage vehicle emissions will be undertaken if screening criteria are met.
- 6.3.11 The main pollutant of concern in relation to emissions from the combustion engines is NO₂ and the assessment will concentrate on the impacts of NO₂ emissions on human health receptors. Assessment and modelling of carbon monoxide (CO), sulphur (SO₂), particulate matter (PM₁₀, PM_{2.5}) and benzene will not be undertaken as emissions of these pollutants from the proposed combustion plant would be significantly lower when compared with NO₂ emissions relative to their respective ambient air quality standard. Ensuring compliance with NO₂ air quality standards for human health receptors and NO_x air quality standards for ecological receptors would ensure compliance of other pollutants.
- 6.3.12 Air dispersion modelling of emissions from combustion plant (emergency generators) associated with the proposed development will be undertaken using the Atmospheric Dispersion Modelling System (ADMS 6) to ensure adequate stack height for dispersion of the emissions considering the existing baseline level of NO₂. For the selected stack height, modelled pollutant concentrations will include annual mean NO₂ concentrations at human health receptors and annual mean NO_x concentrations at ecological receptors. For dispersion modelling purposes it is assumed that the generators will be operational all year round and the annual average impacts can be factored by the calculated allowable operating hours for emergency operation. The allowable operating hours for emergency operation are primarily estimated from a statistical analysis of the likelihood of breaching the 1-hour mean objective for NO₂ concentrations. The modelling of emissions from the generators will be undertaken in accordance with Environment Agency criteria as subsequent operation of the engines would require an Environmental Permit to be issued by the Environment Agency.

6.4 Potential Impacts and Likely Effects

- 6.4.1 The following potential effects have been scoped in and out of the assessment.

Table 6-1: Potential Construction Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
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Construction stage dust assessment	Yes	Demolition and construction activities have the potential to generate fugitive dust emissions which may give rise to annoyance due to the soiling of surfaces, risk of health effects due to the increase in exposure to PM ₁₀ concentrations and damage to vegetation and ecosystems (where very high levels of soiling occur).
Construction vehicle emissions assessment	Yes	Emissions from construction vehicles and generators may affect local air quality (NO ₂ , PM ₁₀ , and PM _{2.5}).

Table 6-2: Proposed Development Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Operational stage emergency generator emissions assessment	Yes	The data centre will have back up power systems likely to comprise a large number of diesel generators. The key considerations are the impact of combustion plant (emergency generators) installed onsite on existing sensitive human and ecological receptors. The main pollutant of concern in relation to emissions from the emergency generators is nitrogen dioxide (NO ₂). The air quality assessment will therefore focus on the impacts of NO ₂ emissions at sensitive receptors.
Operational stage vehicle emissions assessment	Yes	Emissions from operational vehicles may affect local air quality.

7. NOISE AND VIBRATION

- 7.1.1 This section summarises the potential environmental impacts and likely significant effects that are at this stage anticipated to arise in connection with all stages of the proposed development for noise and vibration and will therefore be addressed in the subsequent ES. Environmental effects that are considered not likely to be significant are also summarised in this section and will not be addressed in the subsequent ES.

7.2 Site Information and Baseline Conditions

- 7.2.1 The noise climate on the site comprises:

- Trains arriving/departing or passing through Langley station at the northern boundary;
- Road traffic on Station Road at the western boundary, and distant road traffic; and
- Birdsong.

7.3 Approach and Methodology to be Used in ES for Scoped in Effects

- 7.3.1 A baseline noise survey was completed between 1-6 December 2023 at three unattended positions on the site, on each at the eastern, southern and western site boundaries. The survey was completed to determine average noise levels during construction hours, and representative background noise levels during daytime and night-time periods. The survey positions are shown in Figure 7-1 and marked as 'LT' locations.



Figure 7-1 Noise survey positions

- 7.3.2 A vibration survey is not deemed necessary for the proposed development.
- 7.3.3 An assessment of construction noise will be made and an outline strategy for the control and mitigation of construction noise proposed in accordance with BS 5228-1:2009+A1:2014⁵.
- 7.3.4 Consultation will be completed with the Environmental Health Officer at Slough Borough Council to agree the assessment criteria for operational noise emissions.

⁵ British Standards Institute, 2009. BS 5228-1:2009+A1:2014 – Code of practice for noise and vibration control on construction and open sites. Noise. December 2008

7.3.5 Noise prediction modelling will be completed using the proprietary Datakustik software package CadnaA, which implements the noise prediction methodology of ISO 9613-2:1996⁶.

7.3.6 The assessment of noise emissions from fixed plant installations associated with the proposed development will be completed to BS 4142:2014+A1:2019⁷.

7.4 Potential Impacts and Likely Effects

7.4.1 The following sensitive receptors have been identified:

- R1: Residential properties along Meadfield Road (representative survey location LT2);
- R2: Residential properties along Mead Avenue (representative survey location LT1); and
- R3: Residential properties along Station Road (representative survey location LT3).

7.4.2 All receptors are deemed to be of high sensitivity.

7.4.3 Table 7-1 and Table 7-2 identify which likely environmental effects, with respect to noise and vibration will be assessed in the EIA (i.e., considered likely significant and therefore 'scoped in') and those which will not be assessed further (i.e., considered not likely to be significant and therefore 'scoped out'), along with a justification for this decision.

7.4.4 The following potential effects have been scoped in and out of the assessment.

Table 7-1: Potential Construction Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Noise emissions from the construction works and plant	Yes	The closest receptors are at or within approximately 20m of the site boundaries. These receptors may be affected by construction noise and effects may be significant.
Vibration generated from the construction works and plant	No	These effects were assessed within the outline planning application (P/00437/093) and deemed not to give rise to significant effects.
Noise emissions from the construction vehicles on the local road network	No	

Table 7-2: Proposed Development Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Noise emissions generated by the proposed development's fixed plant installations	Yes	The development would likely give rise to significant noise effects without provision of suitable mitigation measures.

⁶ International Organization for Standardization, 1996. ISO 9613-2:1996: Acoustics — Attenuation of sound during propagation outdoors — Part 2: General method of calculation. December 1996 (reviewed and reconfirmed in 2017)

⁷ British Standards Institute, 2014. BS 4142:2014+A1:2019 – Methods for rating and assessing industrial and commercial sound. October 2014

Noise emissions from proposed development traffic flows on the local road network	No	Changes in road traffic noise levels were assessed within the outline planning application (P/00437/093) and deemed not to give rise to significant effects. Negligible effects were predicted when the outline scheme included for residential development and so these effects are deemed to be worst case. The proposed development does not include residential use.
Vibration generated from the proposed development	No	The proposed development is not expected to generate likely significant levels of vibration at the nearest sensitive receptors.

7.5 Preliminary Discussion of Mitigation and Enhancement Measures

- 7.5.1 The ES will identify necessary mitigation measures and/or enhancement measures, dependent on the outcome of the noise and vibration assessment, such as:
- Implementation of Best Practicable Means (BPM) to construction methodologies;
 - Selection of low noise plant items; and
 - Plant noise attenuation measures, such as acoustic louvres, attenuators and screens.

8. ECOLOGY

8.1.1 This section summarises the potential environmental impacts and likely significant effects that are at this stage anticipated to arise in connection with all stages of the proposed development for ecology.

8.2 Site Information and Baseline Conditions

8.2.1 In order to establish baseline ecology conditions at the site, relevant data was reviewed and assessed. The relevant data was obtained from the following sources which can be provided on request.

- Ramboll Preliminary Ecological Appraisal (PEA), April 2019;
- Tim Moya Associates Preliminary Feasibility Report (Arboricultural Report), March 2018;
- Ramboll Environ Bat Survey Report, October 2017; and
- Ramboll Environ Ecology Memo, July 2016.

8.2.2 From 2016 to 2023 Ramboll undertook several ecological surveys across the site; these included:

- Ecological walkover survey for Protected Species, December 2023;
- Ecological walkover survey for Protected Species, December 2022;
- Extended Phase 1 Habitat Survey, March 2019;
- Tim Moya Associates Tree Survey, March 2018; and
- Extended Phase 1 Habitat Survey, June 2016 (reported under the name Ramboll Environ).

8.2.3 During the 2023 walkover of the site, it was identified that further surveys for bats are required in the form of endoscopy and ground level roost assessment (GLRA). Two trees were identified along the southern boundary of the site and Building 5 (Clare House) in the northwest of the site have potential roosting/hibernation features to support bats.

8.2.4 Once the finalised Ecological Impact Assessment (EcIA) has been completed it will be submitted with the planning application.

8.3 Designated Sites for Nature Conservation

Statutory Sites

8.3.1 No statutory designated sites are located within 2 km of the site boundary, and no Special Areas of Conservation (SACs) designated for bats are present within 10 km of the site.

Non-Statutory Sites

8.3.2 Sites of Importance for Nature Conservation (SINC) are local wildlife sites, which are designated and selected locally using scientifically determined criteria. Six Berkshire Local Wildlife Sites (BLWS), Biodiversity Opportunity Areas (BOA) and Biological Notification Sites (BNS) are located within 2 km of the site. These are listed in Table 8.1. No further designated sites are present within 2 km of the site.

Table 8-1: Sites of Importance for Nature Conservation within 2 km of the Site

Name	Type	Location	Area	Reason for Designation
Queen Mother Reservoir	BLWS	1.9 km south	252.5 ha	The site provides refuge for storm driven species and overland passage migrants. It supports a variety of

Name	Type	Location	Area	Reason for Designation
				passage waders and winter wildfowl. A range of Red and Amber list birds of Conservation Concern have been recorded and include common scoter <i>Melanitta nigra</i> , bittern <i>Botaurus stellaris</i> , European turtle dove <i>Streptopelia turtur</i> and black-tailed godwit <i>Limosa limosa</i> .
Colne Valley Gravel Pits and Reservoirs	BOA	1.9 km south	1174.2 ha	Includes Staines Moor Site of Special Scientific Interest (SSSI) and Wraysbury Gravel Pits SSSI. These areas are important sites for birds. Also included is the Arthur Jacobs Nature Reserve. Extensive areas of wet grassland have developed on infilled land. There is lowland meadow habitat at Staines Moor SSSI. There are areas of woodland, fen, wet woodland, rough grassland, scrub and tall herb. The River Colne and the Colnbrook also flows through the area.
South Bucks Heaths and Parklands	BOA	916 m north	5662 ha	Contains a complex mosaic of many BAP priority habitats such as heathland, hedgerows, ponds, woodland and grassland.
Langley Park	BNS	1.2 km north	53 ha	Southern half has pasture, ponds and trees. Mature oak <i>Quercus</i> , birch <i>Betula</i> and beech <i>Fagus</i> wood with clearings. Towards the north there is grassland, heather and gorse heath. Nationally important site for dead wood invertebrates.
Grand Union Canal, Slough Branch	BNS	1.8 km northeast	4.9 miles	Silted area of canal with rich selection of submerged and emergent plants. Not very polluted but silted up.
Opposite Iver Station	BNS	1.8 km northeast	16 ha	Former gravel pit, largely undisturbed grassland grazed by a few horses. Scattered bushes and denser scrub, mainly willow <i>Salix</i> and hawthorn. Two colonies of bee orchids <i>Ophrys apifera</i> recorded. Greater pond sedge <i>Carex riparia</i> in wetter areas.

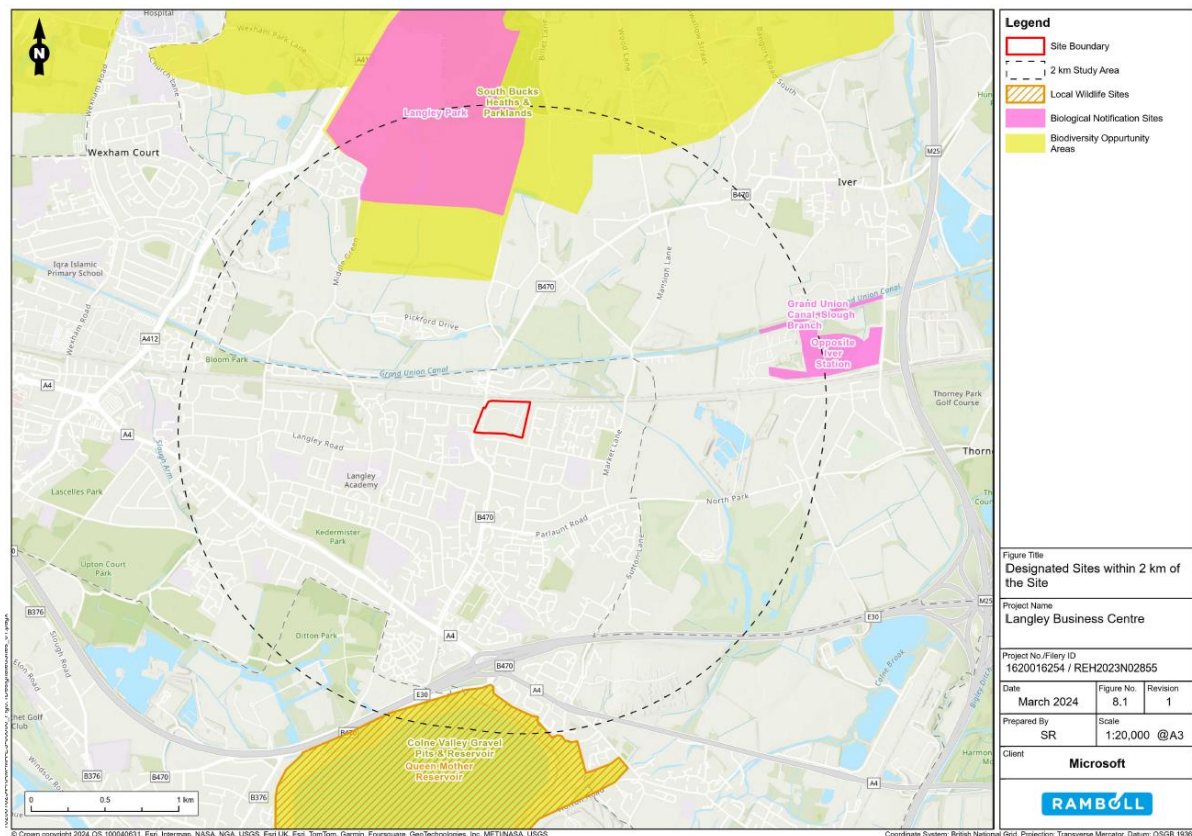


Figure 8-1 Designated Sites for Nature Conservation

Other Habitats of Conservation Importance: Ancient Woodland

- 8.3.3 The closest ancient woodland (replanted) is located 1.6 km southwest of the site. The closest ancient and semi-natural woodland is located 2.3 km southeast of the site and is recorded as Old Wood.

8.4 Habitats on Site

- 8.4.1 The baseline for this report and for the EIA is based upon the extended Phase 1 Habitat Survey undertaken in March 2019, the habitats within the site comprise of 13 buildings, areas of hardstanding, introduced shrubs, modified grassland, scattered trees, line of trees and individual trees. The extended Phase 1 Habitat Survey has been translated into the latest UKHab Classifications⁸ within the 2024 EcIA. See Figure 8.1 for the UKHab Map.
- 8.4.2 In December 2022, most of the site was cleared of buildings and vegetation however in order to give a robust assessment of effects of redevelopment of the site on habitats, the 2019 baseline is proposed for use in ecological assessment.

⁸ UK Hab (2023). UK Habitat Classification. Available at: <https://ukhab.org/>.

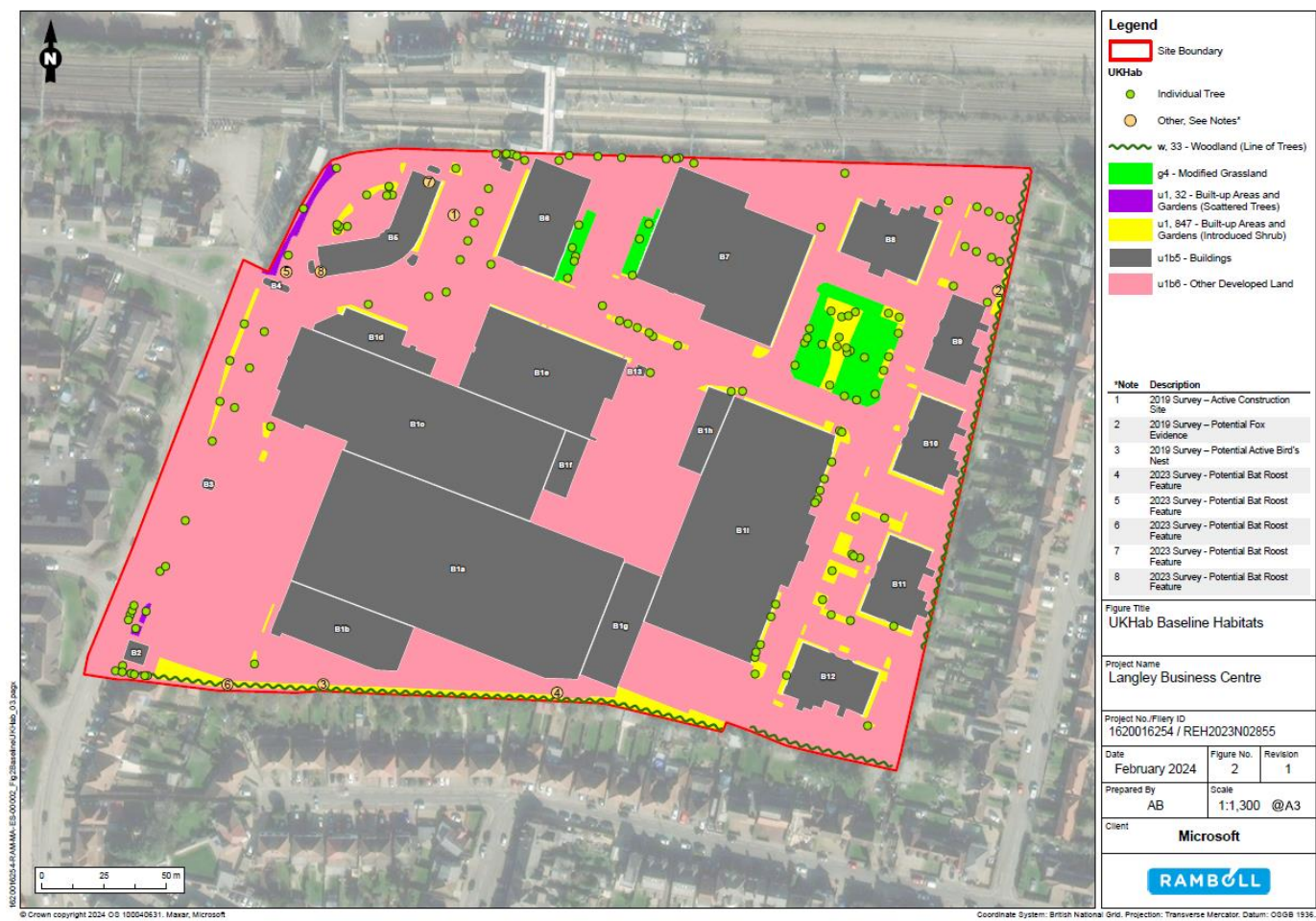


Figure 8-2 KHab Baseline Habitats, Translated from the Phase 1 Habitat Descriptions. Based on the 2019 Survey.⁹

⁹ This ____

General Ecological Description

- 8.4.3 At the time of the extended Phase 1 Habitat survey in March 2019, the application site mainly comprised of buildings (u1b5) and other developed land (hardstanding) (u1b6). There was a total of 13 buildings present on site, all predominantly brick structures but varying in size and use, from multi-storey office buildings, large rectangular warehouses buildings to small electrical stations and security/gatehouse buildings. There were a number of built-up areas and gardens – introduced shrub (u1, 847) across the site, including both raised planters and planting beds, containing species such as New Zealand Flax *Phormium* sp., bay laurel *Laurus nobilis* and hebe *Hebe* sp.. The site included three areas of modified grassland (g4), containing species such as perennial ryegrass *Lolium perenne*, clovers *Trifolium* sp. and doves-foot crane's bill *Geranium molle*. The site included three areas of built-up areas and gardens – scattered trees (u1, 32), two woodland - lines of trees (w, 33) situated along the southern and eastern boundaries of the site, and a number of individual trees. The site contained a variety of tree species across these three habitat categories, including ash *Fraxinus excelsior*, lombardy popular *Populus nigra* 'Italica', Leyland cypress x *Cupressocyparis leylandii*, silver birch *Betula pendula*, and cherry sp. *Prunus* sp..
- 8.4.4 As of December 2023, a total of 11 of the buildings had been demolished with only Building 3 and Building 5 (Clare House) remaining. Some of the hardstanding areas was still present, predominantly in the west of the site surrounding Building 5, but the majority of the site consisted of flattened rubble. A few small areas of introduced shrub were still present within the northwest of the site, near Building 5 (Clare House), however, these appeared to be unmanaged. One area of scattered trees remained in the northwest of the site, and the two lines of trees along the eastern and southern boundaries, as well as a small number of individual trees within the west of the site, parallel to Station Road. Two of the areas of scattered trees and the majority of the individual trees have been felled. No areas of modified grassland remain.

8.5 Protected/Notable Species on Site

- 8.5.1 A summary of the species at the site are listed Table 8.2.

Table 8-2: Protected/Notable Species on site

Species	Comments
Invertebrates	There is limited suitable habitat available for common assemblages of invertebrates within the site, as noted in the December 2023 survey, these include lines of trees, shrubs and brick structures.
Amphibians	There is no suitable habitat for amphibians within the site, as noted within the Phase 1 Habitat Survey in 2019 and the December 2023 survey.
Reptiles	There is no suitable habitat for reptiles within the site, as noted in the December 2023 survey. Prior to this, the extended Phase 1 Habitat Survey in 2019 recorded some suitable habitats present on site, including modified grassland and introduced shrub areas; however, given the habitat was widely dispersed across the site and lacked any connectivity to offsite suitable habitat, it was considered unlikely that reptiles would utilise the site. No modified grassland habitat was present on site during the 2023 survey. Small areas of introduced shrubs were present in planting beds in the northwest of the site, near Building 5 (Clare House).

Species	Comments
Birds	The site contains some suitable habitat for foraging and nesting birds, though unlikely to support notable or rare species of bird due to much of the application site covered in buildings or hardstanding habitats which are not particularly valuable as nesting and foraging habitat. The trees on site provide a limited resource for foraging birds. During the extended Phase 1 Habitat survey in March 2019, a red kite <i>Milvus milvus</i> was observed foraging over the site and a constructed birds nest was observed in a tree along the southern boundary, though its activity status could not be confirmed. Incidental species identified on site during the December 2023 survey include wood pigeon <i>Columba palumbus</i>, crow <i>Corvus</i> and feral pigeon <i>Columba livia domestica</i>. Several old nests and nesting wood pigeons were identified within trees along the northern site boundary. Wood pigeons were seen flying from trees along the southern boundary. An old nest was also spotted in this location as well as two further bird nests identified within conifer trees. Building 5 to the northwest of the site has high bird nesting potential, specifically for pigeons. A feral pigeon was seen on the building. The trees and large shrubs to the northwest and west of Building 5 also have dense ivy cover which could provide nesting potential.
Water Vole	There is no suitable habitat for water voles within the site, as noted in the December 2023 survey.
Bats	The site has some habitat present suitable for foraging and commuting bats. The August and September 2017 bat activity surveys found a low activity of foraging common pipistrelle <i>Pipistrellus pipistrellus</i> along the line of trees along the southern boundary of the site. During the extended Phase 1 Habitat survey in March 2019, none of the buildings or trees on site were identified as having features likely to support bats. However, the December 2023 surveys found potential roosting/hibernating features for bats in three trees and the remaining Building 5 (Clare House) on site. The status of roosting/hibernating bats is unknown until further bats surveys are undertaken to confirm the presence/absence of bats within the potential features identified.
Otter	There is no suitable habitat for otters within the site, as noted in the December 2023 survey.
Badger	There is no suitable habitat for badgers within the site, as noted in the December 2023 survey.
Hazel Dormouse	There is no suitable habitat for hazel dormouse within the site, as noted in the December 2023 survey.
Hedgehog	There is some suitable habitat on site for hedgehogs, as noted in the December 2023 survey, these include line of trees and large shrubs in the northwest of the site. The northern railway line may be used as a commuting corridor.

8.5.2 Species not mentioned in Table 8.3 have been scoped out.

8.6 Approach and Methodology to be Used for Scoped in Effects

- 8.6.1 An EcIA will accompany the planning application and will be informed by additional bat surveys. The EcIA makes commitments to ecological mitigation and enhancement in line with legislation and planning policy and in accordance with CIEEM10 guidance and BSI, 2013 Biodiversity (code of practice for planning and development)¹¹.
- 8.6.2 A Biodiversity Net Gain (BNG) assessment will be undertaken and reported. BNG is a process whereby development leaves biodiversity in a better state than before and is a policy requirement under the National Planning Policy Framework (NPPF; 2023)¹². BNG is a legal requirement in England with the Environment Bill (2020) setting out a mandatory 10% net gain in biodiversity for new development. The BNG process is governed by a set of UK good practice principles (2016)¹³ along with industry guidance which outlines the practical implementation of the principles (2019)¹⁴. The BNG will use 2019 onsite conditions as the baseline.

8.7 Potential Impacts and Likely Effects

- 8.7.1 In summary, the following sensitive receptors have been identified:
- Statutory and non-statutory designated sites of conservation importance (and their interest features);
 - Habitats – buildings, hardstanding, introduced shrubs, modified grassland, scattered trees, line of trees and individual trees; and
 - Species – invertebrates, amphibians, reptiles, birds, water vole, bats, otter, Eurasian badger, hazel dormouse, and European hedgehog.
- 8.7.2 Table 8.3 and Table 8.4 identify which likely environmental effects, with respect to ecology, will be assessed in the Environmental Impact Assessment (EIA) (i.e., considered likely significant and therefore 'scoped in') and those which will not be assessed further (i.e., considered not likely to be significant and therefore 'scoped out'), along with a justification for this decision.
- 8.7.3 No potentially significant effects have been identified, as such ecology is scoped out. An EcIA will be provided to support the application.

Table 8-3: Potential Construction Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Designated sites	No	No significant effects are expected on statutory or non-statutory designated sites due to their distance from the application site, the closest being South Bucks Heaths and Parklands BOA which is 916 m north of the site. The railway line that borders the northern boundary of the

¹⁰ CIEEM (2017). Guidelines for Ecological Report Writing 2nd edition (online) Available at: https://www.cieem.net/data/files/Publications/Ecological_Report_Writing_Dec2017.pdf

¹¹ BSI (2013). BS 42020:2013 Biodiversity – Code of practice for planning and development. BSI Standards Limited, London

¹² Department for Levelling Up, Housing & Communities (2023). National Planning Policy Framework (NPPF). Accessed from: https://assets.publishing.service.gov.uk/media/65a11af7e8f5ec000f1f8c46/NPPF_December_2023.pdf

¹³ CIEEM, CIRIA, IEMA (2016) Biodiversity Net Gain: Good practice principles for development. Accessed from: <https://cieem.net/wp-content/uploads/2019/02/Biodiversity-Net-Gain-Principles.pdf>.

¹⁴ CIEEM, CIRIA, IEMA (2019) Biodiversity Net Gain: Good practice principles for development. A practical guide. Accessed from: <https://cieem.net/wp-content/uploads/2019/02/C776a-Biodiversity-net-gain.-Good-practice-principles-for-development.-A-practical-guide-web.pdf>.

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
		site, is considered to be a considerable barrier between the site and the closest designated site.
Habitats	No	No significant effects are expected on the habitats present at the site because there are no habitats of ecological importance above Local level, and a 10% BNG on 2019 habitats will be achieved.
Invertebrates	No	The desk study returned 41 records of invertebrates within 2 km of the site within the last 10 years. From the Phase 1 Habitat Surveys in 2016 and 2019 areas of introduced shrub provided suitable habitat for use by invertebrates. Some areas of introduced shrub were still present in the northwest of the site during the December 2023 surveys, however given that only common assemblages of invertebrates are likely to be present no significant effects are expected.
Amphibians	No	There are no records of amphibians within 2 km of the site in the last 10 years. Additionally, no suitable habitat for amphibians on site has been reported in the 2016 and 2019 Phase 1 Habitat Surveys and the December 2023 walkover. As a result, no significant effects are expected for amphibians.
Reptiles	No	There are 23 records of reptiles within 2 km of the site within the last 10 years. Minimal suitable habitat for reptiles has been reported in the 2016 and 2019 Phase 1 Habitat Surveys and the December 2023 walkover. Due to the urban nature of the site, there are no suitable connective corridors for reptiles to areas of suitable habitat from which the site could be colonised. As a result, reptiles are likely absent and no significant effects on reptiles are expected.
Birds	No	There are 1,367 records of birds within 2 km of the site within the last 10 years. During the 2016 and 2019 Phase 1 Habitat Surveys suitable habitat was identified on site to be used by common bird species for foraging and nesting. An inspection of the remaining trees/buildings on site in December 2023 found that all trees could potentially support nesting birds. However, given that only assemblages of common bird species are likely to be present, no effects on conservation status of any species

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
		are predicted and no significant effects are expected for birds.
Water Vole	No	There are no records of water voles within 2 km of the site in the last 10 years. Additionally, no suitable habitat for water voles has been reported in the 2016 and 2019 Phase 1 Habitat Surveys and the December 2023 walkover. As a result, no significant effects are expected for water voles.
Bats	No	The desk study data returned 167 records of bats within 5 km of the site within the last 10 years; and one record of an EPS license was issued approximately 1.9 km northwest of the site. The Phase 1 Habitat surveys in 2016 and 2019 recorded that suitable habitat was present on site for use by foraging and commuting bats. This was confirmed during the bat activity transect surveys were undertaken in August and September 2017. The first survey identified a limited level of bat activity with a single common pipistrelle <i>Pipistrellus pipistrellus</i> bat recorded foraging at the tree line on the southern edge of the application site. The second survey also identified an individual common pipistrelle. There was no evidence of roosting bats on or near to the application site and no commuting routes were identified. During a site visit in 2023, some features of Building 5 (Clare House) in the north-west of the site were identified as having potential to support roosting bats. Furthermore, one tree covered in ivy and two trees along the southern boundary presented possible bat roost features. Further surveys of these features have been recommended. The results of these surveys will be included in the Ecological Impacts Assessment which will be provided to support the planning application.
Otter	No	There are no records of otters within 2 km of the site in the last 10 years. Additionally, no suitable habitat for otters has been reported in the 2016 and 2019 Phase 1 Habitat Surveys and the December 2023 walkover. As a result, no significant effects are expected for otters.
Badger	No	There are no records of badgers within 2 km of the site within the last 10 years. Minimal suitable habitat for

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
		badgers has been reported in the 2016 and 2019 Phase 1 Habitat Surveys and the December 2023 walkover. Due to the urban nature of the site and the site being isolated from suitable habitat in the wider landscape, it is not considered suitable to support badgers. As a result, no significant effects are expected for badgers.
Hazel Dormouse	No	There are no records of hazel dormouse within 2 km of the site in the last 10 years. Additionally, no suitable habitat for dormouse has been reported in the 2016 and 2019 Phase 1 Habitat Surveys and the December 2023 walkover. As a result, no significant effects are expected for hazel dormouse.
Hedgehog	No	There have been 21 records for hedgehogs within 2 km of the site in the last 10 years. An extended Phase 1 Habitat survey of the application site in 2019 concluded that the site was of negligible importance to hedgehog. During an updated walkover survey in 2023, it was found that the removal of the site's vegetation would result in a reduction in the available habitat for hedgehogs. No significant affects are expected on the local hedgehog population.

Table 8-4: Completed Development Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Designated Sites	No	No significant effects are expected on designated sites during the completed development given the distance from the site to the nearest designated site (10 km for internationally designated sites, 2 km for all others) and barriers between the site and the designated sites, as stated in Table 8-3.
Habitats	No	Following the implementation of the proposed landscaping scheme, as well the production of an appropriate management plan, the proposed development of the application will have no significant effects on the habitats at the completed development stage.
Invertebrates	No	Following the establishment of habitats, which may take up to three years, and provided habitats

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
		features for invertebrates are managed appropriately there will be no significant effects on common invertebrate populations and the conservation status of invertebrates at the construction development stage.
Amphibians	No	Following the establishment of habitats, including ponds (providing additional habitat), which may take up to three years, and provided habitats features for amphibians are managed appropriately there will be no significant effects on amphibian populations and amphibian conservation status at the completed development stage.
Reptiles	No	Given the isolation of the site it is considered unlikely that reptiles would colonise suitable habitats in the completed development. As a result, there will be no significant effects on reptile populations and the conservation status at the completed development stage.
Birds	No	New landscape planting, including native species of trees, hedgerow and shrub/perennial planting, would provide nesting and foraging opportunities for birds within the completed development. Once established, the provision of new planting would replace nesting and foraging bird habitat lost during construction, therefore there will be no significant effects on common bird populations and bird conservation status at the completed development stage.
Water Vole	No	Due to the isolated location of the site and no continuity of suitable habitat for water voles within the wider landscape, it is unlikely water voles will colonise the site. Therefore, there will be no significant effects on water vole populations and water vole conservation status at the completed development stage.
Bats	No	New landscape planting and following the establishment of habitats which may take up to three years; provided habitat features for bats are managed appropriately.
Otter	No	Due to the isolated location of the site and no continuity of suitable habitat for otters within the

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
		wider landscape, it is unlikely otters will be present on site. Therefore, there will be no significant effects on otter populations and otter conservation status at the completed development stage.
Badger	No	Due to the isolated location of the site and no continuity of suitable habitat for badgers within the wider landscape, it is unlikely that badgers will be present on site. Therefore, there will be no significant effects on badger populations and badger conservation status at the completed development stage.
Hazel Dormouse	No	Due to the isolated location of the site and no continuity of suitable habitat for hazel dormouse within the wider landscape, it is unlikely hazel dormouse will be present on site. Therefore, there will be no significant effects on hazel dormouse populations and hazel dormouse conservation status at the completed development stage.
Hedgehog	No	Following the establishment of habitats, which may take up to three years, and provided habitats features for hedgehogs are managed appropriately there will be no significant effects on hedgehog populations at the completed development stage.

8.8 Preliminary Discussion of Mitigation and Enhancement Measures

8.8.1 The EcIA to accompany the planning application will identify any necessary mitigation measures and/or enhancement measures, such as:

- i. Low level external lighting schemes and provision of measures to reduce the light escaping from internal spaces;
- ii. Provision of enhanced landscape planting, comprising trees, mixed scrub, and native or nectar-rich species, to strength existing boundary features with strategic significance;
- iii. Provision of compensation for loss of habitats, such as grassland, wildflower planting and individual trees, lost through the development;
- iv. Provision of discrete protected species enhancement measures such as log piles, bird and bat boxes across the site;
- v. Enhancing existing amenity grassland present onsite (such as in between buildings) to improve grassland condition (by adding wildflower seed mixes, over seeding and relaxed management regimes);
- vi. Green infrastructure such as green-blue roofs; and
- vii. Construction Environmental Management Plan (CEMP) to outline best practice construction techniques, for instance to consider the potential presence of nesting birds on site during construction.

9. LANDSCAPE AND VISUAL

9.1 Purpose and Study Area

- 9.1.1 The following Section addresses the scope and approach that is intended for the Townscape and Visual Impact Assessment (TVIA) in respect of the Proposed Development in order to obtain agreement with consultees regarding the methodological basis, scope, key receptors, assessment viewpoints and cumulative context that is to be addressed in the TVIA.
- 9.1.2 For the purposes of the TVIA a 5.0 km radius Study Area is proposed (i.e., extending from the boundary of the application site). This is considered proportionate and likely to represent the area in which any potential significant landscape and/or visual effects would occur due to the:
- Proposed Development's position on a relatively flat terrain which reduces the number of proximate, elevated receptors present;
 - Extent of enclosure provided by adjacent built forms within the same settlement would reduce the visibility of the Proposed Development from the wider landscape; and
 - Figure 9.1: Preliminary Zone of Theoretical Visibility within 5km of Proposed Development, below, illustrates the extent of theoretical visibility of the post construction development based on a digital surface model that takes account of key structural elements and built forms. It is apparent from this image that visibility would, with few exceptions, be concentrated within 4 km of the application site.

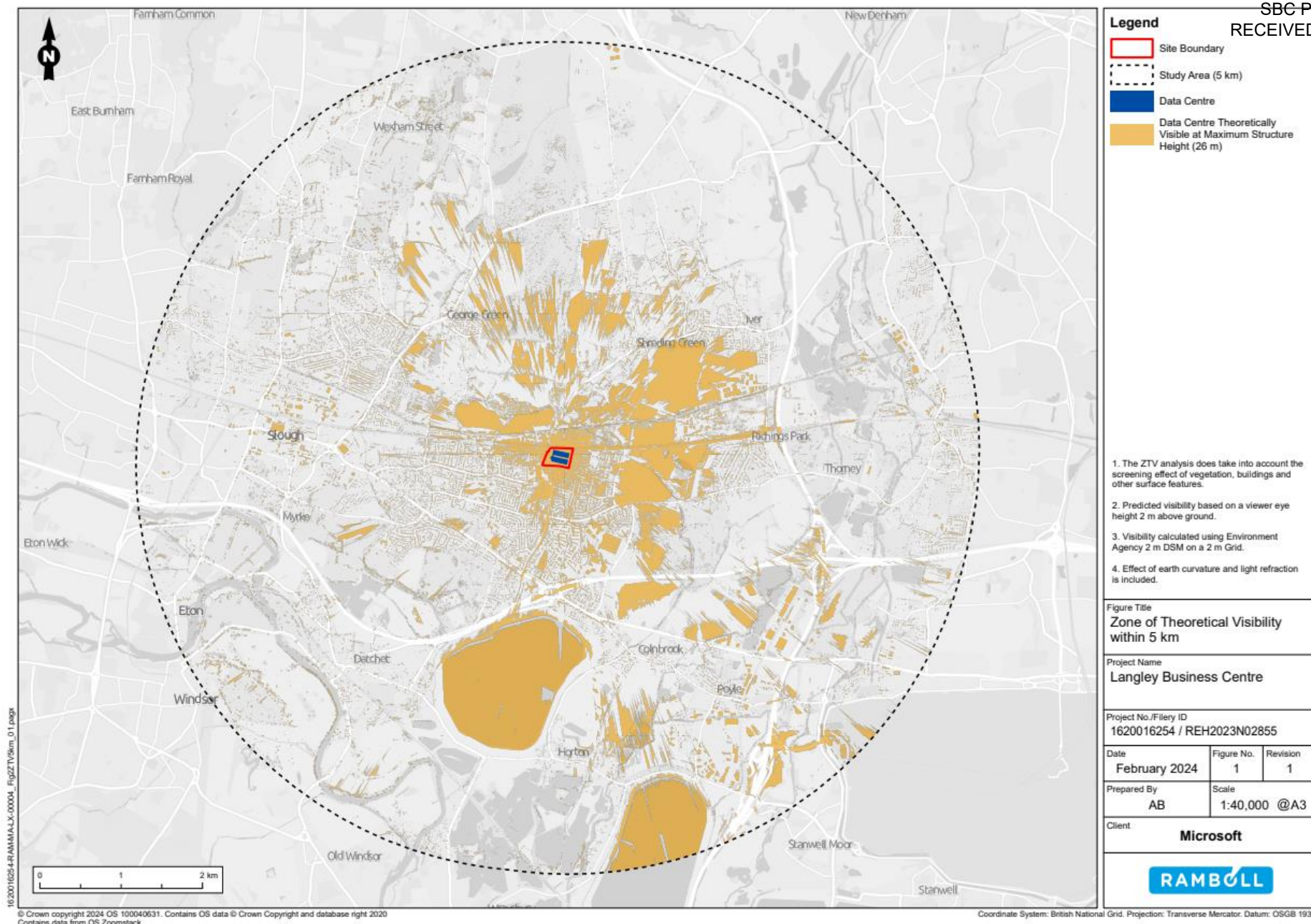


Figure 9-1 Preliminary Zone of Theoretical Visibility within 5km of Proposed Development

9.2 Scoping Criteria

9.2.1 In determining the scope of the TVIA for the Proposed Development a number of key factors have been considered including:

- Relevant landscape planning policy context;
- Professional and technical guidance;
- The existing landscape and visual baseline context and its sensitivity to the type of development proposed based on predefined criteria;
- The nature and scale of the Proposed Development;
- Key impact generators and likely construction and post construction effects on the landscape, townscape and visual resource; and
- Scope for mitigation of potential townscape and visual effects.

9.3 Scope

9.3.1 The TVIA will address all phases of the Proposed Development, including:

- Site preparations and construction phases; and
- Post construction or operational phases of the Proposed Development.

9.4 Site Information and Baseline Conditions

Site Location

9.4.1 The application site is approximately 6.9 hectares in size and located 3.5km to the east of Slough town centre and approximately 5 km north-east of Windsor. The surrounding townscape to the east, south and west consists of two and three storey residential properties. The Great Western Railway Lines lies to the north of the application site, beyond which the land is typified by offices and light industrial forms.

Topography and Hydrology

9.4.2 The majority of the application site and adjoining townscape of Slough are situated at elevations between 15 meters Above Ordnance Datum (m AOD) and 30 m AOD. The terrain gradually inclines northwards towards Shreding Green and Iver.

9.4.3 The primary watercourses within the Study Area comprise the Grand Union Canal and its associated riparian vegetation, situated approximately 200 meters north of the application site. Proposed Development is unlikely to represent a significant effect as the application site in baseline is in a land parcel segregated from the Canal and the associated landscape by the Great Western Mainline.

Landcover & Landscape Elements

9.4.4 The predominant land uses of the Study Area comprise:

- Relatively densely developed areas and highly variable architecture forms;
- Fragmented landscape featuring dispersed areas in commercial, industrial, educational, recreational and residential use, separated by transport corridors;
- Flat, low-lying and open parklands with limited woodland providing a partially rural aspect; and

- settled agricultural landscapes with riparian vegetation that includes grassland and tree belts, but with strong urban influences.

Landscape Character

9.4.5 The Study Area comprises a number of distinct landscape character types that occupy the more rural areas between settlements. These include:

- National Character Area (NCA)
 - Thames Valley Landscape character area (LCA)¹⁵;
- Berkshire County Landscape Character Assessment¹⁶
 - Lower Valley Floor – Area B5: Eton Thames LCA;
 - Lower River with Open Water – Area C4: Wraysbury Thames; and
 - Royal Forest – Area J1: Windsor Great Park.
- Buckinghamshire County Landscape Character Types (LCT) and South Bucks District Council Landscape Character Types¹⁷ present include:
 - Mixed Use Terrace – Area 22.4: Iver Heath;
 - Wooded Terrace – Area 24.2: Farmham and Stoke Common;
 - Lowland Fringe – Area 25.1: Stoke and Langley Park; and
 - Floodplain – Area 26.3: Colne Valley.
- LCAs described in Windsor and Maidenhead Borough Landscape Character Assessment include¹⁸:
 - Estate Parkland – Area 1A Windsor Castle;
 - Farmed Parkland – Area 3A Windsor Riverside;
 - Settled Farmed Floodplain – Area 13D: Datchet; and
 - Settled Developed Floodplain – Area 14C: Horton and Wraysbury.

9.4.6 The LCT assessments considered the settlement of Langley to be separated from the character areas and was not assessed. Therefore, any proposed developments within the settlement boundary of Langley is highly unlikely to cause a significant level of effect and further assessments of the LCT are therefore, not proposed in the TVIA.

Townscape Character

9.4.7 In addition to the landscape character assessments described in section c, above, the TVA will also describe the townscape character context of the Proposed Development. This will be based upon the townscape character areas (TCAs) identified in the townscape character assessment of 2019¹⁹. The TCAs included will comprise:

- TCA 1: Business Park and East Berkshire College;
- TCA 2: Semi-detached Residential;
- TCA 3: Heathrow World Distribution;
- TCA 4: High Street and Kedermister Park;

¹⁵ National Character Area (NCA) 115 (available at <https://publications.naturalengland.org.uk/publication/3865943?category=587130>)

¹⁶ Berkshire Landscape Character Assessment (BLCA), October 2003.

¹⁷ Buckinghamshire Council Landscape Character Assessments, South Bucks District Council, October, 2011.

¹⁸ Maidenhead Borough Landscape Character Assessment, September, 2004.

¹⁹ Langley Business Centre ES Volume 2: Townscape and Visual Impact Assessment prepared on behalf of Zurich Assurance Ltd c/o Threadneedle Portfolio Services Ltd. TVA a chapter within the document.

- TCA 5: Parkside Residential;
- TCA 6; Langley New Town;
- TCA: Transitional Lowland; and
- TCA 8: Lower Valley Floor.

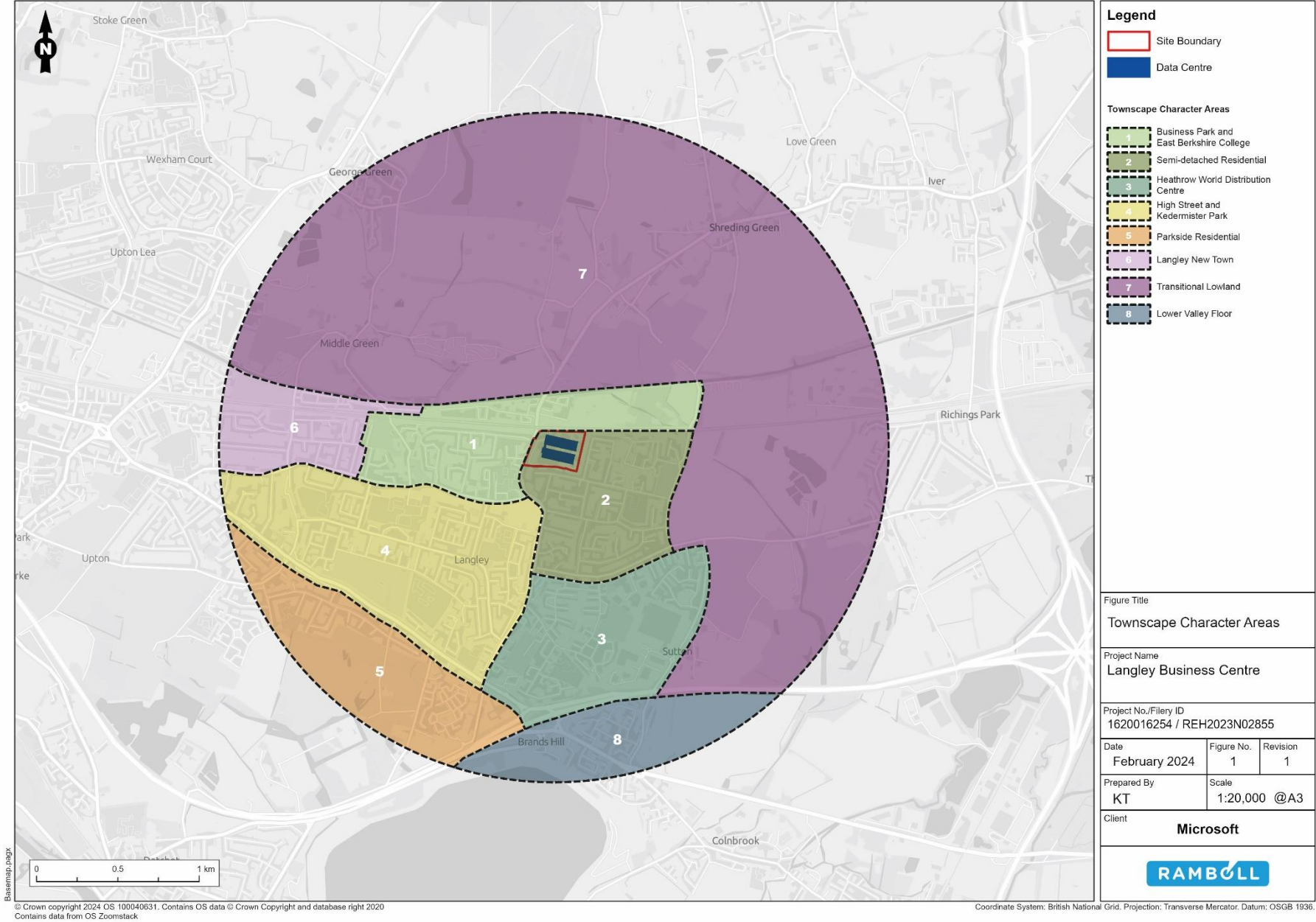


Figure 9-2: Map of Townscape Character Areas surrounding the site

- 9.4.8 The TVIA will describe the key characteristics of each TCA, along with their sensitivity to the type of development proposed based on value and susceptibility of each TCA.

Landscape Designations and Classifications

- 9.4.9 The Site is not subject to landscape designation or classification. However, the wider Study Area contains such sensitive townscapes/landscapes, including:

Conservation Areas

- St. Mary's Church conservation area, approximately 700m to the west of the application site boundary at its nearest point; and
- St Bernard's School conservation area, approximately 2km to the west of the application site boundary at its nearest point.

Heritage Assets

- Grade II Langley Hall, approximately 200m south-west of the application site at its nearest point; and
- Grade II Langley War Memorial, approximately 350m south of the application site at its nearest point.

A map of these areas and assets is below:

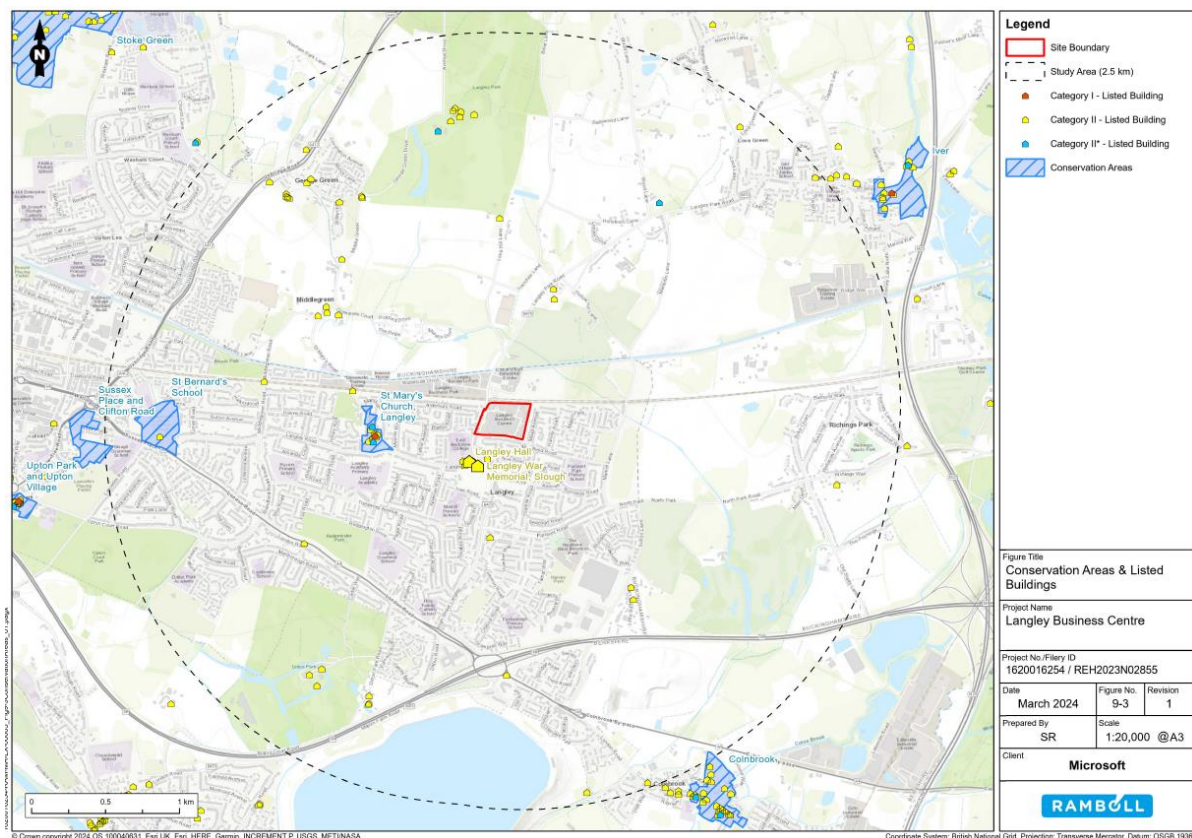


Figure 9-3 Landscape Designations and Classifications

- 9.4.10 The conservation areas and the heritage assets are surrounded by cluttered buildings with mixed visual qualities as the backdrop and screening majority of the Proposed Development. Therefore, any visibility from the conservation area is highly constrained and of a non-significant level where no assessment is proposed.

Registered Park and Garden

- 9.4.11 The Study area contains a number of Registered Historic Parks and Gardens that are valued for landscape design, but only relevant to the TVIA in respect of historic landscape characteristics, including:
- Ditton Park, located approximately 1.5km south-west of the application site – Grade II reflecting formal early C18 gardens and wilderness landscape laid out by Lancelot Brown. South to the moat house is wooded walks with a brick walled garden inside, which survived from early C18 scheme. The open area dotted with park trees include some surviving species from the early C18 avenue.
 - Langley Park, located approximately 2km north of the application site – Grade II medieval deer park laid by Lancelot Brown. The garden close to the principal house comprises straight, formal gravel paths, terracing connected by short flights of stone steps and level lawns. Perimeter has mature trees and shrubs. Brick ha-has present along the north and south boundaries. North-east corner of the landscape has a rhododendron garden with mature standard trees. The area is at the highest point, providing view to Windsor Castle 7km away.
 - Stoke Place, located approximately 4km north-west of the application site - Grade II mid-C18 pleasure ground by Lancelot Brown, developed and extended in early C19 with the addition of a park and extensive kitchen gardens. Centre to the pleasure grounds is a sinuous lake formed by Brown. Low mounds around the lake include mature species.
 - Stoke Park and Stoke Poges Gardens of Remembrance, located approximately 4.5km north-west of the application site;
 - Grade II pleasure grounds laid by Lancelot Brown with a parterre on the east. Many old oaks in north park, some are survivors from the formal plantations and avenues in 1761. Lakes run across the park divided by a cascade next to the Manor House. The Garden of Remembrance was founded in the 1930s by Sir Noel Mobbs, located on the eastern side of the lake.
 - Herschel Park, formerly Upton Park, located approximately 3km south-west of the application site.
 - Grade II landscape park of a compact and informal design, laid largely to lawns and planted with scattered specimen trees in variety. Some of the trees maybe of the of the original 1830s planting. Species include several varieties of oak. Park is enclosed by a perimeter tree belts with informal paths.
 - The Royal Estate, located approximately 4km south-west of the application site – Grade I landscape comprising a moat garden used since C15 and terrace garden since 1920s surrounded by pleasure ground and a landscape park originating a medieval deer park, with initiate associations with the British Royal Family since C11.
 - Eton College, located approximately 4km south-west of the application site – Grade II landscape including two gardens (Provost's Garden and Headmaster's Garden) laid out by the late C17, reflecting the geometrical style of the main building in the campus. Further playing fields were laid out to the west to the side near Slough Road in mid C20 surrounded by belts of trees and planted avenues. All gardens still in use.
- 9.4.12 Whilst Ditton Park and Langley Park are relatively close to the Proposed Development, the former is situated at the lower end of the descending topography south-west to Langley and the latter is visually separated by the elevated railway line north to the Proposed Development, which screens off majority of the Proposed development. Therefore, any visibility from these designated landscapes would be highly constrained and of a non-significant level.

- 9.4.13 The distance at which the other Registered Parks and Gardens are located relative to the Proposed Development coupled with the built forms that predominate in Slough and Langley means that any visibility from these designated landscapes would be again, highly constrained and of a non-significant level.

9.5 Visual Amenity

- 9.5.1 Key visual receptors that will be addressed in the TVIA include:

- Users of recreational routes;
- Residents of residential dwellings and communities in settlements; and
- Road, rail and canal users.

Recreation Routes

- 9.5.2 National Cycle Network (NCN) 61 connects Uxbridge, Langley, Slough and South Lodge Pit. The preliminary ZTV visibility of the Proposed Development suggests the segment emerging from Grand Union Canal, bounded by Langley Park Road and St Mary's Road that the Proposed Development is likely to be visible. The segment also overlaps with public footpath WEX/13/2. Therefore, assessment of effects on the amenity of receptors on these routes is proposed.
- 9.5.3 Grand Water Canal Tow Path – Slough Arm sits at about 200m north to the proposed development. The preliminary ZTV analysis and field reconnaissance suggests that the visibility from Grand Water Canal Tow Path – Slough Arm to the Proposed Development would be entirely screened by intervening topography and forest cover. Consequently, no assessment of effects on the amenity of the Tow Path is proposed.

Residential properties

- 9.5.4 The Proposed Development is situated in close proximity of residential properties along the east, south and west perimeter. Detailed assessment of the Proposed Development effects will be undertaken for streets around residential properties within 500m to assess the effects on community amenity.

Road & Rail Routes

- 9.5.5 Key roads within the Study Area that would provide potential views of the Proposed Development include:
- B470 between Ditton Road and Langley Park Road within 500m of the Proposed Development;
 - Maison Lane located north-east and at about 1.2km from the Proposed Development;
 - North Park Road emerging from B470 Parlaunt Road, located just over 1km from the Proposed Development;
 - Section of M25 between Grand Union Canal and Railway Underpass, located at about 2.6km from the Proposed Development;
 - Section of M4 south to Foxborough Primary School, located at about 1.4km from the Proposed Development; and
 - Minor roads and footpaths within 500m of the Proposed Development.
- 9.5.6 Preliminary ZTV field reconnaissance suggests that the visibility from the segment of M25 as mentioned above, to the Proposed Development would be screened by intervening topography and forest cover. Consequently, no assessment of effects along M25 is proposed.
- 9.5.7 Key rail routes within the Study Area that would provide potential views of the Proposed Development include:

- Section bounded by Thorney Lane South on the east and Uxbridge Road (A4) on the west.

9.6 Potential Impacts and Likely Effects

- 9.6.1 Based on the site information and baseline conditions within the Study Area, a number of sensitive receptors have been identified, as described below,

Landscape Receptors

- NCA Profile 115: Thames Valley;
- Type B: Lower Valley Floor – Area B5: Eton Thames;
- Type C: Lower River with Open Water – Area C4: Wraysbury Thames;
- Type J: Royal Forest – Area J1: Windsor Great Park;
- Type 22: Mixed Use Terrace – Area 22.4: Iver Heath;
- Type 24: Wooded Terrace – Area 24.2: Farmham and Stoke Common;
- Type 25: Lowland Fringe – Area 25.1: Stoke and Langley Park;
- Type 26: Floodplain – Area 26.3: Colne Valley;
- Type 1: Estate Parkland – Area 1A Windsor Castle;
- Type 3: Farmed Parkland – Area 3A Windsor Riverside;
- Type 13: Settled Farmed Floodplain – Area 13D: Datchet;
- Type 14: Settled Developed Floodplain – Area 14C: Horton and Wraysbury;
- TCA 1: Business Park and East Berkshire College;
- TCA 2: Semi-detached Residential;
- TCA 3: Heathrow World Distribution;
- TCA 4: High Street and Kedermister Park;
- TCA 5: Parkside Residential;
- TCA 6; Langley New Town;
- TCA: Transitional Lowland; and
- TCA 8: Lower Valley Floor.

- 9.6.2 The assessment of landscape character areas did not consider the area within settlement boundary of Langley. Therefore, any proposed developments within the settlement boundary of Langley are highly unlikely to impact the character areas which did not include the settlement area as part of the landscape character appraisal. Therefore, effects on landscape character types will not be included for further assessments.
- 9.6.3 Townscape character assessment, which describes the key characteristics and features of the built environment is relevant due to proximity to the Proposed Development. Therefore, effects on townscape character will be included for further assessments.

Visual Receptors

- B470 between Ditton Road and Langley Park Road within 500m of the Proposed Development;
- Maison Lane located north-east and at about 1.2km from the Proposed Development;

- North Park Road emerging from B470 Parlaunt Road, located just over 1km from the Proposed Development;
- Section of M25 between Grand Union Canal and Railway Underpass, located at about 2.6km from the Proposed Development;
- Section of M4 south to Foxborough Primary School, located at about 1.4km from the Proposed Development;
- Minor roads and footpaths within 500m of the Proposed Development; and
- Residential properties within 500m of the application site boundary.

9.7 Assessment Viewpoints

9.7.1 In order to verify likely landscape and visual effects, a series of assessment viewpoints are proposed. These are listed below, and their location shown in Figure 9.2: Representative Viewpoint Location Plan:

- Viewpoint 1: Meadfield Avenue - a footpath in a residential area located within 500m radius and at about 100m southeast from the Proposed Development, and to illustrate effects on TCA 2.
- Viewpoint 2: Mead Avenue – a footpath located in a residential area within 500m radius and at about 350m east from the Proposed Development adjacent to the railway section bounded by Thorney Lane South and Uxbridge Road (A4), and to illustrate effects on TCA 2.
- Viewpoint 3: Langley High Street – B470 perpendicular to Parlaunt Road at about 500m south from Proposed Development, and to illustrate effects on TCA 2, 3 and 4.
- Viewpoint 4: North Park Road - North Park Road emerging from B470 Parlaunt Road, located just over 1km from the Proposed Development, , and to illustrate effects on TCA 8.
- Viewpoint 5: Station Road – B470 north to railway line ascending northwards, located approximately 350m from the northern boundary of Proposed Development , and to illustrate effects on TCA 1.
- Viewpoint 6: Alderbury Road - about 1.8km west from the Proposed Development adjacent to the railway section bounded by Thorney Lane South and Uxbridge Road (A4), and to illustrate effects on TCA 6.
- Viewpoint 7: Public Footpath WEX/13/2 – located at approximately 650m north-west from Proposed Development, part of NCN 61, emerging from Grand Union Canal, bounded by Langley Park Road and St Mary's Road and overlaps with public footpath WEX/13/2, and to illustrate effects on TCA 7.
- Viewpoint 8: Langley Memorial Ground – recreational space bounded by B470 on the east and footpaths of other sides. Residential area on the west. Ground with open views northwards. Located at approximately 400m south from Proposed Development, and to illustrate effects on TCA 4.
- Viewpoint 9: Eden Close Green Space –section of M4 south to Foxborough Primary School, located at about 1.4km from the Proposed Development, and to illustrate effects on TCA 3 & 8.
- Viewpoint 10: Mansion Lane – Maison Lane located north-east and at about 1.2km from the Proposed Development, and to illustrate effects on TCA 7.



Figure 9-4 Representative Viewpoint Location Plan (extracted from TVIA Report by Barton Wilmore in 2019)

9.8 Approach and Methodology

Guidance and Professional Standards

- The Landscape and Visual Impact Assessment (LVIA) will be prepared with due regard to the following publications:
- The Town and Country Planning (Environmental Impact Assessment) Regulations 2017
- Guidelines for Landscape and Visual Impact Assessment (GLVIA) Third Edition, Landscape Institute and Institute of Environmental Management and Assessment (2013) and subsequent technical notes and clarifications;
- Landscape Character Assessment: Guidance for England and Scotland (2002); and
- Technical Guidance Note (TGN) 06/19 Visual Representation of development proposals

9.9 Data and Information

9.9.1 The LVIA will utilise a range of published data and information, including:

- Digital terrain data (5 m interval);
- 1:50,000 scale Ordnance Survey mapping;
- Site survey data;
- Aerial photography;
- Local Development Plan for Slough;
- Berkshire Landscape Character Assessment. London. Land Use Consultant. (2003);
- South Bucks District Landscape Character Assessment. London. Land Use Consultant (2011); and
- Landscape Character Assessment for the Royal Borough of Windsor and Maidenhead. Oxford. LDA Design.

9.9.2 This data would be checked during field reconnaissance to ensure its accuracy.

9.10 Assessment Process

Baseline Appraisal

9.10.1 Initially, a desk study will be undertaken of relevant background materials including consultation responses and national, regional and local landscape planning policies and guidance. The baseline study will also identify visual receptors in the Study Area. These are likely to comprise residential receptors, tourists, walkers, cyclists, and road users. Night-time reconnaissance will also be undertaken to identify existing night conditions against which to determine the likely impact of any light sources associated with the construction or operation of the Proposed Development.

9.11 Design and Mitigation Measures

9.11.1 Based on analysis of the construction and operational elements of the Proposed Development and the landscape/visual baseline appraisal described previously a series of design priorities and mitigation measures will be devised in order to ameliorate any potentially significant landscape and/or visual effects. Opportunities will also be sought, as part of the design and mitigation proposals, to contribute to landscape enhancement and biodiversity net gain.

Matters Assessed

- 9.11.2 The LVIA will consider both construction and operational effects of the Proposed Development on:
- landscape fabric;
 - townscape character;
 - landscape character; and
 - visual amenity.
- 9.11.3 Impacts on landscape fabric concern physical change to physical components of the landscape such as landform and land cover. Impacts on townscape character relate to the removal or changes of key characteristic elements of the townscape and consequent influences on the distinct and recognisable pattern of elements resulting in a specific character. Impacts on landscape character arise from the loss or alteration of key characteristic elements of the landscape and consequent changes to the distinct and recognisable pattern of elements that give it a particular character. Visual impacts comprise changes in key elements of views and the related effects on scenic quality and visual amenities.

9.12 Illustrative Materials

- 9.12.1 The LVIA will be accompanied by a series of baseline figures which contain geographical information of relevance to the assessment (i.e. Topography, landcover, landscape character, landscape designations and classifications).
- 9.12.2 In addition, a Zone of Theoretical Visibility drawing (ZTV) will be prepared that will provide an indication of the potential visibility of the finalised Proposed Development (operational elements only). The ZTV would also include details of assessment viewpoint locations.
- 9.12.3 In order to demonstrate the potential effect of the Proposed Development and efficacy of any proposed design or mitigation measures, the production of rendered photomontages and wireline images will be included. Realistic rendered images with texture for the building facades are proposed for viewpoints that are closer to the development (viewpoints 1, 2, and 6). These viewpoints are likely to be subject to the greatest impact from the Proposed Development. Viewpoints further from the Site (3, 4, 5, 7, 8, 9, and 10) will be illustrated by an outline of the proposed developments mass. All images will include a red line to indicate the height of the consented development parameters so the degree to which the proposed development exceeds this is illustrated.

9.13 Cumulative Assessment

- 9.13.1 In assessing potential cumulative landscape and visual effects, consideration will be given to cumulative effects arising from combined and/ or consecutive (concurrent) visibility (where the observer is able to see two or more developments from one viewpoint location), and sequential effects (where a number of similar developments would be visible individually or simultaneously over a sequence of connected viewpoints, such as would be found along a road or footpath). No potential cumulative developments have been identified.

9.14 Scoped in or out

- 9.14.1 Table 9-1 and Table 9-2 identify which likely townscape and visual effects, will be assessed in the TVIA (i.e., considered likely significant and there 'scoped in' and those which will not be assessed further (i.e., considered not likely to be significant and therefore 'scoped out'), and the corresponding reason.

Table 9-1: Potential Construction Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Landscape Effects		
Construction effects on landscape fabric	Yes	Significant effects are, however, likely to be highly localised and of short duration.
Construction effects on landscape designations and classifications	No	The limited extent and duration of proposed construction works, coupled with the distance at which they would occur relative to the designated and classified landscapes identified within the Study Area and consequent highly constrained visibility and non-significant level of effect anticipated.
Construction effects on landscape character areas	No	The assessment of landscape character areas did not consider the area within settlement boundary of Langley. Therefore, any proposed developments within the settlement boundary of Langley are highly unlikely to impact the character areas which did not include the settlement area as part of the landscape character appraisal. Therefore, construction effects on landscape character types will not be included.
Construction effects on townscape character areas	Yes	Significant effects are, however, likely to be highly localised and of short duration. Significant effects are most likely to occur within the host townscape character area (TCA 2) and the immediate adjacent character area (TCA 1) as the north and west sides of the application boundary sit at the separation line between the two character areas. However, the assessment will consider effects on the following TCAs: • TCA 1: Business Park and East Berkshire College; • TCA 2: Semi-detached Residential; • TCA 3: Heathrow World Distribution; • TCA 4: High Street and Kedermister Park; • TCA 7: Transitional Lowland; and • TCA 8: Lower Valley Floor. Preliminary ZTV shows that visibility to Proposed Development from TCA 5 (Parkside Residential)

and 6 (Langley New Town) is low. Therefore, TCA 5 and 6 will not be assessed further.		
Visual Effects		
Construction effects on visual amenity of road and rail routes	Yes	Construction effects on neighbouring road and rail routes will be assessed, however, are likely to be localised and of limited duration. Road routes to be assessed in the TVIA include, • B470 between Ditton Road and Langley Park Road within 500m of the Proposed Development. • Maison Lane located north-east and at about 1.2km from the Proposed Development. • North Park Road emerging from B470 Parlaunt Road, located just over 1km from the Proposed Development. • Section of M4 south to Foxborough Primary School, located at about 1.4km from the Proposed Development. • Railway section bounded by Thorney Lane South on the east and Uxbridge Road (A4) on the west.
Construction effects on visual amenities of recreational routes	Yes	Effects, including sequential effects and cumulative effects on the segment of NCN 61, emerging from Grand Union Canal, bounded by Langley Park Road and St Mary's Road and overlaps with public footpath WEX/13/2 will be addressed in the TVIA.
Construction effects on residential properties	Yes	The TVIA will address effects on the properties within 500m of the Proposed Development.

Table 9-2: Potential Completed Development Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Landscape Effects		
Landscape fabric	No	Significant effects are, however, likely to be highly localised and of short duration.
Landscape designations and classifications	No	The character areas considered the settlement of Langley to be a separated area and was not assessed. Therefore, Proposed Development

		within the settlement boundary of Langley is highly constrained and non-significant level of effect anticipated.
Landscape character areas	No	The assessment of landscape character areas did not consider the area within settlement boundary of Langley. Therefore, any proposed developments within the settlement boundary of Langley are highly unlikely to impact the character areas which did not include the settlement area as part of the landscape character appraisal. Therefore, completion developmental stage effects on landscape character types will not be included.
Townscape character areas	Yes	Significant effects are most likely to occur within the host townscape character area (TCA 2) and the immediate adjacent character area (TCA 1) as the north and west sides of the application boundary sit at the separation line between the two character areas. However, the assessment will consider effects on the following TCAs: • TCA 1: Business Park and East Berkshire College; • TCA 2: Semi-detached Residential; • TCA 3: Heathrow World Distribution; • TCA 4: High Street and Kedermister Park; • TCA 7: Transitional Lowland; and • TCA 8: Lower Valley Floor. Preliminary ZTV shows that visibility to Proposed Development from TCA 5 (Parkside Residential) and 6 (Langley New Town) is low. Therefore, TCA 5 and 6 will not be assessed further.
Visual Effects		
Visual amenity of road and rail routes	Yes	Completed development stage effects on neighbouring road and rail routes will be assessed, however, are likely to be localised and of limited duration. Road routes to be assessed in the TVIA include, • B470 between Ditton Road and Langley Park Road within 500m of the Proposed Development. • Maison Lane located north-east and at about 1.2km from the Proposed Development.

		• North Park Road emerging from B470 Parlaunt Road, located just over 1km from the Proposed Development. • Section of M4 south to Foxborough Primary School, located at about 1.4km from the Proposed Development. • Railway section bounded by Thorney Lane South on the east and Uxbridge Road (A4) on the west.
Visual amenity of recreational routes	Yes	Effects, including sequential effects and cumulative effects on the segment of NCN 61, emerging from Grand Union Canal, bounded by Langley Park Road and St Mary's Road and overlaps with public footpath WEX/13/2 will be addressed in the TVIA.
Residential properties	Yes	The TVIA will address effects on the properties within 500m of the Proposed Development.

9.14.2 It is evident from the analysis of the Proposed Developments key constituents that townscape and visual impacts associated with the Proposed Development are likely to be highly localised and confined to locations within a 5km radius of the site.

9.14.3 Notwithstanding the likely limited potential for significance townscape and visual effects, it is intended to provide an assessment of construction and post construction impacts and residual effects on the following, summarised in Table 9-3:

Table 9-3: Scoping Summary

Scoped in	Scoped out
Construction and completed stage development effects on landscape fabric	Construction and completed stage development effects on National Character Area Profile 115, character areas in Berkshire County Landscape Character Assessment (Type B- Area B5, Type C – Area C4, and Type J – Area J1), character areas in Buckinghamshire County Character Types and South Bucks District Council Landscape Character Types (Area 22.4, 24.2, 25.1 & 26.3), and Windsor and character areas in Maidenhead Borough Landscape Character Assessment (Type 1, 3, 13 & 14).
Construction and completed stage development effects on townscape character areas of the following, • TCA 1: Business Park and East Berkshire College; • TCA 2: Semi-detached Residential;	Construction and completed stage development effects on landscape character areas of the following, • TCA 5: Parkside Residential; and • TCA 6: Langley New Town.

• TCA 3: Heathrow World Distribution; • TCA 4: High Street and Kedermister Park; • TCA 7: Transitional Lowland; and • TCA 8: Lower Valley Floor.	
Construction and completed stage development effects on visual amenity of road and rail routes of the following, • B470 between Ditton Road and Langley Park Road within 500m of the Proposed Development. • Maison Lane located north-east and at about 1.2km from the Proposed Development. • North Park Road emerging from B470 Parlaunt Road, located just over 1km from the Proposed Development. • Section of M4 south to Foxborough Primary School, located at about 1.4km from the Proposed Development. • Railway section bounded by Thorney Lane South on the east and Uxbridge Road (A4) on the west.	Construction and completed stage development effects on visual amenity of road and rail routes of the following, • Section of M25 between Grand Union Canal and Railway Underpass, located at about 2.6km from the Proposed Development; •
Construction and completed stage development effects on visual amenities of recreational routes for the segment of NCN 61, emerging from Grand Union Canal, bounded by Langley Park Road and St Mary's Road and overlaps with public footpath WEX/13/2.	Construction and completed stage development effects on visual amenities of other areas of recreational routes for the segment of NCN 61 and Grand Union Canal.

9.15 Preliminary Discussion of Mitigation and Enhancement Measures

- 9.15.1 The EIA report will identify any embedded design responses as well as mitigation measures necessary to address potential significant landscape and/or visual effects associated with the construction and operation of the Proposed Development, this will include consideration of measures to:
- Enable retention of as much of the existing woodland and habitats in the Site .
 - Provide for replication or replacement of existing habitats that would be lost as a result of the Proposed Development.
 - Selectively enhance the condition of existing habitats;
 - Ensure that new water features are designed to provide a diverse ecocline and enhancement of biodiversity at the Site.
 - Establish final Site levels and topography that is consistent with the adjoining landscape, and which would avoid elevating the Proposed Development in views or increasing its prominence in the landscape.
 - Ensure that Site structures, including any lighting and signage are designed to minimise their visual impact.

10. ARCHAEOLOGY AND THE HISTORIC ENVIRONMENT

- 10.1.1 This section summarises the potential environmental impacts and likely significant effects that are at this stage anticipated to arise in connection with all stages of the proposed development for archaeology and the historic environment.

10.2 Site Information and Baseline Conditions

- 10.2.1 There are no statutorily designated assets on the application site and the application site is not located within a Conservation Area or an archaeological notification area.
- 10.2.2 There have been no archaeological investigations within the application site and there have only been 11 within the 1 km radius study area. The nearest was 130 m to the south-west of the application site although this found no archaeological remains. The majority of investigations are focused at the edge of the study area in and around the early medieval settlement of Langley Marsh.
- 10.2.3 The baseline assessment of the application site indicates that up to 0.8 m of made ground overlies the majority of the application site cutting into the brickearth. Untruncated brickearth was found in the east of the application site where it was recorded directly below the ground surface. Untruncated gravel was found at levels varying from 27.6 m ordinance datum (OD) to 25.0 m OD (1.4 to 2.4m below ground level (bgl)). The application site is 220 m south of the Slough Arm of the Grand Union Canal. The Slough Arm was constructed between 1880 and 1882 to meet the demand for bricks and natural materials needed for the level of building construction in London.
- 10.2.4 The topography of the general area is relatively flat with a gentle slope down from the north and east 28.7 m OD to 27.6 m OD. The ground levels within the application site reflect the above with a gentle slope down 28.6 m OD to 27.8 m OD.
- 10.2.5 The topography and geology of the application site would be one that was attractive to early (prehistoric) settlers but the bulk of the remains from this period are scattered isolated antiquarian and more recent chance finds which tend to indicate seasonal reuse of the area rather settlement. However, it is also possible that the scarcity of finds is the result of the limited number of archaeological investigations undertaken within the study area. The application site appears to remain undeveloped until the early 1930s when it became the location of a knitwear factory. The factory remained at the application site until the 1980s/90s when it was demolished, and the current range of buildings were constructed. The site has recently undergone widespread demolition.
- 10.2.6 A summary of the significance of the archaeology is as follows:
- With respect to prehistoric remains, the Berkshire Historic records (HER) recorded numerous isolated finds and prehistoric tool concentrations throughout the study area dating to the prehistoric periods, primarily lithic in nature. No cut features suggesting permanent settlement have been identified. Any isolated remains would be of low significance. Palaeolithic flint concentrations would be of medium significance.
 - The site has low potential to contain Roman through later medieval remains. The site is located outside any known settlements within woodland or open meadow / fields and there is no evidence of extensive presence within the vicinity of the site until the post-medieval period.
 - The site has high potential to contain post-medieval remains. Historic maps suggest that the site was part of fields until the early 20th century when the Pasold Limited clothing factory, better known as the Ladybird Clothing factory, was constructed. Evidence of agricultural activity would be of low significance. Evidence of the clothing factory would be of low significance.

10.3 Potential Impacts / Effects

10.3.1 The following potential effects have been identified:

- Foundation works; given the relatively shallow nature of the underlying geologies, the excavation and construction of all foundations have the potential to truncate or remove completely any potential heritage assets; and
- Development works, in particular landscaping and any associated works, servicing etc., would have a similar impact as foundations and would severely truncate or remove completely any potential heritage assets.

Table 10-1: Potential Construction Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Foundation works	No	Given that the significance of archaeological assets are low, the potential effects of the proposed development are not considered significant.
Development works	No	Given that the significance of archaeological assets are low, the potential effects of the proposed development are not considered significant.

10.3.2 A table on operational stage effects is not included as there are no potential effects from data centre activities.

10.3.3 A desk-based HEA will be produced in support of the planning application. The HEA will put the proposed development into its full archaeological and historical context and provide an assessment of the significance of known and potential buried heritage assets within and beyond the application site, which may be affected by the proposed development. They will include assessments of factors which will have compromised the survival of archaeological remains.

11. GROUND CONDITIONS

- 11.0.1 This section summarises the potential environmental impacts and likely significant effects that are at this stage anticipated to arise in connection with all stages of the proposed development for ground conditions.

11.2 Site Information and Baseline Conditions

- 11.2.1 In order to establish baseline ground conditions at the site, relevant data was reviewed and assessed. The relevant data was obtained from the Environmental Baseline Report²⁰ and a desktop review of relevant site history and potential for ground contamination.

Site History

- 11.2.2 Available historical mapping shows that the site was undeveloped from at least the mid-1870s to 1932, considered likely to be in use for agricultural purposes. By 1938 a knitwear factory was depicted in the west of the site, occupying approximately 10% of the total site area. Google Earth™ imagery dated 1945 showed that expansion of the knitwear factory had taken place to occupy a total of 25% of the total site area, and anecdotal information obtained online indicates that the knitwear factory continued expansion into the early 1960s to cover the entire site area. The factory reportedly closed by the early 1980s²¹.
- 11.2.3 The site was entirely redeveloped to its current configuration as Langley Business Centre (commercial / industrial use) by the mid-1980s, with historical planning applications indicating that the developed buildings comprised office blocks, industrial units and ancillary offices. During the early 1990s a development of ten commercial units had taken place at the site. No further significant changes were identified on subsequent available mapping.
- 11.2.4 The surrounding area was historically dominated by agricultural and residential development with minor industrial activity during the late 19th Century with further residential development having continued throughout the 20th Century. Industrial activity began to decline by the late 1980s. Most notable historic industry comprised a dense cluster of various works and factories extending from 55m north (with relatively minor development 75m south and 145m east), an oil storage depot located 70m north-east and a landfill situated 200m north.

Geology

- 11.2.5 The geological sequence beneath the site comprises Made Ground (consisting of concrete hardstanding and brick) overlying the superficial deposits of Langley Silt Member (clay and silt, an Unproductive Aquifer) and River Terrace Deposits (clay and silt, a Principal Aquifer).
- 11.2.6 The superficial deposits are underlain by London Clay Formation (clay, silt and sand), which are in turn underlain by the Lambeth Group (both an Unproductive Aquifer) and the Upper Chalk (a Principal Aquifer).

Hydrogeology

- 11.2.7 The site is located within Groundwater Protection Zone (SPZ) III (Total Catchment Zone). The associated sensitive groundwater abstraction is located approximately 3.24km south-west (i.e., the distance of the inner protection zone (SPZ I). The closest groundwater abstraction is for environmental remediation (pump and treat) of contaminated land approximately 200m north-east of the site at a former oil tank farm.

²⁰ Ramboll UK Ltd undertook a baseline report of the site in September 2019 (Ref 1700003527) A site visit was undertaken in March 2019 as part of Ramboll's report.

²¹ Slough History Online: Ladybird Factory, April 1982. Available at: <https://www.iema.net/document-download/48915>
http://www.sloughhistoryonline.org.uk/ixbin/hixclient.exe?a=query&p=slough&f=generic_objectrecord.htm&_IXFIRST_=1&_IXMAXHITS_=1&%3Dcms_con_core_identifier=sl-sl-h0822b_ladybird-i-00-000.tif&t=sl-sl-ladybird&s=45Hw9Vxdjuj [accessed 22/02/2024]

- 11.2.8 The Environment Agency (EA) Catchment Data Explorer²² indicates that the site is within the catchment area of Datchet Common Brook water body. The water body is classed as 'moderate' ecological status and 'fail' chemical status under the Water Framework Directive classification scheme.
- 11.2.9 The Grand Union Canal is present 200m north of the site at its nearest point. The canal is man-made and lined and as such is not considered to be in hydraulic conductivity with the surrounding geology.
- 11.2.10 The nearest surface water course with a classification set by the EA under the Water Framework Directive is the Horton Brook, which flows in a southerly direction approximately 310m north-east of the site. The Horton Brook is classified as having an overall status of 'moderate'.

Soil and Water Quality

- 11.2.11 Potential sources of contamination include the historical use of the site as a knitwear factory and surrounding industrial area. Given that the site has been subsequently redeveloped in the 1980s and recently cleared of all industrial buildings (two buildings still standing at the time of writing) and no significant risks arose during demolition works, the risk for significant contamination underlying the site is considered to be relatively low. Standard measures appropriate for brownfield redevelopment related to geotechnical assessments and waste classification are expected to apply.
- 11.2.12 In 2012 site investigations by Sirius were undertaken for a potential redevelopment of the Langley Business Centre. Selected samples of Made Ground were tested against analytical suite including asbestos screening, metals, pH, sulphate, PAH, PCB, TPH, VOCs, BTEX, TOC, and calorific value. Groundwater sampling included metals, pH, sulphate, ammonium, total TPH, phenols, selected PAH, and electrical conductivity. Results showed:
- Samples taken from Made Ground did not show any evidence of significant widespread contamination. A single elevated concentration of lead was detected in exceedance of GAC for commercial use (920 mg/kg). Leachable concentrations of PAH were found at a maximum concentration of 0.03 µg/l (benzo(a)pyrene) and 0.14 µg/l "sum PAH-4". Sulphate was found in exceedance at three sampling points with a maximum concentration of (6,300 mg/kg). (Sulphate or water-soluble sulphate are not considered a concern for human health but have implications for concrete foundations in the proposed development. No other exceedances were found.)
 - No asbestos fibres in soils were detected in the soil samples submitted.
 - Slight traces of TPH were detected in the 3 groundwater samples tested with concentrations between 31 and 53 µg/l.
 - Gas monitoring in 13 borehole installations recorded low levels of methane, carbon dioxide, oxygen, and VOC. The site was classified as CIRIA Characteristic Situation 1 indicating that no specific gas protection measures are required.
- 11.2.13 It was recommended that sealing of the site and a topsoil capping layer would adequately eliminate pathways to human health receptors.
- 11.2.14 A building asbestos survey was carried out on-site between August and September 2018, by Tetra Consulting Ltd. Each unit was provided with a separate report and outlined where asbestos containing materials (ACMs) had been identified. The report considered the risk associated with these ACMs to be very low and recommended that further intrusive building surveys should be undertaken prior to removal or disturbance of identified ACMs. The report also stated that an asbestos management plan should be maintained by the site. It is noted that all but one of the buildings that previously occupied the site have been demolished.

²² England | Catchment Data Explorer [Access 13/02/2024]

- 11.2.15 Therefore, the potential presence of asbestos fragments to be present within site soils cannot be completely discounted given historical use and previous demolition and redevelopment.

Unexploded Ordnance

- 11.2.16 Ramboll has carried out a preliminary review of the Zetica Unexploded Ordnance (UXO) Risk Map²³ for the Langley Business Centre. The Zetica Online Maps present the site to be within a moderate UXO risk zone. Therefore, prior to any ground intrusive works, a detailed UXO Desk Study assessment of the site should be undertaken by a UXO specialist to assess the site and project specific risks. Depending on the level of perceived risk, a UXO watching brief may be required for future ground works.

11.3 Potential Impacts and Likely Effects

- 11.3.1 Given the historical use as a knitwear factory and the redevelopment in the 1980s, and given that the site has already been cleared of all industrial buildings and no new evidence of contamination or subsurface features has arisen, the risk of widespread significant contamination is considered to be low. Standard measures appropriate for brownfield redevelopment related to geo-environmental assessments and waste classification are expected to apply. The Preliminary Risk Assessment and the Conceptual Site Model will be updated to reflect the current state of knowledge.
- 11.3.2 Table 11-1 and Table 11-2 identify if potentially significant effects have been identified during the construction and operational stages of the proposed development.

Table 11-1: Potential Construction Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Exposure of construction workers to contaminated shallow soil and / or groundwater (where present)*	No	Given the history of the site and previous investigation findings, there is a low risk of contamination that may pose a risk to construction workers. The site has already been cleared of all above-ground structures. Standard measures outlined in the Construction Environmental Management Plan will apply.
Generation of dust and potentially contaminated dusts, including asbestos	No	There is a potential risk of the presence of asbestos to be present in the topsoil given the historical site use from the 1930s and 1980s. While previous soil sampling did not identify the presence of asbestos, its presence cannot be entirely ruled out. Standard measures outlined in the Construction Environmental Management Plan apply, however the risk is not considered to be significant given that the site has already been cleared.

²³ [Risk Maps | Zetica UXO](#) [Accessed 13/02/2024]

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Exposure to UXO	No	The site is located in a moderate UXO risk zone. Future intrusive groundworks should be informed by a works-specific assessment and incorporated into a UXO watching brief.

*All risks to the water environment are included within Section 12.

Table 11-2: Completed Development Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Ground Gases / Vapours	No	The main potential sources of contamination on the site arise from historical use as a knitwear factory. Previous site investigations undertaken by others did not identify evidence of significant widespread contamination in the ground gas. The risk from intrusion of ground gas vapours is considered to be low.
Diesel fuel from generators	No	The proposed development has the potential to introduce new sources of contamination associated with the planned onsite storage of diesel fuel for generators, however risk management measures will be required as part of the design to fully mitigate any risk of leaks or spills.

12. WATER ENVIRONMENT

- 12.0.1 This section summarises the potential environmental impacts and likely significant effects that are at this stage anticipated to arise in connection with all stages of the proposed development for the water environment and will therefore be addressed in the subsequent ES. Environmental effects that are considered not likely to be significant are also summarised in this section and will not be addressed in the subsequent ES.

12.2 Site Information and Baseline Conditions

- 12.2.1 The following documents and web resources were used to inform this section:

- Ordnance Survey Mapping;
- Defra online MAGIC map viewer²⁴ (accessed February 2023);
- Environment Agency Flood Map for Planning²⁵ (accessed February 2024);
- Environment Agency Long Term Flood Risk map²⁶ (accessed February 2024);
- Environment Agency Catchment Data Explorer²⁷ (accessed February 2024); and
- British Geological Survey Onshore GeoIndex²⁸ (accessed February 2024).

Hydrogeological Setting

- 12.0.2 The British Geological Survey (BGS) 1:625,000 scale Hydrogeology mapping indicates the site is underlain by the Thames Group rock unit, which is characterised as 'Rocks with essentially no groundwater.' The Taplow Gravel Member superficial deposits just north of the site, and slightly further to the east and west, is designated a Principal Aquifer by the EA. The site is not underlain by any designated aquifers.
- 12.0.3 The EA's Groundwater Vulnerability Map (2017) indicates the site overlies an 'unproductive' area.

Groundwater Flood Risk

- 12.0.4 A review of BGS borehole records at the site location accessed via the Onshore Geoindex indicated historic groundwater levels generally greater than 3m below ground level (bgl), taking into account any rise in groundwater level observed after drilling.
- 12.2.2 Therefore, groundwater flood risk is considered low based on the historical groundwater depths observed in BGS borehole logs.

Groundwater Abstractions

- 12.0.5 The EA's Source Protection Zone (SPZ) mapping indicates the site is situated within a SPZ III (total catchment). SPZ III is defined as the total area needed to support the abstraction or discharge from the protected groundwater source. The abstraction source appears to be approximately 3.8km southwest of the site.
- 12.2.3 The closest groundwater abstraction is not for potable use and is for environmental remediation (pump and treat) of contaminated land approximately 200m north-east of the site at a former oil tank farm. It is noted that there are a number of historic former abstraction wells present on the site which have not been operational for many decades however the wells remain present.
- 12.2.4 It is understood that the proposed development could include recommissioning the existing groundwater wells or installation of new wells to allow for process water abstraction (subject to licensing).

²⁴ Department for the Environment and Rural Affairs (DEFRA) (2022). Magic Map. Available online at: <https://magic.defra.gov.uk/> (accessed 02/2024)

²⁵ Environment Agency (EA) Flood Map for Planning. Available online at: <https://flood-map-for-planning.service.gov.uk/> (accessed 02/2024)

²⁶ EA Long Term Flood Risk Map. Available online at: <https://check-long-term-flood-risk.service.gov.uk/map> (accessed 02/2024)

²⁷ EA Catchment Data Explorer. Available online at: <https://environment.data.gov.uk/catchment-planning> (accessed 02/2024)

²⁸ British Geological Survey Onshore GeoIndex. Available online at: <https://mapapps2.bgs.ac.uk/geoindex/home.html> (accessed 02/2024)

Surface Water Setting

- 12.2.5 The nearest watercourse to the site is the Grand Union Canal (GUC), situated approximately 200 m north. The GUC is raised by approximately 2m above surrounding land between the canal and the site although the raised railway embankment may present a significant barrier to hydraulic connectivity.
- 12.2.6 An ordinary watercourse known as the Horton Brook under the Thames River Basement District (RBD) River Basement Management Plan (RBMP) is situated approximately 300 m north-east of the site and then flows south-east under the GUC approximately 300m northeast of the site before continuing to the southeast. There are several further unnamed ordinary watercourses within 1 km. There is no EA designated Main River within at least 1 km of the site. The Queen Mother Reservoir is 1.9 km to the south.

Surface Water Quality Status

- 12.2.7 The site is situated within the Thames Lower Operational Catchment. Most of the site occupies the Maidenhead and Sunbury Management Catchment, within the Thames RBD. The relevant water body catchment within which the site is situated is the Datchet Common Brook Water Body (which is approximately 2.2 km west). As of 2022, under Cycle 3, this water body has 'Moderate' ecological status and chemical status does not require assessment (though it was recorded as 'Fail' in 2019, specifically under the Polybrominated diphenyl ethers (PBDE) category).
- 12.2.8 The north-east corner of the site extends into the Colne Operational Catchment of the Colne Management Catchment. The relevant water body catchment within which the north-east corner of the site is situated is the Horton Brook Water Body. As of 2022, under Cycle 3, this water body has 'Moderate' ecological status and chemical status does not require assessment (though it was recorded as 'Fail' in 2019, specifically under the Polybrominated diphenyl ethers (PBDE)).

Nutrient Neutrality

- 12.2.9 EA mapping does not indicate the site is situated within a Nitrate Vulnerable Zone (2017 – Combined, Final Designations)

Fluvial Flood Risk

- 12.2.10 The EA's Flood Map for Planning shows the site is situated entirely within Flood Zone 1, which is land defined by the EA as having less than a 1 in 1,000 (<0.1%) chance of flooding from rivers or the sea. The risk of flooding from rivers and the sea is therefore considered low.

Surface Water Flood Risk

- 12.2.11 The EA's surface water flood risk mapping indicates variable surface water flooding risk across the external areas of the site. It should be noted that surface water flood modelling would have been produced before demolition and therefore represents areas external to the former buildings only.
- 12.2.12 Most of the existing access roads and external spaces have a 'Low' risk of surface water flooding, therefore having a chance of flooding of between 0.1% and 1% each year. Some low-lying stretches of access roads have a 'Medium' risk of surface water flooding, therefore having a chance of flooding of between 1% and 3.3% each year. Several small, low-lying areas are at a 'High' risk of surface water flooding, therefore having a chance of flooding, therefore having a chance of flooding of greater than 3.3% each year. The surface water flood risk velocity mapping indicates the direction of surface water flow is off-site to Station Road, rather than the reverse.
- 12.2.13 It should be noted that the EA's surface water flood mapping assumes a national average 'drainage removal rate' of 12mm/hr and in many areas the modelling assumes below ground drainage is already at capacity in advance of a storm. This does not reflect existing site drainage, and limits to the resolution of the LiDAR data used to derive flood risk and flow pathways may inhibit site-specific accuracy.

Reservoir and Other Sources of Flood Risk

- 12.2.14 The EA's reservoir flood risk mapping indicates the site is not within an extent shown to be at risk of flooding from reservoirs.
- 12.2.15 As noted previously, the GUC is raised by approximately 2m above surrounding land between the canal and the site. However, the raised railway embankment may present a significant barrier to hydraulic connectivity and conveyance of flood risk.

Historical Flooding

- 12.2.16 The EA's recorded flood outline data indicates that the EA hold no records of flooding having occurred at the site in the past.

12.3 Approach and Methodology to be Used in ES for Scoped in Effects

- 12.3.1 The general criteria for assessing effects and determining significance of effect is provided in Appendix 1.
- 12.3.2 Regarding effects on groundwater levels as a result of the proposed abstractions, the approach would be to provide a hydrogeological assessment using methodologies such as that described in the Environment Agency's Science Report – SC040020/SR1 "*Hydrogeological impact appraisal for dewatering abstractions*"²⁹. This would identify the expected abstraction scenario based on what is known in respect of site and environmental conditions and construction methods. Whilst the study area would initially consider a 1 km radius around the site but as groundwater resource is considered at a catchment/aquifer scale, consideration would be given to the London Basin Chalk Aquifer and associated groundwater resource.
- 12.3.3 As set out in Tables 12-2 and 12-3, no likely significant effects are anticipated with respect to surface water or flood risk and therefore this would be scoped out of the ES.
- 12.3.4 However, the following technical studies would be undertaken and submitted as part of the planning application package:
- Flood Risk Assessment and drainage strategy (suitable for a planning application).

12.4 Potential Impacts and Likely Effects

- 12.4.1 In summary, the following sensitive receptors have been identified:
- Site users;
 - Off-site users;
 - The proposed development;
 - Horton Brook ordinary watercourse;
 - Datchet Common Brook; and
 - Groundwater.
- 12.4.2 The assessment will consider the effects of the proposed development using the methodology set out below within the context of the policy framework and existing baseline conditions. The assessment will consider the following potential impacts and likely effects.

Construction Stage

- 12.4.3 Surface water flooding risk is not likely to be affected by construction activities unless drainage from the site is impeded. Surface water flooding may affect users on-site and off-site during the construction stage. However, the CEMP would set out measures to mitigate against surface water flooding during construction.

²⁹ Environment Agency (2007). Hydrogeological impact appraisal for dewatering abstractions (Science Report – SC040020/SR1). Available online at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/291080/scho0407bmae-e-e.pdf [Accessed 21/10/22]

- 12.4.4 Sediment and chemical spill from construction activities have the potential to enter the surface water environment via surface water runoff. As the closest surface watercourse is approximately 300 m distant, there is not considered to be any direct overland flow connectivity for such spills and the CEMP would set out measures for management of such incidents.
- 12.4.5 The site is not underlain by productive strata and groundwater vulnerability is low. Although the site is shown to be within an SPZ III, this is considered to be associated with abstraction from the London Basin Chalk Aquifer at significant depth. There are clay strata above the chalk which would limit the downward migration of contaminants.

Completed Development Stage

- 12.4.6 The site is within an area at a low risk of flooding from rivers and fluvial flood risk is not likely to increase or decrease as a result of the proposed development, both for on-site and off-site users. Surface water flooding risk is not likely to be exacerbated by the proposed development as impermeable surface coverage would not significantly increase above baseline. Surface water flood risk for on-site and off-site users would be mitigated through the design and implementation of an effective drainage strategy that reduces surface water runoff and limits discharge from the site. Due to the relatively deep groundwater levels measured on site, it is unlikely that groundwater flood risk with increase or pose a risk to on-site or off-site users in the completed development stage. There are no below-ground works likely to result in groundwater mounding and flooding at the surface.
- 12.4.7 It is understood that the proposed development could include recommissioning of the existing groundwater wells or installation of new wells to allow for process water abstraction (subject to licensing). Therefore, consideration would need to be given to groundwater resources should this be included in the development.
- 12.4.8 Table 12-1 and Table 12-2 identify which likely environmental effects, with respect to the water environment will be assessed in the EIA (i.e. considered likely significant and therefore 'scoped in') and those which will not be assessed further (i.e., considered not likely to be significant and therefore 'scoped out'), along with a justification for this decision.

Table 12-1: Potential Construction Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Surface water flooding	No	Surface water flooding risk is not likely to be affected by construction activities unless drainage from the site is impeded. Surface water flooding may affect users on-site and off-site during the construction stage. However, the CEMP would set out measures to mitigate against surface water flooding during construction. A Flood Risk Assessment and Drainage Strategy will be prepared.
Fluvial flooding	No	The site is situated entirely within Flood Zone 1 and is at a low risk of flooding from rivers and the sea. No change or downstream impact is expected as a result of construction activities.

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Impacts to surface water quality including RBMP status	No	Direct connectivity to surface water bodies less than 1km from the site, such as those monitored under the Thames RBD RBMP, is considered unlikely.
Impacts to groundwater quality including RBMP status	No	The site is not situated above productive strata. Whilst the site is however situated on the outer edge of a SPZ III (total catchment), the chalk aquifer is at depth and there are impermeable strata above the chalk which would limit downgradient connectivity.

Table 12-2: Completed Development Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Surface water management	No	Whilst surface water flooding risk is likely to change as a result of the Proposed Development and with alterations made to impermeable surface cover and drainage, this would be addressed within the FRA and Drainage Strategy.
Flood risk	No	The site is situated entirely within Flood Zone 1 and is at a low risk of flooding from rivers and the sea. No change or downstream impact is expected as a result of the completed development. The site is within an area identifies by the EA as being at risk of flooding from reservoirs. Groundwater levels at the site are considered relatively deep and therefore unlikely to result in groundwater flooding at the surface. Additionally, the site is not underlain by productive strata.
Impacts to surface water quality including RBMP status	No	Direct connectivity to surface water bodies less than 1km from the site, such as those monitored under the Thames RBD RBMP, is considered unlikely.
Impacts to groundwater quality (including RBMP	Yes	The site is not situated above productive strata. The site is however situated on the

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
status) and changes in groundwater flow/quantity		outer edge of a SPZ III (total catchment) and there is a potential for the proposed development to include abstraction from groundwater for process water. The potential impacts on groundwater quality are therefore scoped in.

12.5 Preliminary Discussion of Mitigation and Enhancement Measures

- 12.5.1 The ES will identify mitigation measures and/or enhancement measures which could include those to reduce water demand and collect water on-site.

13. CLIMATE CHANGE

- 13.0.1 This section summarises the potential environmental impacts and likely effects that are at this stage anticipated to arise in connection with all stages of the proposed development relating to climate.
- 13.0.2 The Town and Country Planning (Environment Impact Assessment) Regulations 2017³⁰ require an assessment of the likely significant effects of a project on climate and vice versa. A climate assessment in the context of EIA, comprises three separate assessments:
- Change Resilience (CCR) Assessment – Determination of the resilience of the proposed development to climate and climate change, now and in the future;
 - In-combination Climate Change Impact (ICCI) Assessment – Determination of the additive effects that climate and climate change may have on effects identified by other environmental topics as a result of the proposed development, now and in future years; and
 - Greenhouse Gas (GHG) Assessment – Determination of the contribution of the proposed development to GHG emissions, considering the demolition, construction, operational and end-of-life stages.

13.2 Site Information and Baseline Conditions

Baseline Sources

- 13.2.1 Baseline conditions have been established for the purposes of this section of the Scoping Report with reference to the following sources of information:
- Met Office Historic Climate Data - Heathrow Climate Station³¹;
 - UK Climate Projections 2018 (UKCP18)³²;
 - Local Authority and national carbon dioxide emissions statistics³³; and
 - Climate Change Resilience and In-Combination Climate Impacts.

Existing baseline

- 13.2.2 The climate baseline summarised in Table 13.1 is provided by Met Office Historic Climate Data, which presents average monthly climate data for Heathrow climate station (nearest possible representative weather station, 7km south east of the proposed development) for the period 1991-2020. The proposed development is located in flood zone 1 with low probability of flooding³⁴.

³⁰ Secretary of State, 2017. Town and Planning (Environmental Impact Assessment) Regulations 2017. Available at: <https://www.legislation.gov.uk/uksi/2017/571/contents/made> [Accessed 08/12/2023].

³¹ Met Office Heathrow Historic Station Data. Available at: <https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-climate-averages> [Accessed 08/12/2023].

³² Met Office, 2018. UK Climate Projections 2018 (UKCP18). Available at: <https://ukclimateprojections-ui.metoffice.gov.uk/products> [Accessed 08/12/2023].

³³ UK Government, 2023. UK local authority and regional carbon dioxide emissions national statistics 2005-2021. Available at: <https://www.gov.uk/government/statistics/uk-local-authority-and-regional-greenhouse-gas-emissions-national-statistics-2005-to-2021> [Accessed 08/12/2023]

³⁴ Gov.uk, 2023. Flood risk information for planning in England. Available at: <https://flood-map-for-planning.service.gov.uk/> [Accessed 08/12/2023].

Table 13-1: Average Monthly Climate Data for Heathrow Climate Station

Month	Maximum temperature (°C)	Minimum temperature (°C)	Days of air frost (days)	Sunshine (hours)	Rainfall (mm)	Days of rainfall $\geq$ 1mm (days)	Month mean wind speed at 10m (knots)
January	8.42	2.68	6.80	61.09	58.83	11.53	8.15
February	8.98	2.65	6.20	78.81	44.96	9.50	7.81
March	11.73	4.14	2.93	124.45	38.78	8.47	7.67
April	15.00	6.03	0.80	176.67	42.31	8.80	7.05
May	18.37	9.08	0.03	207.49	45.91	8.00	7.26
June	21.57	12.03	0.00	208.39	47.25	8.33	7.08
July	23.89	14.18	0.00	217.81	45.80	7.90	7.19
August	23.40	14.06	0.00	202.12	52.78	8.43	6.91
September	20.22	11.62	0.00	157.11	49.61	7.90	6.73
October	15.81	8.78	0.33	115.17	65.07	10.80	7.13
November	11.47	5.26	2.73	70.74	66.63	11.23	7.01
December	8.79	3.08	7.17	54.96	57.05	10.77	7.77
Annual	15.67	7.83	26.99	1674.81	614.98	111.66	7.31

13.2.3 The site is located in Greater London situated in Southern England. The climate observations for Southern England³⁵ are summarised in table 13.2.

Table 13-2: High level climate observations for Greater London (1981-2010)

Climate conditions	Climate observations
Rainfall	Annual rainfall for London and Thames Valley is less than 650 mm. Monthly rainfall is generally well-distributed through the year but with an autumn/early winter maximum but also significant amounts in the summer associated with showery, convective rainfall. The number of days with

³⁵ Met Office, 2016. Southern England: Climate. Available at: https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/weather/learn-about/uk-past-events/regional-climates/southern-england_-_climate---met-office.pdf [Accessed 08/12/2023].

	rainfall greater than 1mm across most of the region are less than 30 days in the winter months, dropping to approximately 25 days in summer.
Wind	Southern England is one of the more sheltered areas of the UK. However, the strongest winds are associated with the passage of deep areas of low pressure close to or across the UK. The frequency and strength of these depressions is greatest during the winter, when mean speeds and gusts are strongest.
Sunshine	Average annual sunshine totals for most of the region vary between 1550-1600 hours.
Air Frost	The average number of days with air frost varies between less than 30 around London to more than 50 days per year over higher ground.

Future baseline

- 13.2.4 Climate projections can be used to determine the likely future climate conditions in the locality of the proposed development through its operational life. Good practice in the UK uses the UK Climate Projections 2018 (UKCP18) which are generated from climate modelling.
- 13.2.5 Climate projections are subject to uncertainty due to both natural variability and an incomplete understanding of the climate system. These uncertainties can create large outliers in the model ensemble which skew the mean projections. To allow for this, different percentiles are considered which allows a quantification of the likelihood of projections. There are also several Representative Concentrations Pathways (RCP) available for RCM simulations with each pathway resulting in a different range of global mean temperature increases over the 21st century. Simulating climatic changes under different RCP scenarios accounts for the uncertainty surrounding future GHG emissions. IEMA Guidance⁴⁰ recommends the use of RCP 8.5 at the 50 % percentile, for the 2080 timeline to ensure a suitably conservative approach.
- 13.2.6 Climate change is projected to lead to warmer and wetter winters and hotter and drier summers. However, natural variations, including extreme events such as storms and heat waves, will continue to punctuate these trends. The impacts of climate change across the UK based on the UKCP18 Factsheet projections³⁶ have been summarised in Table 6-3: UKCP18 Projections

Table 6-3: UKCP18 Projections

Climate parameter	Description
Temperature	Median warming will be at least 1 to 2°C throughout the year across the whole of the UK. Winter cool days will warm by 1 to 1.5°C across the country, whilst temperatures on warmer winter days increase by less than 1°C. In summer both hot and cool days warm by 1.5 to 2°C across England.
Precipitation	Changes in precipitation are uncertain but suggest slightly wetter winters and drier summers.

Wind	Wind speed is not available for the UKCP18 probabilistic projections as it did not pass the UKCP credibility checks ³⁷ . However global, regional, and derived projections are available. UKCP18 show a wide spread of future changes in mean surface wind speed. However, there is large uncertainty in projected changes in circulation over the UK and natural climate variability contributes much of this uncertainty. It is therefore difficult to represent regional wind extreme winds and gusts within regional climate models.
Humidity	Climate change will lead to an increase in humidity.

- 13.2.7 In terms of London and the South East of England, UKCP18 projections indicate increased likelihood of milder wetter winters for the future assessment period in comparison to the UKCP18 baseline (Figure 13-1 and Figure 13-2). However, due to natural variability, some cold and dry winters will still occur.
- 13.2.8 As shown in Figure 13-3 and Figure 13-4, UKCP18 projections also indicate increased likelihood of warmer, drier summers for the future assessment period in comparison to the UKCP18 baseline.
- 13.2.9 In addition to an increase in average temperatures, an increase in the frequency of dry spells and extreme temperature events is projected.

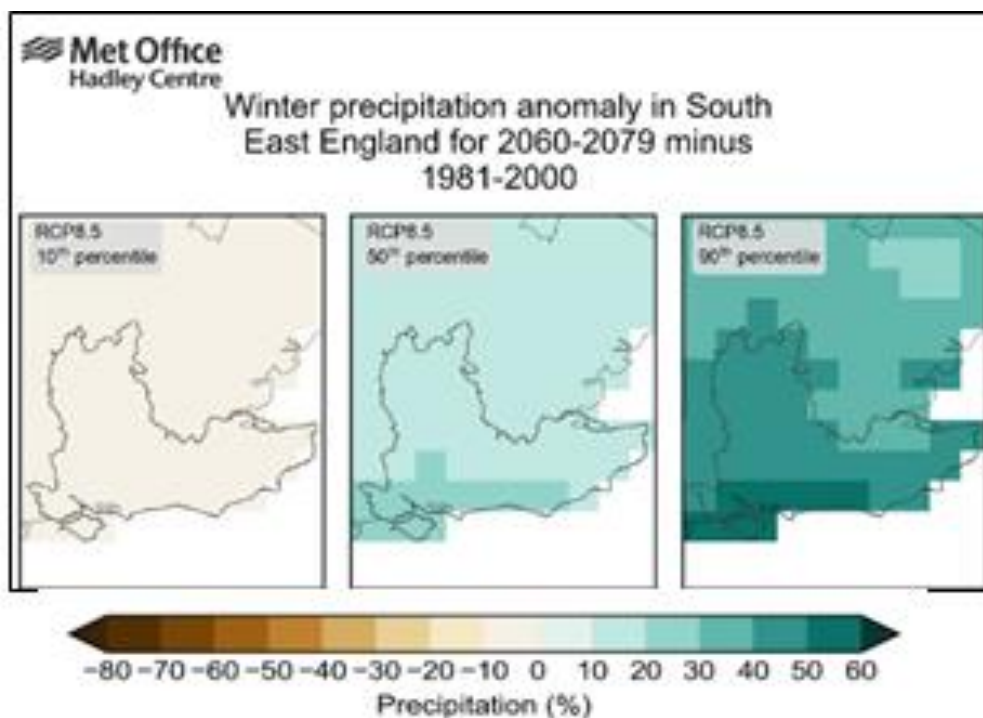


Figure 13-1 Winter Precipitation Projected for Southeast England 2060-2079 (RCP 8.5 and 50th percentile)

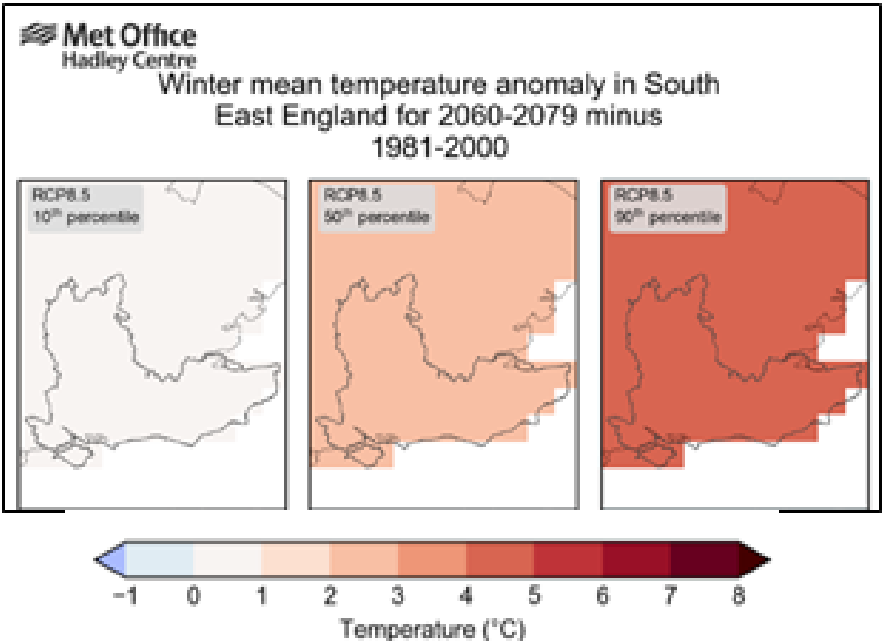


Figure 13-2 Winter Mean Temperature Projected for Southeast England 2060-2079 (RCP 8.5 and 50th percentile)

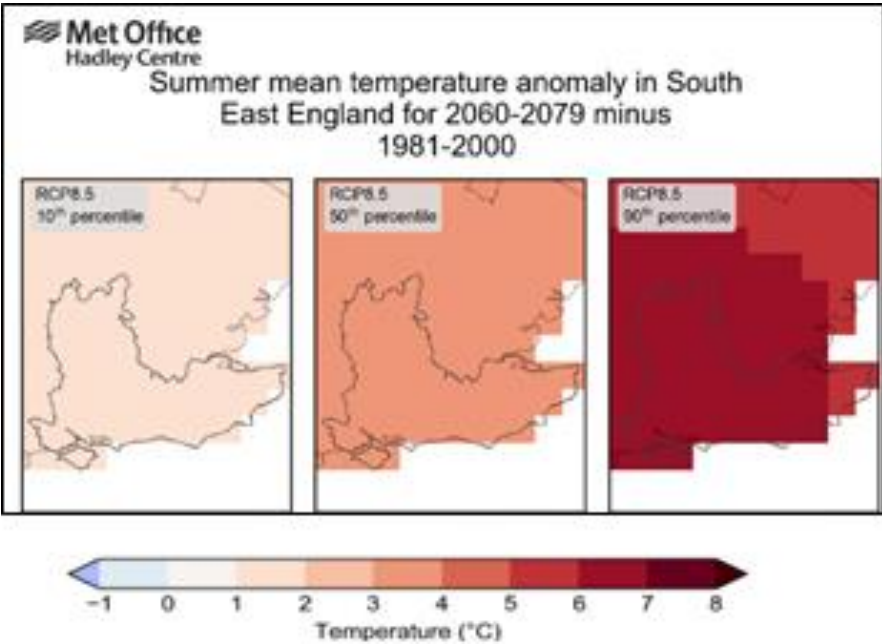


Figure 13-3 Summer Mean Temperature Projected for Southeast England 2060-2079 (RCP 8.5 and 50th percentile)

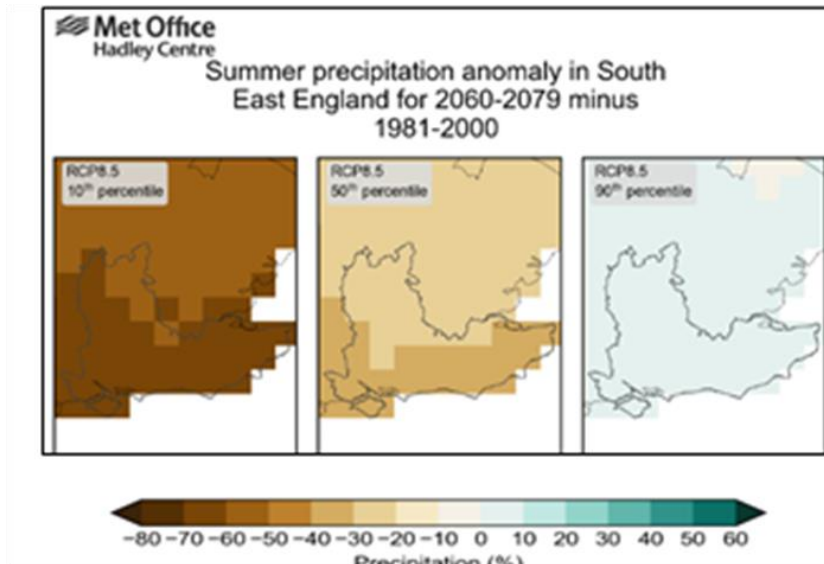


Figure 13-4 Summer Precipitation Projected for Southeast England 2060-2079 (RCP 8.5 and 50th percentile)

Greenhouse Gas Emissions

Existing baseline

- 13.2.10 Local and regional GHG emissions data tables published by the Government contain historic emissions data covering 2005 to 2021 for all the UK's local authorities and councils. In 2021, the total emissions for Slough Borough Council (SBC) were 4.9 tCO₂e per capita. This compares to 5.5 tCO₂e per capita in England.
- 13.2.11 Across the UK, regions are following the same trend of decreasing GHG emissions over the past decade due to factors such as a decrease in the use of coal for electricity generation. Specifically, in SBC, total GHG emissions reduced from 861.6tCO₂e in 2018 to 776.6tCO₂e in 2021, a reduction of approximately 9.9% across three years. Annual per capita emissions have reduced from 6.0 tCO₂e in 2018 to 5.5 tCO₂e in 2021.
- 13.2.12 As required by IEMA Guidance³⁹ (see Section 6.3), the ES will present GHG emissions associated with the operation of the existing assets within the site boundary (without proposed development). This would comprise for example the GHG emissions associated with the operational energy and water consumption of the existing building and GHG emissions associated to the land. If the data is not available at the time of writing the ES, a worse-case scenario will be assessed, i.e. the proposed development net emissions will be equivalent to the emissions of the proposed development.
- 13.2.13 The ES will present the UK, Building Sector and Tyndall Centre recommended SBC carbon budgets.

Future baseline

- 13.2.14 Local and national GHG emissions have been reducing over recent years, primarily due to increasing generation of electricity from sources that produce less GHG emissions. This trend is expected to continue especially given the recent UK commitment to reduce domestic emissions to net zero by 2050. It is expected that emissions/carbon intensity would continue to decline in the region due to a combination of the following factors:
- National Government carbon budget;
 - Local carbon reduction targets;
 - Low carbon building design; and
 - Decarbonisation of industry, energy supply and transportation.

- 13.2.15 SBC has set a target to achieve net zero emissions by 2040 with a stretch target of 2030, as outlined in SBC Climate Change Strategy and action plan³⁸.

13.3 Approach and Methodology

- 13.3.1 The criteria used for assessing climate effects and the significance of the effects follows the IEMA Guidance for assessing GHG emissions and climate resilience in EIAs and differs from the general criteria in Appendix 3.
- 13.3.2 The assessment will be undertaken by reference to the relevant local, regional and national policy and the following key guidance documents:
- Institute of Environmental Management and Assessment's (IEMA) Environmental Impact Assessment Guide to assessing Greenhouse Gas (GHG) emissions and evaluating their significance (2022)³⁹;
 - IEMA's Environmental Impact Assessment Guide to Climate Change Resilience and Adaptation (2020)⁴⁰;
 - Royal Institute of Chartered Surveyors (RICS) Whole Life Carbon Assessment (WLCA) Guidance (2023)⁴¹; and
 - PAS 2080:2023 Carbon management in buildings and infrastructure⁴².

Climate Change Resilience

- 13.3.3 The CCR Assessment would assess the vulnerability of the proposed development to extreme weather and projected climate change during the demolition and construction stage and operational stage. Furthermore, the CCR assessment would consider how current and future climate trends in the study area could affect the proposed development. The CCR assessment would comprise:
- Identification of sensitive receptors;
 - Review of current climate in the study area and future medium-term trends using data from the Met Office and UKCP18 and assessment of projected changes on climate variables;
 - Completion of a qualitative assessment, based on professional judgement and IEMA guidance, of extreme weather impacts that could affect the proposed development during the demolition and construction, operational and end of life stages;
 - Summary of design and mitigation measures to improve resilience to projected climate change and extreme weather events; and
 - Identification of any residual effects.

In-combination Climate Change Impacts

- 13.3.4 The ICCI Assessment would consider how extreme weather and projected climate change could have an additive effect on impacts identified by other technical disciplines as a result of the proposed development during the demolition and construction stage and operational stage.

³⁸ Slough Borough Council, 2021. Climate Strategy and Action Plan. Available at: <https://www.slough.gov.uk/downloads/download/585/climate-change-strategy-and-action-plan> [Accessed 08/12/2023].

³⁹ IEMA, 2022. Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance. 2nd Edition. Available at: <https://www.iema.net/policy-and-practice/impact-assessment> [Accessed 08/12/2023].

⁴⁰ IEMA, 2020. Environmental Impact Assessment Guide to: Climate Change Resilience and Adaptation. Available at: <https://www.iema.net/policy-and-practice/practice-reports> [Accessed 08/12/2023].

⁴¹ RICS, 2023. RICS Professional Standards and Guidance: Whole Life Carbon Assessment for the Built Environment (2nd edition). <https://www.rics.org/profession-standards/rics-standards-and-guidance/sector-standards/construction-standards/whole-life-carbon-assessment> . [Accessed 08/12/2023].

⁴² BSI, 2023. PAS 2080 Carbon Management in Buildings and Infrastructure. Available at: <https://www.bsigroup.com/en-GB/standards/pas-2080/> [Accessed 08/12/2023].

- 13.3.5 Climate change may have an additive effect in respect of the individual environmental effects reported for other technical assessments undertaken as part of the EIA. These effects may individually be insignificant, but when combined or added, could result in significant effects requiring additional design and/or mitigation measures. Therefore, the ICCI assessment would be completed as a high-level overview providing the following:
- Review of current climate trends and projected changes in climate variables in the study area using Met Office and UKCP18 data;
 - Review of potential effects associated with the proposed development which could be exacerbated by the impacts of climate change;
 - Review of design and mitigation measures;
 - Qualitative assessment, based on professional judgement, of the implications of extreme weather and potential future climate change on mitigation measures identified by the other technical assessments during the demolition and construction, and operational stages;
 - Additional mitigation that may be required to address the effects of climate change; and
 - Identification of any residual effects taking account of climate change.

Greenhouse Gas Emissions

- 13.3.6 The GHG emissions assessment would consider the potential for significant effects to arise from GHG emissions associated with the demolition, construction, operational and end of life stages of the proposed development. Furthermore, it will provide a professional judgement on whether GHG emissions associated with the proposed development are likely to be significant in the context of the UK, Tyndall Centre recommended SBC and national buildings sector carbon budgets. In line with the IEMA Guidance³⁹ on assessing GHG emissions, the GHG assessment will include:
- Assessment of 'do minimum' scenario, i.e. the existing development remains in operation;
 - Assessment of 'do something' scenario, i.e. existing development is no longer in operation and the Proposed Development is built;
 - A proportionate estimation of the net GHG emissions that would be the difference between the "do minimum" and "do something" scenarios;
 - A comparison of the proposed development's net GHG emissions against the UK, Tyndall Centre recommended SBC carbon budget, and building sector carbon budgets;
 - A summary of design and mitigation measures for the proposed development;
 - Additional mitigation to address any significant adverse effects; and
 - Identification of any residual effects taking account of GHG emissions.
- 13.3.7 The sources of GHG emissions associated with the demolition, construction, operational and end of life stages of the proposed development to be included within the scope of the assessment are:
- Product stage (raw materials supply, transport and manufacturing) - GHG emissions which are emitted during the sourcing and transportation of building materials; manufacturing of construction products used in the construction works;
 - Construction process stage (transport)- GHG emissions associated with vehicles transporting resources to the construction site;
 - Construction process stage (construction installation process) - GHG emissions from the direct on-site demolition and construction works and waste disposal;
 - Use stage (use of the proposed development) - GHG emissions from products or materials during the use of the proposed development;
 - Use stage (maintenance, repair, replacement and refurbishment) - GHG emissions associated to the maintenance, repair, replacement and refurbishment of materials from buildings;
 - Use stage (operational energy use) - GHG emissions from regulated and unregulated energy demands of the proposed development;

- Use stage (operational water use) - GHG emissions from water consumption during the operation of the proposed development; and
- End of life stage (deconstruction/demolition, transport, waste processing and disposal) - GHG emissions associated to electricity, fuel, water used and waste treatment of discarded material in the deconstruction/demolition process.

13.3.8 GHG emissions would be measured in carbon dioxide equivalent (CO₂e). This is a measure used to compare the emissions from various GHG emissions based upon their global warming potential.

13.4 Potential Impacts and Likely Effects

13.4.1 The assessment will consider the effects of the proposed development using the methodology set out above within the context of the policy framework and existing baseline conditions.

13.4.2 Table 6-4 identifies the likely significant effects, associated to the demolition, construction and operational stages of the proposed development, that will be scoped in for assessment in the ES.

Table 6-4: Effects identified as likely to be Significant

Impact	Effects	Receptor
Climate Change Resilience		
Increased frequency and intensity of extreme weather events: Intense rainfall events during demolition and construction stage of proposed development	Erosion of stockpiles and resultant silting of drainage assets. This could result in secondary impacts such as localised flooding; Disruption to demolition and construction activities leading to programme delays and increased costs (e.g. pouring of concrete and asphalt); Flooding of excavations and obstruction to access roads. This could result in secondary impacts such as safety risk of slips, trips and falls to site personnel; Spread of contaminated soil during ground excavations to nearby environmental receptors, which could affect local soil and water quality.	Buildings and infrastructure (including equipment, materials and construction operations)
Extreme weather events: Intense rainfall events during operational stage of proposed development	Wetter winters and increased frequency of intense rainfall events could result in the overwhelming of drainage assets. This could result in secondary impacts such as localised flooding or mobilisation of contamination; Wetter winters and increased frequency of intense rainfall events could result in increased groundwater levels; and Increased frequency of intense rainfall events could result in increased river levels	Buildings and infrastructure (including equipment, materials and building operations), environmental (watercourses) and human health (site personnel)

	leading to flooding within the study area of the site.	
Extreme weather events: Heatwaves during demolition and construction stage of proposed development	Negative impact on-site personnel welfare, for example, causing heat stress and unsafe working conditions; Increase of dust generated during demolition and construction activities which could impact site personnel and future on-site occupants; Higher temperatures could affect the ability to undertake certain demolition/ construction activities leading to programme delays; and Prolonged periods of drought could affect potable water availability.	Buildings and infrastructure (including equipment, materials and construction operations) and human health (site personnel)
Extreme weather events: Heatwaves during operational stage of proposed development	Increased frequency and severity of extreme heat events (i.e. heat waves) could result in the landscape design being compromised (e.g. tree and shrubs die); Increased frequency and severity of extreme heat events (i.e. heat waves) could result in overheating of mechanical and electrical equipment; and High temperatures and heatwaves could result in overheating and unsuitable conditions e.g. discomfort for building occupants in the residential element of the proposed development.	Buildings and infrastructure (including equipment, materials and building operations) and human health (building occupants)
Extreme weather events: Windstorms during demolition and construction stage of the proposed development	Wind gusts could result in damage of stockpiles; Wind gust conditions could create unsafe conditions for on-site personnel and pedestrians within the vicinity of the site; Windstorms could cause the wind gust conditions and damage or disrupt on-site crane operations; and Windstorms could cause the wind gust conditions and result in damage to hoarding.	Buildings and infrastructure (including equipment, materials and construction operations)
Extreme weather events: Windstorms during	Windstorm events could cause damage to the proposed development. This could include damage to roof sheeting, wall	Buildings and infrastructure (including equipment,

operational of the proposed development	cladding. This could also create unsafe conditions for users.	materials and building operations) and human health (general public and building occupants)
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In-Combination Climate Change Impacts

Contamination - Increased frequency of heavy rainfall events during demolition, construction and operational stages of the proposed development	Contamination of controlled waters within and adjacent to the site due to mobilisation of contaminants or silt-laden surface water run-off from site.	Buildings and infrastructure (including equipment, materials and construction/building operations), environmental (watercourses)
Air Quality - Increased frequency and intensity of drought conditions during demolition, construction and operational stages of the proposed development	Exposure of sensitive receptors to dust from demolition and construction activities.	Buildings and infrastructure (including equipment, materials and construction/building operations) and human health (site personnel/general public/building occupants)
Noise and vibration - Increased temperatures and heatwaves during the operational stage of the proposed development	Exposure of sensitive receptors to increased noise levels due to open windows.	Human health (general public/residents)
Wind microclimate -Increased windspeeds during the operational stage of the proposed development	Exposure of sensitive receptors to high wind speeds.	Buildings and infrastructure (including equipment, materials and construction/building operations) and human health (site personnel/general public/building occupants)

Greenhouse Gas Emissions

Increase of global GHG emissions during demolition, construction and operational	Have a material impact on the ability of the UK government to meet its carbon reduction targets and not supporting or	Global atmosphere
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stages of the proposed development	undermining the trajectory towards net zero.
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13.5 Cumulative effects

Climate Change Resilience

- 13.5.1 The CCR effects resulting from the demolition and construction and operational stages would be limited in their spatial extent to the site boundary and the proposed development in isolation. Therefore, cumulative CCR effects with other schemes would not be considered.

In-combination Climate Change Impacts

- 13.5.2 The climate change chapter will consider potential in-combination cumulative climate impacts affecting environmental receptors identified by other ES topic chapters. It will include consideration of existing potential impacts on environmental receptors that could be intensified by climate change, as well as environmental impacts that could potentially emerge in the future.
- 13.5.3 The ICCI's resulting from the demolition, construction and operational stages would be limited in their spatial extent to the all the technical assessments in the ES for the proposed development. Furthermore very limited cumulative scheme climate information is available in the public domain. Therefore, cumulative effects would be considered for the full scope of technical topics (intra cumulative) as opposed to in-combination with other cumulative schemes (inter cumulative).

Greenhouse Gas Emissions

- 13.5.4 The atmospheric concentration of GHGs and resulting effect on climate change is affected by all sources and sinks globally, anthropogenic and otherwise. As GHG emission impacts and resulting effects are global rather than affecting one localised area, the approach to cumulative effects assessment for GHGs would differ from that for many EIA topics where only projects within a geographically bounded study area of, for example, 1-2 km would be included.
- 13.5.5 Therefore, effects of GHG emissions from specific cumulative schemes would not be individually assessed. However, GHG emissions, would be contextualised within the UK, SBC and the building sector-based carbon budgets.

Table 13-5 summarises the cumulative effects.

Table 13-5: Summary Table of Potential Effects of Construction/Operation Stage

Potential Effect	To be assessed in the EIA (Yes/No)
Climate Change Resilience	Yes
In-Combination Climate Change Impacts	Yes
Greenhouse Gas Emissions	Yes
Cumulative Effects	No

14. SOCIOECONOMICS

- 14.0.1 This section summarises the potential impacts and likely significant effects that are at this stage anticipated to arise in connection with all stages of the proposed development for socioeconomics.

14.2 Site Information and Baseline Conditions

- 14.2.1 The site is located within the Langley Meads ward in Slough. The following provides a summary overview of the demography, employment, deprivation, education, residential property and housing, and local service provision in this area.
- 14.2.2 It is worth noting that the baseline data for this section has mainly come from the 2021 Census, as this is the most recent public data for the subsequent baseline categories. The majority of data has been attained at district level (Slough) instead of ward level. The ward boundaries within Slough changed in 2023 from 13 wards to 21, with the site previously located in the Langley St Mary's ward and now currently located in Langley Meads. For the 2021 Census, the site was still located in the Langley St Mary's ward.

Demographics

- 14.2.3 At the time of the 2021 Census⁴³, the total resident population of Slough was 158,500, an increase of 13.0 % from 2011 when the population was 140,200⁴⁴.
- 14.2.4 The population increased by a greater percentage than the average for the South East (7.5%). In 2020, the population density within Slough was 4,872 persons per square kilometre compared with 276 at county level. Slough was the third-most populated area in the South East after Portsmouth and Southampton. The ward of Langley St Mary's was even higher with a density of 5,027 persons per square kilometre.
- 14.2.5 The population age ranges at district, regional and national level are presented in Table 14-1.

Table 14-1: Population Ages

Area	0 - 15	16 - 24	25 - 49	50 - 64	65 - 84	85 and over
	(%)					
Slough	24.9	10.4	39.6	15.3	8.4	1.2
South East	18.6	10.1	32.1	19.8	16.7	2.7
England	18.5	10.6	33.0	19.4	15.9	2.4
Source: Office for National Statistics (2021): Census.						
Source: Note: Percentages have been calculated using rounded data.						

- 14.2.6 According to the 2021 Census, 36.0 % of Slough's population are White, which is lower than the South East (86.3 %) and England (81.0 %) averages.
- 14.2.7 Overall, the population of Slough is characterised by a predominantly Black and Ethnic Minorities with 44% of the population born outside of the UK. 73% of Slough's population speak English as their main language. 5.1% of the population cannot speak English well or cannot speak English.

Employment

- 14.2.8 According to the 2021 Census, 62 % of the working age population (between 16 and 64) are employed, of which 23% are employed in part time work and 77% employed in full time work. 9% of the working population is self-employed. Approximately 5.1 % of the working age population are unemployed and 11.4 % are retired. The remaining population are either looking

⁴³ Office for National Statistics (2021): Census.

⁴⁴ Office for National Statistics (2011): Census.

after home or family (7.9 %) or are categorised as being long-term sick or disabled (3 %), both of which are economically inactive.

- 14.2.9 In Slough, the number of people claiming unemployment-related benefits (the Claimant Count) was 5,215 in December 2023, up from December 2022 when there were 4635 claimants. The proportion of working age people (16 to 64 years) in Slough who were claiming unemployment-related benefits was 5.0% in December 2023, an increase compared with December 2022 when it was 4.5%⁴⁵.
- 14.2.10 As listed above, 67 % of the working population are classed as employed. 5.1 % of the working age population are unemployed, higher than the England average (3.8 %). As shown in Table 14-2 below, the largest industries in Slough are wholesale and retail, human health and social work and transport and storage.

Table 14-2: Ten Largest (Broad) Industries in Slough

Industry	Working Age
Wholesale and Retail Trade	14.4 %
Human Health and Social Work	13.3 %
Transport and Storage	12.2 %
Information and Communications	8.5 %
Education	8.1 %
Administration and Support	7.9 %
Construction	7.6 %
Manufacturing	6.1 %
Accommodation and Food Service	5.7 %
Professional, Scientific and Technical	4.7 %

Source: Census 20121, Office for National Statistics, Industry.
Note: Percentages have been calculated using rounded data.

Child Deprivation

- 14.2.11 Table 14-3 presents the percentages of children living in poverty at district, regional and national level. The table is based on the Indices of Deprivation, 2019⁴⁶. Slough has a higher percentage of child poverty than the South East and England.

Table 14-3: Percentage of Children Living in Poverty

Area	Child Poverty (%)
Slough	16.8
South East	10.3
England	15.3

Source: Public Health England (2020). Local Health. PHE.

⁴⁵ Office for National Statistics, 2024. Employment, unemployment and economic inactivity in Slough. Available at: <https://www.ons.gov.uk/visualisations/labourmarketlocal/E06000039/> [Accessed 15/02/2024]

⁴⁶ Ministry of Housing, Communities and Local Government. Indices of Deprivation. 2015.

Education Levels

- 14.2.12 According to the 2021 Census, 6.2 % of the working age population (between 16 and 64) are students. Table 14-4 below shows the highest level of qualifications held by the population at district level at the age of 16 and over.

Table 14-4: Classification of Usual Residents Aged 16 and Over by their Highest Level of Qualification.

Level of Qualification	Level of Qualification attained by Residents aged 16 and over in Slough (%)
No Qualifications	20.2
Level 1 Qualifications	10.7
Level 2 Qualifications	12.1
Apprentices	4.2
Level 3 Qualifications	13.6
Level 4 and Above Qualifications	34.8
Other	4.4

Source: Census 2021, Office for National Statistics, Qualifications and Students.

Note: Percentages have been calculated using rounded data.

- 14.2.13 Degree attainment in Slough has been assessed to be below the national average, with 28.9% in Slough compared to 36.8% national average. The percentage of black or minority children achieving at least the expected level is 75%, which is higher than the national level (67%).

Residential Property and Housing

- 14.2.14 In determining the sensitivity of private property and housing, LA 112 suggests household projections as a key dataset, as well as considering existing housing/land allocated for housing.
- 14.2.15 The 2023-based household projections to 2043 for Slough are summarised in Table 14-5.

Table 14-5: Household Projections

Geography	2023	2043	Total Change	% Change
Slough	55,760	59,672	3,912	7%

Source: 2023 Based Projections, Office for National Statistics, Household Projections for England.

Local Provision

- 14.2.16 Within the surrounding area there are numerous community facilities, listed in Table 14-6. (Note: boundaries were redrawn in 2023 to split the ward into Langley St Mary's and Langley Mead, the site being located within Langley Mead near the boundary between the two.)

Table 14-6: Community Facilities

Ward	Open Spaces*	Health Care Facilities**	Educational Facilities***
Langley Meads	1	4	1
Langley St Mary's	2	0	3

Notes:

*Includes designated parks

**Includes health centres, doctors, clinics, dentist surgeries and pharmacies

***Includes primary schools, secondary schools, sixth forms and universities.

Source: Google Imagery Map Data ©2024

- 14.2.17 In regard to healthcare facilities, Langley has open spaces for residents to use, health care facilities and educational facilities, including a college (Langley College) located approximately 130 m to the southwest of the site boundary. There is also a community centre located approximately 300 m southwest of the site, adjacent to Langley Memorial Park.

Tourism

- 14.2.18 Slough does not have a large tourism sector, with no significant landmarks or tourist centres located in the district. Windsor Castle is located in the neighbouring district of Windsor and located approximately 4.7 km from the site. Numerous country parks are located in the wider region which could be a draw to tourism.

14.3 Approach and Methodology to be Used in ES for Scoped In Effects

- 14.3.1 No potentially significant effects have been identified associated with socioeconomic effects of the proposed development. Socioeconomics has been scoped out of the EIA.

14.4 Potential Impacts and Likely Effects

- 14.4.1 In summary, the following sensitive receptors have been identified:

- Local and regional employment;
- Residential receptors along Station Road (B470), Meadfield Road and Meadfield Avenue;
- Local accommodation provision; and
- Local services and facilities (e.g. schools, open space, community facilities).

- 14.4.2 Table 14-7 and Table 14-8 identify which likely effects, with respect to socioeconomics will be assessed in the EIA (i.e. considered likely significant and therefore 'scoped in') and those which will not be assessed further (i.e., considered not likely to be significant and therefore 'scoped out'), along with a justification for this decision. These effects are based on a baseline of the current status of the site (February 2024).

Table 14-7: Potential Construction Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Generation of employment	No	There may be a temporary increase in employment during the construction stage. Employment may come from the wider local area but further assessment of this is required. This may result in direct, indirect and induced benefits which are not considered significant.
Temporary loss of employment	No	Given that the site has already been largely demolished, the site currently provides no employment.
Effect on local accommodation provision	No	Temporary influx of construction workers may increase pressure on local accommodation which is not considered potentially significant.

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Contribution to local economy	No	The potential increase in construction employment may lead to a temporary indirect increase in spending in the local economy (not potentially significant).
Temporary loss of spending in local economy	No	Given that there is no current employment onsite, there is not expected to be a temporary loss of spending in the local economy.

Table 14-8: Completed Development Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Increase in local population and effects on the ward's demography and local housing	No	The proposed development has the potential to result in the creation of limited new jobs in the area, with the limited potential to increase the population of the ward and alter the ward's demography.
Generation of employment	No	The completed development may generate some employment within a skilled industry (information Technology, Digital Economy) with additional associated jobs such as administration and finance these effects would not be significant.
Contribution to local economy	No	Any increase in employment from the completed development especially within a skilled industry may lead to a long-term increase in spending in the local economy (not significant).
Increased demand for school and early years places	No	The potential increase in employment may marginally increase the number of people moving into the area but it is assumed that Slough have sufficient educational facilities to accommodate any marginal increase in the student population (not significant).
Increased demand for and provision of healthcare	No	The potential increase in employment may marginally increase the number of people moving into the area to find permanent residence but within the area of Slough, it is assumed that there are currently adequate health care facilities and open spaces to

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
facilities and open space		accommodate for any increase in population Slough which is easily accessible from the site and residential neighbouring communities. Therefore, this effect would likely be not significant.

15. POPULATION AND HUMAN HEALTH

- 15.0.1 This section summarises the potential environmental impacts and likely significant effects that are at this stage anticipated to arise in connection with all stages of the proposed development for population and human health and will therefore be addressed in the subsequent ES. Environmental effects that are considered not likely to be significant are also summarised in this section and will not be addressed in the subsequent ES.

15.2 Site Information and Baseline Conditions

The site is located within the Langley Meads ward, within Slough. Given that the wards were redrawn in 2023 which increased the number of wards in Slough from 13 to 21, ward data for Langley Meads is not available. 2020 census data applies to the previous larger ward Langley St Mary's. Wider district-level data for Slough provides a summary overview of the demography, key health statistics, and community facilities.

Demographics

- 15.2.1 A summary of the demographics for Slough is provided as Section 14.2.

Key Health Statistics

- 15.2.2 Life expectancy at ward level is presented in Table 15-3. This table is based on Public Health England (PHE) Local Health Profiles⁴⁷. At ward level, life expectancy for males and females is higher than the national average.

Table 15-1: Life Expectancy

Area	Life Expectancy (Males)	Life Expectancy (Females)
Langley St Mary's Ward	81.6	84.3
Slough District	78.4	82.5
National Average	79.5	83.2

Source: Public Health England (2020). Local Health. PHE.

- 15.2.3 General health is a self-assessment of a person's general state of health. Within the 2021 Census, people were asked to assess whether their health was very good, good, fair, bad or very bad. According to the 2021 Census, 44.7 % of people in Slough consider their health as either 'very good' or 'good', which is slightly lower than the regional average, as seen in Table 15-4.

Table 15-2: General Health

Area	Very Bad Health	Bad Health	Fair Health	Good Health	Very Good Health
	(%)				
Slough District	1.2	4.3	14.3	35.5	44.7

⁴⁷ PHE, Office for Health Improvement and Disparities (2021). Ward level data 2021. Available online at: <https://www.localhealth.org.uk/#bbox=449687,139084,81198,52175&c=indicator&view=map12> [Accessed 22/12/2023]

Area	Very Bad Health	Bad Health	Fair Health	Good Health	Very Good Health
	(%)				
South East	0.9	3.3	11.8	34.4	49.6

Source: Office of National Statistics (2021). 2021 Census. ONS.

Note: Percentages have been calculated using rounded data.

- 15.2.4 According to the PHE Local Health Profiles, Slough has a higher percentage of those with a limiting long-term illness or disability compared to the regional average.

Community Facilities

- 15.2.5 Within the Langley Ward there are numerous community facilities, listed in Table 15-5.
- 15.2.6 In regard to facilities, Langley ward has open spaces for residents to use, health care facilities and educational facilities, including a college (Langley College) located approximately 130 m to the southwest of the site boundary. There is also a community centre located approximately 300 m southwest of the site, adjacent to Langley Memorial Park.

Table 15-3: Community Facilities

Ward	Open Spaces*	Health Care Facilities**	Educational Facilities***
Langley Meads	1	4	1
Langley St Mary's	2	0	3

Notes:

*Includes designated parks

**Includes health centres, doctors, clinics, dentist surgeries and pharmacies

***Includes schools

Source: Google Imagery Map Data ©2024

- 15.2.7 There are also numerous health care facilities, including hospitals and medical centres, and educational facilities, including infant schools, primary schools, and a high school, within Slough town centre which can be easily accessed from the site and neighbouring residential areas via car or public transport (i.e., train, bus or cycling).

15.3 Approach and Methodology to be Used in ES for Scoped In Effects

- 15.3.1 As set out in Tables 15-6 and 15-7, a specific population and health ES chapter is proposed to be scoped out of the EIA.
- 15.3.2 A Rapid HIA report will be prepared in accordance with the HUDU Self-completion Form which will be submitted as part of the planning application.
- 15.3.3 The HIA will be a rapid, qualitative assessment and whilst it may refer to quantitative data drawn from various submission documents, it will not be quantitative. The HIA will be a desk-based exercise and would not undertake primary data research other than to provide a summary on the health baseline within the ward that the site is located in. The Rapid HIA will consider the wider

determinants of health and would identify the positive and negative impacts of the proposed development on health, and identify ways to mitigate any negative impacts, and potentially enhance positive impacts to address health inequalities. The HIA would provide the context of the site constraints and the aspects of the proposed development which are relevant to health. A figure will be produced to identify sensitive receptors and local community facilities within the study area.

- 15.3.4 Several other assessments that are proposed to be scoped into the EIA, will consider the proposed development's potential secondary or indirect effects on population and human health. These include the following assessments:

- Air quality;
- Noise; and
- Transport.

15.4 Potential Impacts and Likely Effects

In summary, the following sensitive receptors have been identified:

- Construction workers;
- Operational workers;
- Residential receptors along Station Road (B470), Meadfield Road and Meadfield Avenue; and
- Local services and facilities (e.g. schools, open space and community facilities).

Table 15-6 and Table 15-7 identify which likely environmental effects, with respect to Population and Human Health will be assessed in the EIA (i.e. considered likely significant and therefore 'scoped in') and those which will not be assessed further (i.e., considered not likely to be significant and therefore 'scoped out'), along with a justification for this decision.

Table 15-4: Potential Construction Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Increased pressure on local healthcare services	No	Local contractors will be used where possible during construction, and it is assumed that workers would already be registered with a local GP. Additionally, the potential influx of construction workers will be temporary, and there are also various healthcare facilities located within Slough which is easily accessible from the site and residential neighbouring communities. Therefore, there should be adequate facilities to meet any increase in demand. Significant effects are considered unlikely.
Increased pressure on local educational facilities during construction	No	Local contractors will be used where possible during construction, and it is assumed that their families are likely already registered at a local school. There is not anticipated to be a significant increased demand on local educational facilities.

Table 15-5: Completed Development Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Increased demand for and provision of healthcare facilities and open space	No	The proposed development may provide some additional jobs in the area and therefore may increase the number of people moving into the area to find permanent residence. This may increase demand for healthcare facilities in the area. There are currently adequate health care facilities and open spaces to accommodate for the increase in population and are easily accessible from the site and residential neighbouring communities. Therefore, there should be adequate facilities to meet any increase in demand. Significant effects are considered unlikely.
Increased pressure on local educational facilities	No separate health assessment - potential secondary / indirect health effects to be considered in the socioeconomics chapter	There is one school (a primary school) within close proximity to the site, and numerous educational facilities which are easily accessible from the site and residential neighbouring communities. The capacity of local schools and potential increase demand as a result of the proposed development (indirectly as a result of potential increase in employment) will be considered in the ES socioeconomics chapter.

16. WASTE AND MATERIAL RESOURCES

- 16.0.1 This section summarises the potential environmental impacts and likely significant effects that are at this stage anticipated to arise in connection with all stages of the proposed development for waste and material resources and will therefore be addressed in the subsequent ES.

16.2 Site Information and Baseline Conditions

Study area

- 16.2.1 In line with IEMA guidance⁴⁸ the study areas for the proposed development will be the Southeast of England for materials (nationally for steel) and the Southeast of England for waste.
- 16.2.2 The baseline has been established through a desk-based review of regional and national data, based on the IEMA guidance, from the following sources:
- Environment Agency, 2021⁴⁹;
 - The Mineral Products Association's Profile of the UK Mineral Products Industry 2020⁵⁰; and
 - National Association of Steel Service Centres Annual Report 2018-2019 – Appendix V, Domestic Supply⁵¹.

Waste baseline

- 16.2.3 At the time of writing, demolition works had already been completed.
- 16.2.4 Waste management construction would be undertaken in accordance with an Outline Construction Site Waste Management Plan (SWMP) to ensure suitable management of construction waste, minimisation of waste arising and maximisation of waste re-use and recycling.
- 16.2.5 The Applicant's contractors would be encouraged to maximise opportunities for waste recycling and re-use both on and off-site where practically possible. In the event that residual matters require off-site disposal, the Applicant's contractors would ensure the appropriate categorisation of waste in accordance with current regulatory requirements.
- 16.2.6 The Proposed Development Description ES chapter will summarise the operational waste management measures which would be included within the proposed development. Sufficient information relevant to the waste management practices during all phases of the proposed development will be provided to fulfil requirements in line with the key UK waste related legislation.

Materials baseline

- 16.2.7 The regional (Southeast) and national sales of primary (not recycled) materials are summarised in Table 16-1. Regional data is only available for aggregate and concrete.
- 16.2.8 Materials identified in the table are based on the main construction materials estimated to be required for the proposed development's construction, based on professional experience of previous developments. It is worth nothing, that the list of materials in Table 16-2 is not an exhaustive list of material types to be used in the construction of the proposed development.
- 16.2.9 Given that the number, type, and size of construction developments varies from year to year, the demand for materials also fluctuates. As such, this data should be considered representative.

⁴⁸ IEMA guide to: Materials and Waste in Environmental Impact Assessment - Guidance for a proportionate approach. March 2020

⁴⁹ [2021 Remaining Landfill Capacity \(data.gov.uk\)](https://data.gov.uk/dataset/2021-remaining-landfill-capacity)

⁵⁰ Mineral Products Association, 2020, Profile of the UK Mineral Products Industry:

https://www.mineralproducts.org/MPA/media/root/Publications/2021/Profile_of_the_UK_Mineral_Products_Industry_2020_Spread.pdf

⁵¹ National Association of Steel Service Centres, 2019. Annual Report 2018-2019.

<https://nass.org.uk/Publications/Publication4536/Annual%20Report%202018-2019.pdf>

Table 16-1 Primary materials baseline

Primary Materials	Regional Baseline (Tonnes)	National Baseline (Tonnes)
Aggregate	16,100,000	-
Asphalt	1,900,000	-
Concrete	5,760,000*	-
Steel	-	4,200,000

*Converted from 2,400,000 m³ using density of 1/2.4 tonnes

16.3 Approach and Methodology to be Used in ES for Scoped In Effects

- 16.3.1 Based on the proposed development's land uses and waste streams, plus the proactive commitment to waste reduction, it is considered that waste generation would not be a significant issue in itself, requiring assessment within the EIA. Taking into account best practice mitigation measures, it is not anticipated that there would be any environmental effects from the future waste generation streams by the proposed land uses, save for the environmental effects of the collection of waste and secondary effects of emissions and traffic noise associated with waste vehicles. The movements of waste vehicles will be factored into the proposed development's trip generation figures and assessed in the Air Quality and Noise and Vibration chapters of the ES.

16.4 Potential Impacts and Likely Effects

- 16.4.1 In summary, the following sensitive receptors have been identified:
- Landfill void capacity; and
 - Materials markets.
- 16.4.2 Table 16-3 and Table 16-3 identify which likely environmental effects, with respect to material resources and waste will be assessed in the EIA (i.e. considered likely significant and therefore 'scoped in') and those which will not be assessed further (i.e., considered not likely to be significant and therefore 'scoped out'), along with a justification for this decision.

Table 16-2: Potential Construction Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Consumption of resources	No	The design will be developed to minimise use of resources and to follow established sustainability principles. Materials anticipated to be required are likely to be readily available including from secondary recycled sources.
Depletion of Landfill void	No	Demotion has already been undertaken.

Table 16-3: Completed Development Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Consumption of resources	No	Resources will be consumed by operations at the development during routine

		maintenance activities, but these are not likely to be significant.
Generation of waste during operation	No	Operational waste would be a mixture of commercial and industrial waste streams and is not considered to increase significantly from the existing baseline. These wastes would be managed by the existing waste infrastructure and only residual wastes would be disposed of at landfill.

17. MAJOR ACCIDENTS AND DISASTERS

- 17.0.1 This section summarises the potential environmental impacts and likely significant effects that are at this stage anticipated to arise in connection with all stages of the proposed development for major accidents and disasters and will therefore be addressed in the subsequent ES. Environmental effects that are considered not likely to be significant are also summarised in this section and will not be addressed in the subsequent ES.
- 17.0.2 The 2017 EIA Regulations⁵² state that "...a description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned" should be provided within the ES.
- 17.0.3 There is no recognised guidance on the assessment of major accidents and disasters. However, IEMA provides guidance⁵³ on the approach to major accidents and disasters assessments which has been used to inform this assessment.
- 17.0.4 Major accidents are events (accidental or deliberate) that threaten human health, welfare and/or the environment beyond reasonable management. These events can be caused by both natural and man-made hazards. Natural hazards are categorised as geophysical, hydrological, climatological, meteorological, and biological.
- 17.0.5 In addition to the assessment of vulnerability, the potential for the proposed development to introduce a new risk source, or to increase the risk of surrounding infrastructure to a major accident, has also been considered.
- 17.0.6 All construction and completed development activities will be subject to stringent controls and regulatory oversight under existing safety and environmental legislation. It should be noted that major accidents, as assessed in this assessment, are considered to be low likelihood, high consequence events.

17.2 Site Information and Baseline Conditions

- 17.2.1 The site is not located within a geographical region that has historically been subject to natural disasters. Additionally, there are no COMAH sites within approximately 2 km of the site (refer Table 17.1).

Table 17-1 COMAH Sites

Operator Name	Town	Postcode	Distance from Site
Affinity Water Limited	Iver	SL0 9HL	2 km
Calor Gas Limited	Uxbridge	UB8 2JG	4.4 km

17.3 Approach and Methodology to be Used in ES for Scoped In Effects

- 17.3.1 As set out in Appendix 4, no likely significant effects are anticipated and therefore major accidents and disasters will be scoped out of the ES.

17.4 Potential Impacts and Likely Effects

- 17.4.1 The following sensitive receptors have been identified:
- All living receptors and infrastructure located within the site and surrounding area during the construction stage; and

⁵² HM Government. Town and Country Planning (Environmental Impact Assessment) Regulations 2017.

⁵³ IEMA, 2020. Major Accidents and Disasters in EIA: A Primer, online. Available at: <https://www.iema.net/document-download/48915>
[Accessed 19/02/2024]

- All living receptors and infrastructure located within the site and surrounding area during the completed development stage.

17.4.2 A screening exercise has been undertaken (see Appendix 4) to first identify if any major accidents and disasters are applicable to the site, and should therefore be considered within this scoping section as a potential impact.

17.4.3 The screening exercise concludes that there are no potential significant impacts with respect to major accidents and disasters that require further consideration for scoping (refer Table 17.1):

Table 17-2: Potential Construction and Operational Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Construction		
Potential for major accidents and disasters	No	No potentially significant effects
Operational		
Potential for major accidents and disasters	No	No potentially significant effects

18. DAYLIGHT, SUNLIGHT, OVERSHADOWING AND SOLAR GLARE

- 18.1.1 This section summarises the potential environmental impacts and likely effects that are at this stage anticipated to arise in connection with all stages of the proposed development relating to daylight, sunlight, overshadowing and solar glare.

18.2 Site Information and Baseline Conditions

- 18.2.1 Details of the site are provided in section 2.1 and 2.2). To the south and east of the application site are residential houses with gardens adjoining the site. To the west the neighbouring buildings are largely residential with front gardens facing the site. To the north is a railway line beyond which is a car park and light industrial buildings. The proposal is for a data centre which will increase the overall massing of development on the site.

18.3 Daylight and Sunlight

- 18.3.1 The assessment will consider the potentially significant effects of the proposed development on daylight, sunlight and overshadowing to existing properties with a reasonable expectation of daylight and sunlight amenity, together with overshadowing to existing open space and public amenity areas. Due to the distance of the proposed massing from the boundaries of the site in some locations, the likelihood of significant impacts is low and sample testing of these receptors will be appropriate.
- 18.3.2 The following receptors have been identified as sensitive in relation to daylight and sunlight and will therefore be included within the assessment:
- Residential properties on Mead Avenue;
 - Residential properties on Meadfield Street; and
 - Residential properties on Station Road.

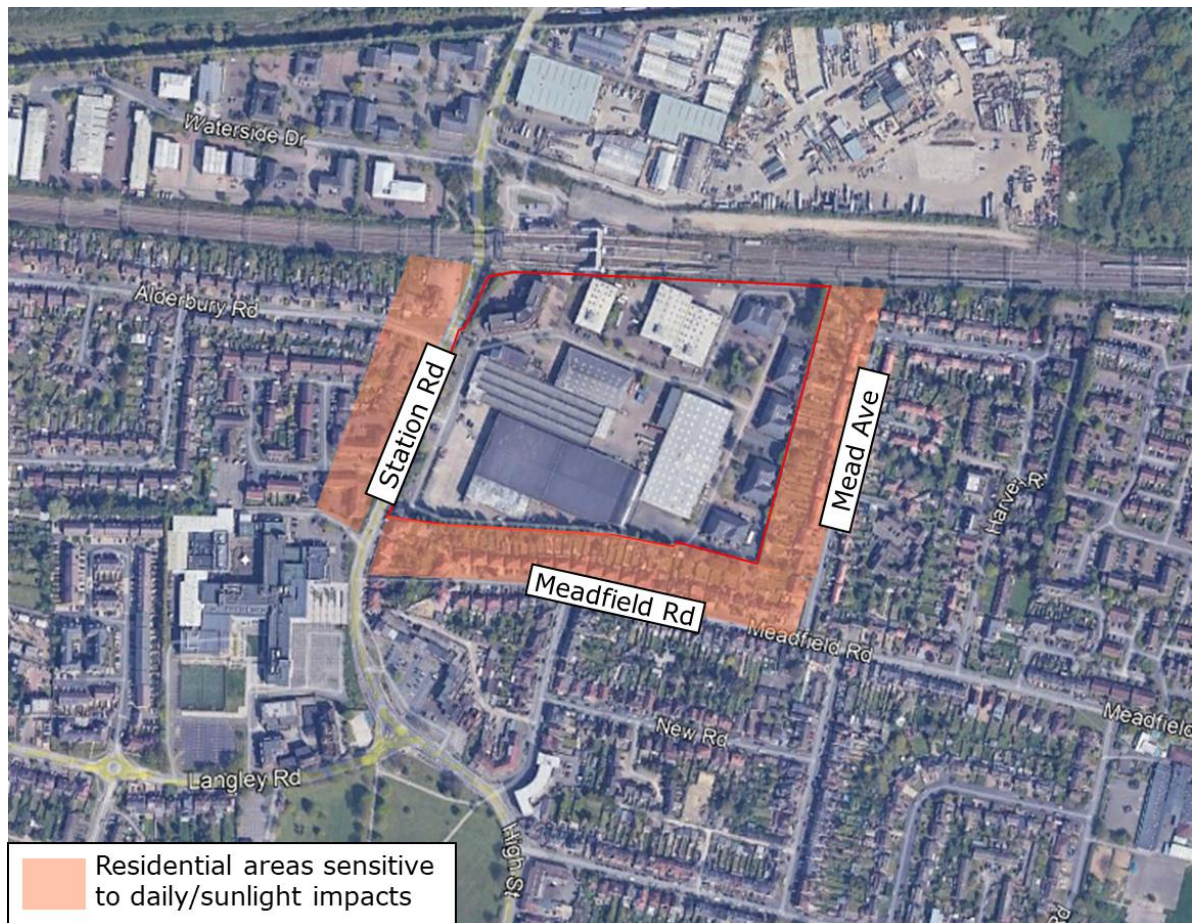


Figure 18-1 Residential areas adjacent to the site which have been identified as sensitive to daylight/sunlight

18.4 Overshadowing

- 18.4.1 Only those areas located to the north-west through to the north-east of the proposed development require consideration in relation to overshadowing. These may include front gardens on Station Road and rear gardens of Mead Avenue.

18.5 Solar Glare

- 18.5.1 The BRE states that "glare or solar dazzle can occur when sunlight is reflected from a façade or area of metal cladding". This is a consideration in relation to road users and train drivers whereby instances of reflection can obscure the view of traffic/rail signals and thus have the potential to cause an accident.
- 18.5.2 At this stage, the details of the façade treatment are not yet finalised; however, it is likely that a solar glare assessment will be required in respect of the below receptors:
- Railway in proximity to Langley Station; and
 - Traffic along Station Road.
- 18.5.3 A first stage assessment will be undertaken to determine when solar glare has the opportunity to occur and, in the absence of detailed façade treatment, will assume a uniform reflective surface.

18.6 Approach and Methodology

- 18.6.1 The assessment will be undertaken in accordance with the guidance and recommendations given in the following documents, as well as the application of professional judgement:
- The Building Research Establishment (BRE) Report 'Site Layout Planning for Daylight and Sunlight - A Guide to Good Practice' (2022)⁵⁴;
 - Chartered Institution of Building Services Engineers (CIBSE) Lighting Guide (2021)⁵⁵;
 - Solar Dazzle Reflected from Sloping Glazed Facades (1987)⁵⁶; and
 - CIE Collection on Glare (2002)⁵⁷.

Daylight, Sunlight and Overshadowing

- 18.6.2 Existing sensitive receptors will be assessed, no cumulative scheme have been identified.

Solar Glare

- 18.6.3 The study area for the solar glare assessment is subject to the outcome of first stage assessment (as discussed below). The methodology and justification will be provided within the ES chapter.

18.7 Demolition and Construction

- 18.7.1 The level of effect on daylight and sunlight availability to emerging neighbouring properties would vary throughout the demolition and construction stage and would steadily increase in magnitude as the superstructure is built. Any temporary accommodation or construction equipment such as cranes would only have a temporary effect on the daylight and sunlight levels to the surrounding properties.
- 18.7.2 Those effects that would be perceptible as the superstructure and cladding progress would be similar to those of the completed development. A qualitative assessment will be undertaken using professional judgement, with the worst-case scenario represented by the completed development.

18.8 Completed Development

Daylight and Sunlight to Surrounding Receptors

- 18.8.1 The likely significant effects of the completed development will be discussed within the ES Chapter. Daylight, sunlight and overshadowing analysis is being undertaken throughout the design stages and mitigation measures incorporated into the design of the proposed development. These measures will ensure that the majority of the existing receptors tested will retain daylight and sunlight amenity appropriate for the urban environment surrounding the application site.
- 18.8.2 Analysis will have regard for the existing application site conditions and will compare the results with values typically received within built up areas.
- 18.8.3 The BRE Report focuses on the daylight and sunlight amenity within residential properties and those properties where natural light is considered desirable (i.e., hospitals and schools). In line with the BRE Report, the assessment will undertake daylight and sunlight analysis of the nearest existing residential properties to the application site identified by a site inspection and a desktop study. In addition, survey information will be used to identify residential properties most likely to experience effects from the proposed development.

⁵⁴ Building Research Establishment, 2011. Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice (BRE209)

⁵⁵ Chartered Institution of Building Services Engineers, 2014. LG10/14 Lighting Guide 10: Daylighting – A Guide for Designers – LG10

⁵⁶ British Standards Institute, 1987. BRE Information Paper Solar Dazzle Reflected from Sloping Glazed Facades by P. J Littlefair (April 1987)

⁵⁷ Commission Internationale de L'Eclairage, 2002. CIE Collection on Glare 146:2002. Austria. CIE

- 18.8.4 Information on the receptors will be gathered using details available on the local authorities planning database, estate agent's property particulars and site inspections. If information is available to determine the layout of the rooms, the interior layouts will also be applied to the analysis model and additional daylight testing will be undertaken. Where information on existing receptors are not available, reasonable room layout assumptions will be made and presented in the assessment.
- 18.8.5 The studies to be undertaken will use a three-dimensional computer model of the application site and the surrounding buildings in the study area for the following scenarios:
- Existing Baseline (representing the current site conditions); and
 - proposed development (representing the completed development).
- 18.8.6 The effect of the proposed development on the daylight and sunlight amenity received by the neighbouring buildings will be analysed using bespoke software.
- 18.8.7 The assessment will be carried out in accordance with the guidance given in the BRE Report. The assessment will include an analysis at all windows serving residential accommodation where they overlook the proposed development and have the potential to see an adverse effect. This will include sample testing where adverse effects are considered unlikely. Additionally, where information is available, daylight analysis within the rooms served by the windows will be undertaken.
- 18.8.8 In analysing the resultant daylight and sunlight assessment data, consideration will be given to the criteria set out in the BRE Report guidelines. However, since the BRE Report guidelines do not specifically relate to metropolitan locations, a degree of flexibility will be applied to the application site, as it is located in an urban area.
- 18.8.9 The interpretation of the results will therefore consider the actual quantum of light lost or gained rather than the percentage change. The percentage value may well be misleading, particularly where the baseline values are already low. For example, where the baseline values are low, a small change in the quantum of light could represent a high percentage change in the overall figure. This would imply that there would be a significant change in daylight. However, in reality, the difference would be imperceptible.
- 18.8.10 In order to quantify the level of effect as a result of the proposed development, a degree of significance will be assigned to the results for each receptor.
- 18.8.11 The significance of effects, will be determined using professional judgement and by reference to Appendix I of the BRE Guidelines, which state; "the assessment of impact will depend on a number of factors, and there is no simple rule of thumb that can be applied".
- 18.8.12 The guidelines provided by the BRE for determining the significance of effects on daylight and sunlight amenity are as follows;
- 18.8.13 "15 Where the loss of skylight or sunlight fully meets the guidelines in this book (the BRE guide) the impact is assessed as negligible or minor adverse. Where the loss of light is well within the guidelines, or only a small number of windows or limited area of open space lose light, a classification of negligible impact is more appropriate. Where the loss of light is only just within the guidelines, and a larger number of windows or open space area are affected, a minor adverse impact would be more appropriate....."

"16 Where the loss of skylight or sunlight does not meet the guidelines in this book, the impact is assessed as minor, moderate or major adverse. Factors tending towards a minor adverse impact include:

- only a small number of windows or limited area of open space are affected*
- the loss of light is only marginally outside the guidelines*
- an affected room has other sources of skylight or sunlight*
- the affected building or open space only has a low level requirement for skylight or sunlight*
- there are particular reasons why an alternative, less stringent, guideline should be applied..."*

18.8.14 "17 Factors tending towards a major adverse impact include:

- a large number of windows or large area of open space are affected*
- the loss of light is substantially outside the guidelines*
- all the windows in a particular property are affected*
- the affected indoor or outdoor spaces have a particularly strong requirement for skylight or sunlight, e.g. a living room in a dwelling or a children's playground."*

18.8.15 "18 Beneficial impacts occur when there is a significant increase in the amount of skylight or sunlight reaching an existing building where it is required, or in the amount of sunlight reaching an open space. Beneficial impacts should be worked out using the same principles as adverse impacts."

18.8.16 The sensitivity of each receptor is also considered alongside the magnitude of change to assess the significance of effect. Receptor sensitivity is determined by the likely daylight and sunlight requirements for the property type or room use, using the BRE Report as a guide. For example, the main living space in a dwelling would be considered as a receptor of high sensitivity whereas a bedroom, which are considered as 'less important' in terms of daylight and sunlight requirements, would be a low sensitivity receptor.

18.8.17 Based on the above guidance, a set of numerical parameters will be devised for each of the respective BRE Report's recommended assessments methods, in order to determine the significance of effects if and where BRE Report target values are not achieved. This numerically based significance criteria will be detailed in full in the ES.

Solar Glare

18.8.18 Solar glare is a highly localised and temporary effect dependent on the direction the viewer is "looking", the position of the sun relative to the viewer and the reflecting surface and localised weather conditions. The effect of solar glare, the reflected image of the sun on the façade of the proposed development would be analysed at specific locations determined on the basis that they are most likely to have the potential to be affected by any glare generated by the proposed development.

18.8.19 As this is an outline scheme, a uniform reflective surface across the proposed development is assumed. The assessment takes no account of the strength of the reflected light. It should be remembered that should glare intensity and the risk of causing distraction will be mitigated by the materials specified, weather conditions and the faceted nature of the building.

18.9 Potential Impacts and Likely Effects

18.9.1 The assessment will consider the effects of the proposed development using the methodology set out below within the context of the policy framework and existing baseline conditions. The assessment will consider the following potential impacts and likely effects:

18.9.2 The assessment will consider the effects of the proposed development using the methodology set out below within the context of the policy framework and baseline conditions. The assessment will consider the following potential impacts and associated likely effects:

- Daylight, sunlight and overshadowing to residential neighbours; and
- Reflected sunlight to affect road users at key locations, i.e. road junctions.

18.9.3 It is considered that there will be no further impacts and associated effects arising from the proposed development that require assessment as part of the ES Chapter.

The following potential effects have been scoped in and out of the assessment.

Table 18-1: Potential Construction Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Daylight, Sunlight and Overshadowing	No	The level of effect on daylight and sunlight availability to emerging neighbouring properties would vary throughout the demolition and construction stage and would steadily increase in magnitude as the superstructure is built. Any temporary accommodation or construction equipment such as cranes would only have a temporary effect on the daylight and sunlight levels to the surrounding properties. Those effects that would be perceptible as the superstructure and cladding progress would be similar to those of the completed development. A qualitative assessment will be undertaken using professional judgement, with the worst-case scenario represented by the completed development.
Solar Glare	No	Solar glare related to the construction stage is expected to either be minimal and temporary or reflect the same conditions as the completed development as the façade is built.

Table 18-2: Completed Development Stage Effects

Potential Effect	To be assessed in the EIA (Yes/No)	Reason
Daylight, Sunlight and Overshadowing	Yes	Residential neighbours may be impacted by the completed development in its impact to available daylight and sunlight.
Solar Glare	Yes	The effect of solar glare has the potential to impact nearby receptors by any glare generated by the proposed development. Reflected sunlight may affect road users at key locations, i.e. road junctions.

19. SUMMARY SCOPING

- 19.0.1 The likely significant environmental effects of the proposed development have been identified as part of this scoping exercise, and it is proposed that these be included in the subsequent ES. The scoping assessment has also identified effects that are deemed not likely to be significant and therefore “scoped out” of the ES.
- 19.0.2 Those issues scoped in will form the technical scope of the ES, and will be assessed by competent experts.
- 19.0.3 Table 19-1 provides a summary of the issues proposed to be scoped in. Details regarding the basis for these decisions and the methodology for those topics scoped in are provided in Sections 5-17.

Table 19-1: Proposed Scope of Environmental Statement

Topic	Scoped In	
	Construction	Completed Development
Air Quality	• Construction stage dust assessment. • Construction vehicle emissions assessment.	• Operational stage emergency generator emissions assessment. • Operational stage vehicle emissions assessment.
Noise and Vibration	• Noise emissions from the construction works and plant	• Noise emissions generated by the proposed development’s fixed plant installations
Landscape and Visual	• Construction effects on landscape fabric • Construction effects on townscape character areas • Construction effects on visual amenity of road and rail routes • Construction effects on visual amenities of recreational routes • Construction effects on residential properties	• Townscape character areas • Visual amenity of road and rail routes • Visual amenity of recreational routes • Residential properties
Water Environment	• None	• Impacts to groundwater quality (including RBMP status) and changes in groundwater flow/quantity
Climate Change	• GHG Climate Change Resilience • In-Combination Climate Change Impacts • Greenhouse Gas Emissions	

Topic	Scoped In	
	Construction	Completed Development
Lighting	• None	• Daylight, Sunlight, and Overshadowing • Solar Glare

19.2 Next Steps

- 19.2.1 Following submission of this Scoping Report, the project design, planning and EIA will be progressed, including:
- Scoping Opinion and scoping consultation feedback which would be used to refine the scope of surveys and assessments where required, and to inform the ES;
 - continued data collation, and where applicable additional field surveys;
 - continued stakeholder engagement;
 - ongoing design development; and
 - preparation of the ES, which will be submitted with the application for consent.
- 19.2.2 The final ES would be expected to include the following:
- Non-Technical Summary: Summarising the main elements of the proposed development and the significant environmental effects identified through the EIA process. It would be written in plain English for a non-technical audience.
 - Volume 1 Main Text: The Main Text would detail the findings of the EIA. The ES would include a summary of the Scoping Opinion and consultation feedback. The proposed layout of the ES is provided in Appendix 5.
 - Volume 2 Appendices: All technical documents referred to within Volume 1 would be reproduced here along with accompanying reports or documents to support Volume 1.

APPENDIX 1 ASSESSMENT CRITERIA

A consistent approach to assessment criteria and terminology will be used in the ES where appropriate unless specific alternative terminology exists within topic specific guidance. Where topics deviate from this criteria, this has been set out in the relevant section and will be defined within the ES.

The sensitivity of receptors will be classified as:

- Low;
- Medium; or
- High.

The magnitude of impact will be classified as:

- Low;
- Medium; or
- High.

The scale of effect will be determined by the consideration of the sensitivity/value of the receptor and the magnitude of impact as presented in Table A1.

Table A1: Scale of Effects Matrix (Significant Effects in Bold)

		Magnitude of Change (Impact)		
		Low	Medium	High
Sensitivity of Receptor	Low	Negligible	Minor	Minor
	Medium	Minor	Moderate	Moderate
	High	Minor	Major	Major

Residual effects will be predicted as either '**significant**' or '**not significant**'. Residual effects of moderate and major scale are typically considered significant, but would be dependent on the relevant technical assessment, as well as the existence of published assessment guidance. Where published assessment guidance is not definitive in respect of categorising/determining significant environmental effects, professional judgement will be applied.

Table A2 sets out additional terminology that will be used to describe the type/nature of effects.

Table A2: Type/Nature of Effects

Effect	Example
Adverse	Detrimental or negative effect to an environmental resource or receptor.
Neutral	An effect that on balance, is neither beneficial nor adverse to an environmental resource or receptor OR an effect that is equally beneficial and adverse to an environmental resource or receptor ⁵⁸ .
Beneficial	Advantageous or positive effect to an environmental resource or receptor.

⁵⁸ In respect of the TVBHIA it is possible for Neutral residual effects to be classed as 'significant' for situations in which the 'net equation' of beneficial and adverse impacts considered together results in an overall effect which is neither beneficial or adverse on balance (e.g. due to their guidance, a townscape and visual impact assessment can result in a 'moderate neutral' effect, which would be classed as 'significant').

Effect	Example
Direct	Direct effects are those which arise as a direct consequence of a project action, e.g. the loss of habitat or the run-off of surface water to a watercourse.
Indirect (secondary)	Indirect effects include, for example, the decline in the abundance of a species as a result of the loss of habitat or the damage to aquatic vegetation as a result of water pollution. Other common examples include the effect on air quality and ambient noise as a result of increased traffic flows.
Cumulative	The combined effects of impacts.
Intra	Effect of the project in combination of other reasonably foreseeable projects (refer to Cumulative Effects section later in this chapter).
Inter	Effect of the project in combination with each other on the same receptor (refer to Cumulative Effects section later in this chapter).
Long term	10 years +
Medium term	5-10 years
Short Term	up to 5 years.
Reversible	Capable of being reversed so that the previous state or situation is restored.
Irreversible	Permeant.
Adverse	Detrimental or negative effect to an environmental resource or receptor.
Neutral	An effect that on balance, is neither beneficial nor adverse to an environmental resource or receptor OR an effect that is equally beneficial and adverse to an environmental resource or receptor ⁵⁹ .

⁵⁹ In respect of the TVBHIA it is possible for Neutral residual effects to be classed as 'significant' for situations in which the 'net equation' of beneficial and adverse impacts considered together results in an overall effect which is neither beneficial or adverse on balance (e.g. due to their guidance, a townscape and visual impact assessment can result in a 'moderate neutral' effect, which would be classed as 'significant').

APPENDIX 2
ECOLOGY BASELINE REPORTS AND SURVEYS
(PROVIDED SEPARATELY AS STANDALONE APPENDIX)

APPENDIX 3

CLIMATE CHANGE ASSESSMENT CRITERIA

The criteria that will be used within the Climate Change assessment to assess if an effect is significant or not, is set out in the following sub-sections. This will be determined by consideration of the sensitivity of the receptor, magnitude of impact and scale of the effect. In considering the significance of an effect, consideration will be given to the duration of the effect, the geographical extent of the effect and the application of professional judgement.

General

Climate Change Resilience

A specific climate change resilience assessment has been scoped out of the ES.

In-Combination Climate Change Impact

The basis of this assessment will be to review the identified effects, the receptors and embedded mitigation measures for other technical disciplines contained within the ES. Professional judgement will be used to assess whether projected climate change could increase the scale of the effects as identified by the individual technical assessments, change the sensitivity of the receptors, or reduce the effectiveness of embedded mitigation measures.

Greenhouse Gas Emissions

The potential for the proposed development to contribute to GHG emissions levels will be determined by the demolition and construction works of the proposed development and the way the proposed development would be used during the completed development stage.

In line with the IEMA Guidance, the GHG assessment seeks to evaluate the significance of GHG emissions based on the whole life GHG emissions of the proposed development and how these align with the UK's net-zero compatible trajectory.

Receptor Sensitivity/Value Criteria

Climate Change Resilience

A specific climate change resilience assessment has been scoped out of the ES.

In-Combination Climate Change Impact

The ICCI assessment focuses on the potential for climate change to exacerbate the effects on receptors identified by the other technical disciplines. For this reason, the sensitivity of the receptors is considered the same as that specified by the individual environmental assessments in the ES.

Greenhouse Gas Emissions

GHG emissions associated with the proposed development would be released to the global atmosphere. Therefore, the global atmosphere is considered to be the receptor and is considered to be of high sensitivity. In line with standard practice, the sensitivity of human and natural receptors is not considered within this assessment.

Impact Magnitude Criteria

Climate Change Resilience

A specific climate change resilience assessment has been scoped out of the ES.

In-Combination Climate Change Impact

In line with the IEMA Guidance, the ICCI assessment will be completed based on the likely environmental effects as identified and defined by the individual environmental assessments in the ES. Additional mitigation will be identified to address the potential for climate change to exacerbate these environmental effects.

Greenhouse Gas Emissions

In line with IEMA Guidance, it should be noted that the crux of significance for the GHG assessment is not whether a project emits GHG emissions, nor even the magnitude of GHG emissions alone, but whether it contributes to reducing GHG emissions relative to a comparable baseline consistent with a trajectory towards net zero by 2050. Contextualisation of the carbon footprint of a scheme determines whether or not it supports or undermines the trajectory towards net zero. Therefore, the total GHG emissions associated with the proposed development have been compared to the carbon budget for the UK to provide national, as well as to the buildings sector carbon budgets. As BCC doesn't have its own carbon budgets at this time, the BCC carbon budget will be calculated by the Tyndall Centre by allocating a proportion of the UK carbon budget. Additional mitigation will be identified to reduce GHG emissions where necessary.

Scale of Effect Criteria

Climate Change Resilience

A specific climate change resilience assessment has been scoped out of the ES.

In-Combination Climate Change Impact

As stated within IEMA Guidance, there is no legislative definition of 'significance'. The ICCI assessment describes each potential climate impact and uses professional judgement to determine whether there is potential for climate change to increase the significance of reported residual effects.

Greenhouse Gas Emissions

In line with IEMA Guidance, the scale of effects for the GHG assessment will be described as either major, moderate or minor, as presented in Table 4.

Table 4: Greenhouse Gas Scale of Effect Criteria	
Scale	Description
Adverse Effect	
Major	The project's GHG emissions impacts are not mitigated or are only compliant with minimum standards set through regulation and do not provide further reductions required by existing BCC's and UK's policy for projects of this type. The project is locking in emissions and does not make a meaningful contribution to the UK's trajectory towards net zero.
Moderate	The project's GHG emissions impacts are partially mitigated and may partially meet the applicable existing and emerging policy requirements but would not fully contribute to decarbonisation in line with Birmingham and UK's policy goals for projects of this type. The project falls short of fully contributing to the UK's trajectory towards net zero.
Minor	The project's GHG emissions impacts would be fully consistent with applicable existing and emerging policy requirements and good practice design standards for

Table 4: Greenhouse Gas Scale of Effect Criteria	
Scale	Description
	projects of this type. The project is fully in line with measures necessary to achieve the UK's trajectory towards net zero.
Negligible Effect	
The project's GHG emissions impacts would be reduced through measures that go well beyond existing and emerging policy and design standards for projects of this type, such that radical decarbonisation or net zero is achieved well before 2050. The project provides GHG emissions performance that is well 'ahead of the curve' for the trajectory towards net zero and has minimal residual emissions.	
Beneficial Effect	
The project's net GHG emissions impacts are below zero and it causes a reduction in atmospheric GHG concentration, whether directly or indirectly, compared to the without-proposed development baseline. The project's substantially exceeds net zero requirements with a positive climate impact.	

Nature of Effect Criteria

Climate Change Resilience and In-Combination Climate Change Impact

The nature of the effect will be described as either adverse, neutral or beneficial as follows:

- Beneficial – An advantageous effect to a receptor;
- Neutral – An effect that on balance, is neither beneficial nor adverse to a receptor or is equally beneficial and adverse; or
- Adverse – A detrimental effect to a receptor.

Greenhouse Gas Emissions

In line with the IEMA Guidance, the nature of effects for the GHG assessment will be described as either adverse, negligible or beneficial, as follows:

- Beneficial;
- Negligible; or
- Adverse.

APPENDIX 4

MAJOR ACCIDENTS AND DISASTERS SCREENING EXERCISE

Table A4-1: Potential Major Accidents and Disasters Effects for all Stages of the Development

Major Accident or Disaster ⁶⁰	Is the/will the Proposed Development or the site surrounds be exposed to the major accident or disaster?	Is the Proposed Development or the site surrounds resilient to the major accident or disaster?	Considered in EIA Scoping?	Does the Proposed Development have the potential to create a major accident or disaster?	Considered in EIA Scoping?
	Reason	Reason	Y/N	Reason	Y/N
Natural					
Biological Hazards: Epidemics, Animal/Insect Infestation	No There are no identified biological hazards located within the site or the site surrounds.	Not applicable	N	No Given the nature of the proposed development, it is not anticipated that a major accident or disaster associated with biological hazard would be caused.	N
Mass movements, landslides, rock falls	No Given the location of the site, there are no identified risks associated with mass movements, landslides and rockfall hazards.	Not applicable	N	No Given the nature of the proposed development, it is not anticipated that a major accident or disaster associated with mass movements, landslides or rockfalls would be caused.	N
Earthquakes	No The historical and geological evidence for earthquakes in the	Not applicable	N	No Given the nature of the proposed development	N

⁶⁰ In accordance with Major Accidents and Disasters in EIA: An IEMA Primer

Major Accident or Disaster ⁶⁰	Is the/will the Proposed Development or the site surrounds be exposed to the major accident or disaster?	Is the Proposed Development or the site surrounds resilient to the major accident or disaster?	Considered in EIA Scoping?	Does the Proposed Development have the potential to create a major accident or disaster?	Considered in EIA Scoping?
	Reason	Reason	Y/N	Reason	Y/N
	UK suggests a low risk of earthquakes. There has also been no earthquakes recorded at the site or within 5km of the site since 1970 ⁶¹ .			and the nature of this type of hazard, it is not anticipated that a major accident or disaster associated with earthquakes would be caused.	
Tsunamis	No The historical and geological evidence for tsunamis in the UK suggests a very low risk of tsunamis. Slough is also located inland, away from the more vulnerable coastline.	Not applicable	N	No Given the nature of the proposed development and the nature of this type of hazard, it is not anticipated that a major accident or disaster associated with tsunamis would be caused.	N
Volcanic Eruptions	No There are no active volcanoes within the UK or its immediate vicinity.	Not applicable	N	Not applicable	N

⁶¹ BG, 2022. BGS MapViewer: GeoIndex (onshore), online. Available at: <https://www.bgs.ac.uk/map-viewers/geoindex-onshore/> [Accessed 10/10/2022]

Major Accident or Disaster ⁶⁰	Is the/will the Proposed Development or the site surrounds be exposed to the major accident or disaster?	Is the Proposed Development or the site surrounds resilient to the major accident or disaster?	Considered in EIA Scoping?	Does the Proposed Development have the potential to create a major accident or disaster?	Considered in EIA Scoping?
	Reason	Reason	Y/N	Reason	Y/N
Severe Weather – Storms	No The development is located inland, at a far distance from the coast. Therefore the risk of severe storms is reduced and considered unlikely at the site.	Not applicable	N	No Given the nature of the proposed development and the nature of this type of hazard, it is not anticipated that a major accident or disaster associated with storms would be caused.	N
Severe Weather - Droughts	No There is the potential for prolonged periods of low rainfall. Effects of climate change may also have the potential to increase incidence of drought in the future.	No Due to the nature of the proposed development, it is not considered to be vulnerable to current and future potential drought conditions. Additionally, the In-Combination Climate Impacts (ICCI) assessment, undertaken as part of the Climate Change ES Chapter, will evaluate the potential additive impact that climate change may have on the proposed development and assess whether projected climate change could increase the	N	No Given the nature of the proposed development and the nature of this type of hazard, it is not anticipated that a major accident or disaster associated with drought would be caused.	N

Major Accident or Disaster ⁶⁰	Is the/will the Proposed Development or the site surrounds be exposed to the major accident or disaster?	Is the Proposed Development or the site surrounds resilient to the major accident or disaster?	Considered in EIA Scoping?	Does the Proposed Development have the potential to create a major accident or disaster?	Considered in EIA Scoping?
	Reason	Reason	Y/N	Reason	Y/N
		magnitude of the effects, change the sensitivity of the receptors, or reduce the effectiveness of embedded mitigation measures.			
Severe Weather – Extreme Temperatures	No There is the potential for prolonged periods of extreme temperatures. Effects of climate change may also have the potential to increase incidence of drought in the future.	No Due to the nature of the proposed development, it is not considered to be vulnerable to current and future potential extreme temperature conditions. Additionally, the ICCI assessment, undertaken as part of the Climate Change ES Chapter, will evaluate the potential additive impact that climate change may have on the proposed development and assess whether projected climate change could increase the magnitude of the effects, change the sensitivity of the receptors, or reduce the effectiveness of embedded mitigation measures.	N	No Given the nature of the proposed development and the nature of this type of hazard, it is not anticipated that a major accident or disaster associated with extreme temperatures would be caused.	N

Major Accident or Disaster ⁶⁰	Is the/will the Proposed Development or the site surrounds be exposed to the major accident or disaster?	Is the Proposed Development or the site surrounds resilient to the major accident or disaster?	Considered in EIA Scoping?	Does the Proposed Development have the potential to create a major accident or disaster?	Considered in EIA Scoping?
	Reason	Reason	Y/N	Reason	Y/N
Floods	No	Not applicable	N	No The design of the proposed development will consider the potential to increase flood risk of adjacent receptors if required.	N
Wildfires	No	Not applicable	N	Not applicable	N
Man-Made					
Poor Air Quality Events	No	Not applicable	N	No Air quality emissions would be assessed in the EIA within the air quality ES chapter and air quality assessment. The EIA will also identify any necessary mitigation measures and/or enhancement measures, dependent on the outcomes of the air	N

Major Accident or Disaster ⁶⁰	Is the/will the Proposed Development or the site surrounds be exposed to the major accident or disaster?	Is the Proposed Development or the site surrounds resilient to the major accident or disaster?	Considered in EIA Scoping?	Does the Proposed Development have the potential to create a major accident or disaster?	Considered in EIA Scoping?
	Reason	Reason	Y/N	Reason	Y/N
				quality assessment. These measures will be in line with industry best practice and are likely to include construction dust controls. Air quality impacts will be further managed through the design (i.e. appropriately chosen stack heights) and environmental permits during operations.	
Water Contamination and Release of Contaminants	No No potentially contaminative activities have been identified.	Not applicable	N	No Enabling and construction works would be managed under an appropriate Construction Environmental Management Plan (CEMP) to prevent water contamination incidents during the construction stage.	N

Major Accident or Disaster ⁶⁰	Is the/will the Proposed Development or the site surrounds be exposed to the major accident or disaster?	Is the Proposed Development or the site surrounds resilient to the major accident or disaster?	Considered in EIA Scoping?	Does the Proposed Development have the potential to create a major accident or disaster?	Considered in EIA Scoping?
	Reason	Reason	Y/N	Reason	Y/N
Transport Accidents	No Major accidents from transport accidents at the site are considered to be infrequent (with no recorded accidents to date) and the proposed development is not expected to result in changes which could significantly affect accidents and safety.	Not applicable	N	No The proposed development is not expected to result in changes which could significantly affect accidents and safety.	N
Nuclear Accidents	No There is no nuclear activity within or in the vicinity of the site.	Not applicable	N	No Given the nature of the proposed development, it will not introduce any sources of nuclear material or activity and would not cause a major accident associated with nuclear activity.	N
Utility and Sewerage Failures	Yes The site is currently connected to the local utility and	Yes Utility service connections will either be maintained or installed in	N	No Given the nature of the proposed development, it	N

Major Accident or Disaster ⁶⁰	Is the/will the Proposed Development or the site surrounds be exposed to the major accident or disaster?	Is the Proposed Development or the site surrounds resilient to the major accident or disaster?	Considered in EIA Scoping?	Does the Proposed Development have the potential to create a major accident or disaster?	Considered in EIA Scoping?
	Reason	Reason	Y/N	Reason	Y/N
	sewerage services and the proposed development will require the same connections to remain, therefore the site remains vulnerable to any failures to local utility and sewerage failures.	consultation with service suppliers to ensure that they meet the proposed development requirements and identify the need for any further contingency and protection measures. Utility failure (such as electricity, gas, water supply or sewerage) will be avoided through appropriate design and sufficient consultation with utility providers, ensuring that necessary repairs can be undertaken, and continuation of supply ensured.		is not anticipated that it would cause any utility failures and associated major accidents or disasters.	
Fire Risks	Yes Fire constitutes a significant threat to life and infrastructure in all urban areas.	Yes The site operates under all required Fire Safety and HSE requirements ⁶² . Urban fires will be mitigated through appropriate design of any buildings in accordance with Building Regulations and relevant safety guidance, in addition to the	N	No The proposed development would not introduce an additional fire risk and therefore existing fire safety protocols are considered sufficient to manage the risks of a major accident	N

⁶² HSE. Fire Safety. Available online at: <https://www.hse.gov.uk/toolbox/fire.htm> [Accessed 28/10/2022]

Major Accident or Disaster ⁶⁰	Is the/will the Proposed Development or the site surrounds be exposed to the major accident or disaster?	Is the Proposed Development or the site surrounds resilient to the major accident or disaster?	Considered in EIA Scoping?	Does the Proposed Development have the potential to create a major accident or disaster?	Considered in EIA Scoping?
	Reason	Reason	Y/N	Reason	Y/N
		established 999 emergency response procedures. These measures will remain in place for the proposed development and are considered to provide resilience to the threat of fire.		and disaster associated with fires.	
Famine and Food Insecurity	No There are currently no risks of famine and food insecurity of a major accident and disaster scale in Slough, or the UK.	Not applicable	N	No Given the nature of the proposed development, it is not anticipated that it would cause any accidents or disasters associated with famine and food insecurity.	N
Terrorist Incidents	Yes Given the nature of the development, there is an increased risk for terrorist incidents.	The site will be designed to strict security and safety requirements.	N	No The site will be designed to strict security and safety requirements.	N
Displaced Populations	No	Not applicable	N	No	N

Major Accident or Disaster ⁶⁰	Is the/will the Proposed Development or the site surrounds be exposed to the major accident or disaster?	Is the Proposed Development or the site surrounds resilient to the major accident or disaster?	Considered in EIA Scoping?	Does the Proposed Development have the potential to create a major accident or disaster?	Considered in EIA Scoping?
	Reason	Reason	Y/N	Reason	Y/N
	There are currently no risks of displaced populations of a major accident and disaster scale in Slough, or the UK.			Given the nature of the proposed development, it is not anticipated that it would cause any accidents / disasters associated with displaced populations.	

APPENDIX 5

PROPOSED STRUCTURE OF ES

Table A10-1: Proposed Structure of ES	
Section	Content Summary
Non-Technical Summary (NTS)	A summary of the information provided in the ES.
Chapter 1 Introduction	The purpose and layout of the ES, the planning context, and the relevant experience and or qualifications of the experts who have prepared the ES. A description of the site location and its surroundings.
Chapter 2 Process and Methodology	The legislative framework, provides details of scoping outcomes, outlines the assessment methodology, and details of the cumulative schemes that will be considered;
Chapter 3 Alternatives	Provides a description of the reasonable alternatives studied by the applicant as relevant to the proposed development (e.g., implementing the consented development), and the reasons for the selection of the chosen option, including a comparison of the environmental effects along with the reasons for the selection of the preferred option. Where applicable it will detail the evolution of the proposed development.
Chapter 4 Project Description	A description of the proposed development containing information on the physical characteristics and land use requirements of the proposed development during the demolition and construction works and the completed development and the main characteristics of the operational stage of the proposed development including energy demand, nature and quantity of the materials and natural resources used (water, land, soil and biodiversity). Includes information on demolition and construction phase, along with construction management controls that will be in place.
Topic Chapters	Separate Chapters will be provided for each of the scoped in topics. To include: relevant aspects of the baseline and an outline of the likely evolution thereof without the implementation of the proposed development; factors of the environment likely to be significantly affected by the proposed development; the likely significant effects of the proposed development; mitigation; and residual effects.
Cumulative Effects	The following types of cumulative effects will be considered: Intra-Project effects of different types of impact from the proposed development on particular receptors at or surrounding the site. Potential impact interactions include the combined effects of noise, dust and visual impacts during construction of the proposed development on a particular sensitive receptor.

Residual Effects	A summary of any significant residual effects, subsequent to implementation of mitigation.