Environmental Statement Addendum

Aylesbury Estate First Development Site (FDS)

On behalf of Notting Hill Genesis

March 2022

Contents

Appendices (Volume 2)

Heritage Townscape and Visual Impact Assessment (Volume 3)

1. Introduction

1.1. Background and Context

1.1.1. This Environmental Statement Addendum (ESA) has been prepared on behalf of Notting Hill Genesis ('the Applicant') to accompany a Minor Material Amendment (MMA) Section 73 (S73) planning application for the Project known as the First Development Site (FDS).

1.1.2. The FDS is a predominantly residential scheme located within the first phase of the regeneration of the Aylesbury Estate, located within the London Borough of Southwark (LBS). Full planning permission for the FDS was approved in 2015 (ref.14/AP/3843), the application was subject to an Environmental Impact Assessment (EIA) and an Environmental Statement (ES) accompanied the planning application.

1.1.3. Subsequently, a MMA (via a S73 application (ref. 17/AP/3885) was subsequently submitted to amend the planning permission and was approved on 14th February 2019. This permission, also referred to within this report as the extant permission, approved an increase of 12 additional homes and revisions to the unit and tenure mix along with some internal reconfigurations and elevations changes.

1.1.4. The approved development comprises six subplots (S01, S02, S03, S04, S05, and S06). The FDS site has been split into three phases or 'contracts' for construction purposes known as FDS A, FDS B, and FDS C.

1.1.5. The Applicant is submitting a further MMA (via S73) to LBS for further amendments (the "Proposed Amendments"), to the extant permission which have been the subject of pre-application consultation with LBS. The Proposed Amendments specifically seeks to amend Package C (sub-plots S03 and S04). In general terms the further amendments are in relation to an increase in massing and unit numbers. Further details of the Proposed Amendments are set out in Chapter 4 of this ESA.

1.1.6. For clarity the following terminology will be used throughout this report, see Table 1.1 below.

Table 1.1: ESA Terminology

Terminology	Reference
The Applicant	Notting Hill Genesis
ESA	This Report
FDS	Extant and implemented S73 permission (ref: 17/AP/3885)
2014 ES	Original 2014 Environmental Statement (ref: 14/AP/3843)
2015 ESA	2015 Environmental Statement Addendum (ref: 14/AP/3843)
Proposed Amendments	This MMA application (relating to subplots 03 and 04)
Project Site	FDS site

1.1.7. The ESA should be read in conjunction with the 2014 ES and the 2015 ESA.

1.2. Context and Planning History

1.2.1. The FDS site covers a total area of approximately 4.4 hectares (ha) and is located within the administrative boundary of LBS. The location of the FDS is shown on Figure 1.1 below.

Figure 1.1: Aerial Site Location Plan of the FDS

Original FDS Planning Permission

1.2.2. The original FDS application (ref. 14/AP/3843) was granted planning permission on 5th August 2015 for the following:

"Demolition of existing buildings and redevelopment to provide a mixed use development comprising a number of buildings ranging between 2 to 20 storeys in height (9.45m - 72.2m AOD), providing 830 residential dwellings (Class C3); flexible community use, early years facility (Class D1) or gym (Class D2); public and private open space; formation of new accesses and alterations to existing accesses; energy centre; gas pressure reduction station; associated car and cycle parking and associated works."

1.2.3. The FDS application (ref. 14/AP/3843) was accompanied by the 2014 ES and subsequently submitted 2015 ES Addendum. The 2015 ES Addendum addressed comments raised during

the consultation period and an increase of the residential units (from 815 to 830). It also sought to address minor changes in the mix, internal layout and massing.

1.2.4. The 2019 S73 application (ref. 17/AP/3885) (extant permission) was granted planning permission on 14th February 2019 for the following:

Minor material amendments to planning permission 14/AP/3843 for Demolition of existing buildings and redevelopment to provide a mixed use development comprising a number of buildings ranging between 2 to 20 storeys in height (9.45m - 72.2m AOD), providing 830 residential dwellings (Class C3); flexible community use, early years facility (Class D1) or gym (Class D2); public and private open space; formation of new accesses and alterations to existing accesses; energy centre; gas pressure reduction station; associated car and cycle parking and associated works. The proposed amendments include:

Provision of an additional 12 units (including three townhouses in place of the Gas Pressure Reduction Station); Revisions to unit and tenure mix; Internal reconfiguration and elevational alterations; Minor alterations to landscape layouts, amenity space and roof space."

1.2.5. The 2019 S73 application (ref.17/AP/3885) was accompanied by a 'Supporting Statement', which set out that no further amendments to the 2014 ES (and subsequent 2015 Addendum) was required.

1.2.6. At the time of writing, the existing buildings on the FDS Site have been entirely demolished under the extant consent. FDS A is under construction and nearing completion. Construction on FDS B commenced in November 2021, and FDS C will be the final phase.

Planning Conditions

1.2.7. A number of planning conditions have been part of fully discharged in relation to the 2019 S73 application (ref. 17/AP/3883). At the time of writing these are include Conditions 3, 4, 5, 6, 7, 8, 9, 10, 11,12, 13, 14, 16, 17, 19, 20, 21, 22, 23, 24, 25, 27, 28, 32, 33, and 34.

1.3. FDS and the Outline Masterplan

1.3.1. The key relevant planning permissions for the FDS and wider estate are set out in further detail below.

<u>Original 2015 FDS permission (14/AP/3843)</u>

1.3.2. Planning permission for the FDS was first granted through a detailed planning application (ref: 14/AP/3843), submitted simultaneously with an outline planning application (ref: 14/AP/3844) for the rest of the estate. Both applications were approved on the 5th of August 2015.

1.3.3. The description of development for the detailed FDS application (ref: 14/AP/3843) was:

"Demolition of existing buildings and redevelopment to provide a mixed use development comprising a number of buildings ranging between 2 to 20 storeys in height (9.45m - 72.2m

AOD), providing 830 residential dwellings (Class C3); flexible community use, early years facility (Class D1) or gym (Class D2); public and private open space; formation of new accesses and alterations to existing accesses; energy centre; gas pressure reduction station; associated car and cycle parking and associated works."

1.3.4. The original FDS permission site plan is shown in Figure 1.2 below.

Figure 1.2: Approved FDS Site Plan (ref: 14/AP/3843)

Outline 2015 Permission (14/AP/3844)

1.3.5. As aforementioned, the original FDS application was submitted simultaneously with an outline planning application (ref: 14/AP/3844) for the rest of the estate which was also granted on the 5th August 2015. The outline application area is shown on Figure 1.3 below.

Figure 1.3: Site Boundary of the Outline Application (ref: 14/AP/3844)

1.3.6. The description of the permitted outline permission is as follows:

"Demolition of existing buildings and phased redevelopment to provide a mixed use development comprising a number of buildings ranging between 2 to 20 storeys in height (12.45m - 68.85m AOD) with capacity for up to 2,745 residential units (Class C3), up to 2,500sqm of employment use (Class B1); up to 500sqm of retail space (Class A1); 3,100 to 4,750sqm of community use; medical centre and early years facility (Class D1); in addition to up to 3,000sqm flexible retail use (Class A1/A3/A4) or workspace use (Class B1); new landscaping; parks, public realm; energy centre; gas pressure reduction station; up to 1,098 car parking spaces; cycle parking; landscaping and associated works."

FDS S.73 2019 Amendment (Ref: 17/AP/3885)

1.3.7. The original FDS permission was subsequently amended by a S.73 application (ref: 17/AP/3885) which was approved on the 14th of February 2019. This FDS S.73 application was submitted simultaneously to a linked S.73 (ref: 17/AP/3846) application for the Plot 18 site. The description of development for the FDS S.73 application (ref: 17/AP/3885) was:

> *"Minor material amendments to planning permission 14/AP/3843 for Demolition of existing buildings and redevelopment to provide a mixed use development comprising*

a number of buildings ranging between 2 to 20 storeys in height (9.45m - 72.2m AOD), providing 830 residential dwellings (Class C3); flexible community use, early years facility (Class D1) or gym (Class D2); public and private open space; formation of new accesses and alterations to existing accesses; energy centre; gas pressure reduction station; associated car and cycle parking and associated works. The proposed amendments include:

Provision of an additional 12 units (including three townhouses in place of the Gas Pressure Reduction Station); Revisions to unit and tenure mix; Internal reconfiguration and elevational alterations; Minor alterations to landscape layouts, amenity space and roof space."

1.3.8. As noted above, the S.73 2019 Amendment was linked to a S73 for the Plot 18 site. The primary purpose of this amendment was to deliver more affordable homes on the FDS to assist with rehousing tenants from other parts of the Aylesbury Estate. This was because the FDS development were expected to be delivered first. As such, the amendment resulted in a larger proportion of affordable homes in the FDS site and a larger proportion of market units on the Plot 18 site.

1.3.9. The amendment to the FDS permission also included an additional 12 residential units, increasing the overall total proposed units from 815 to 842 across the FDS. There were also further revisions to the unit mix, elevational alterations, and changes to landscape layouts and amenity space.

1.3.10. The FDS is split into six separate plots, referred to as subplots, which are numbered from 1 to 6 These are labelled on Figure 1.4 below.

Figure 1.4: Approved plan showing the 'sub-plots' of the FDS (ref: 17/AP/3885)

Description of the Extant FDS S73 2019 permission

1.3.11. The extant FDS permission is for 842 residential units (283 private, 211 intermediate, and 348 social rent) in a mixture of buildings ranging from houses to apartment blocks up to 20 storeys in height. The permission also includes a 263 sqm community centre.

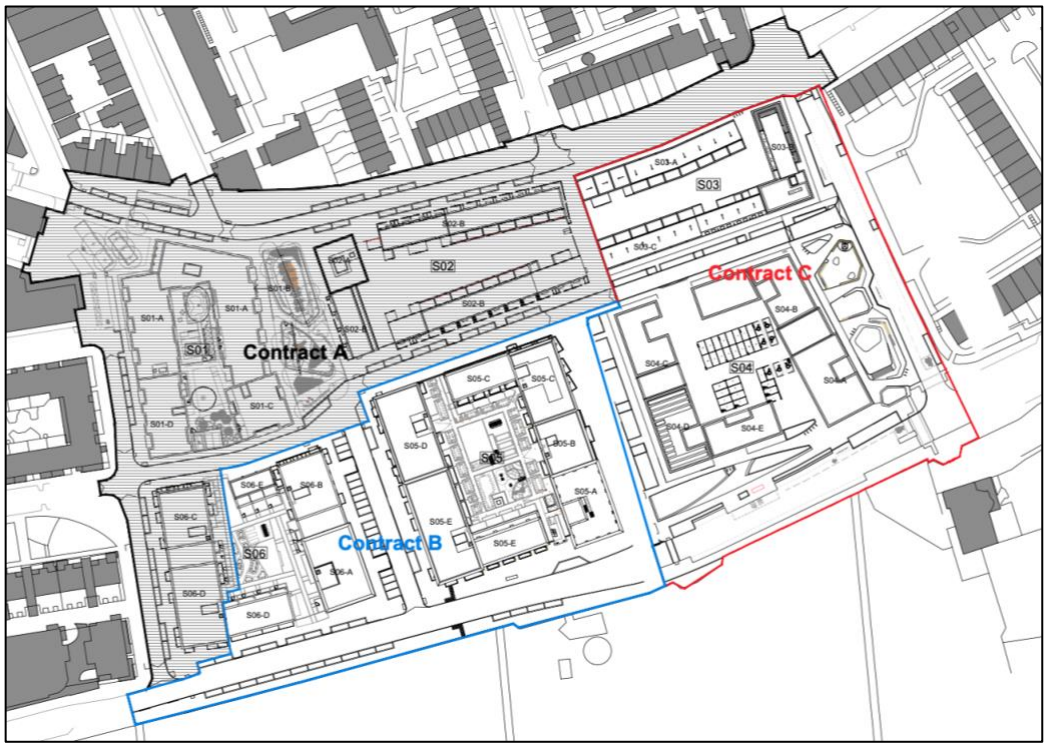
1.3.12. As noted above, the FDS is formed of 6 separate subplots. The FDS has been split into three phases or 'contracts' for construction purposes, which are known as FDS A, FDS B, and FDS C (see Figure 1.5 below).

- **FDS A**: comprises Subplot S01, S02 and part of S06.
- **FDS B**: comprises Subplot S05 and part of S06.
- **FDS C**: comprises Subplot S03 and S04.

1.3.13. The permission has been implemented and FDS A and B are under construction. At the time of writing, the construction periods for FDS are:

- FDS A: Started on site March 2019, anticipated completion September 2022.
- FDS B: Started on site November 2021, anticipated completion September 2025.
- FDS C: Anticipated start on site March 2023, completion January 2026 (subject to planning).

Figure 1.5: FDS Contract Phasing Plan (For Construction Purposes)



1.3.14. The Proposed Amendments concern FDS C which comprises subplots 03 and 04.

Figure 1.6: Approved ground floor plan of Block 3, showing arrangement of houses

1.3.15. The two subplots, as approved, are contrasting in terms of height, bulk, massing, unit types and unit numbers. Sub plot 3 is located to the north and fronts onto Westmoreland Street. The approved layout is characterised primarily by two rows of three storey houses, with a larger 5-storey block at the eastern end comprising 13 flats (Figure 1.6 above).

Figure 1.7: Approved first floor plan of subplot 4 and street elevation from Albany Road

1.3.16. The approved scheme on sub-plot 4 is a larger, taller, and denser development, located to the south and fronting onto Albany Road which extends along the northern boundary of Burgess Park. The block is characterised by maisonettes at street level surrounding an internal undercover car park at ground level. Above the car park is a podium providing sharing amenity space in a courtyard arrangement, surrounded by accommodation blocks rising up to between

four and eight storeys (above podium level). The approved development includes a 20-storey tower located on the south-east corner of the plot, which is the tallest element of the approved FDS scheme.

1.4. Other Relevant Planning History

Site 1A (ref: 07/CO/0046)

1.4.1. Planning permission was granted in June 2007 (ref: 07/CO/0046) for an outline application on Site 1A (adjacent to the FDS site) for the demolition of existing buildings and erection of a series of buildings ranging in height from 1 to 10 storeys, comprising around 260 dwellings, 404 sqm of retail floorspace, a new day centre, and provision of public open space and public realm improvement work.

Figure 1.8: Aerial photograph showing the location of Site 1A (orange) adjacent to the FDS (red)

1.4.2. The FDS was redeveloped as an early phase by L&Q and has now been completed and occupied. The completed development is shown on the aerial photograph above.

Plot 18 (16/AP/2800)

1.4.3. The first (and only) phase of the outline permission (Ref: 14/AP/3844) to have commenced to date is Plot 18. A reserved matters application was granted in December 2021 (ref: 16/AP/2800) for 122 residential units (C3), retail (A1/A3/A4) and a community facility (library D1) in a part 15, part 7 and part 4/6 storey building (known as the North Block); a health centre (D1) and early years facility (D1) in a 4 storey (plus basement) building (known as the South Block);

public realm; landscaping; cycle parking and car parking. Several non-material amendments have since been permitted and works have now commenced.

1.4.4. This permission was subsequently amended by a S.73 application (ref: 17/AP/3846) which was linked to the amendment to the FDS. Both applications were approved on the 14th February 2019.

1.5. Proposed Amendments

1.5.1. The Proposed Amendments relate to subplots 03 and 04 only. The key amendments sought are as follows

- A total additional 60 residential homes (from 842 to 902);
- Provision of an additional 18 shared ownership homes and 9 social rent homes;
- Proportional increase to both shared ownership and social rent provision when measured by habitable rooms;
- Increase in the number of storeys (subplot 03 by 1 storey and subplot 04 but 3 storeys).
- Reduction in both the number and proportion of single bedroom units and the delivery of a greater number of larger family-sized units;
- Increase in the provision of cycle parking to meet the requirements of the new London Plan standards for plots 03 and 04;
- Introduction of Air Source Heat Pumps, and
- Minor alterations to landscaping.

1.5.2. Given the nature of the Proposed Amendments (i.e. an increase in the massing and unit numbers) and the time elapsed since the original 2014 ES (and subsequent 2015 amendment), it is considered that the changes should be further assessed under EIA where appropriate and a further amendment to the ES submitted with the new S73 planning application.

1.6. Purpose and Structure of the ESA

1.6.1. EIA is a process through which the likely significant environmental effects of a Project can be identified and where possible, adverse effects avoided or mitigates. This process is then reported in the resulting ES or ESA which will be submitted as part of the planning application documentation.

1.6.2. The overall aim of the EIA is to provide an objective and systematic account of the significant environmental impacts of the Project, assessing the ability of the Project Site and the surrounding area to accept those impacts.

1.6.3. The findings of the EIA are set out in a structured manner to allow for easier navigation:

- Non Technical Summary (NTS)
- Volume 1: (this Volume) Main Report;

- Volume 2: Appendices, and
- Volume 3: Heritage Townscape Visual Impact Assessment.

1.6.4. In this volume, the ESA is split into three parts:

1.6.5. Chapters 1 – 4 sets out the assessment requirements, the location and existing uses on and surrounding the FDS, sets out alternatives that have been considered when formulating the MMA, and the Proposed Amendments description.

1.6.6. Chapters 5 –8 considers the potential effects of the Proposed Amendments.

1.7. Technical Team

1.7.1. The specialist consultant team appointed to undertake the assessments for the EIA are set out in Table 1.2 below:

Table 1.2: Technical Team

Company	Technical Topic
WSP	Air Quality
Thompson	Ecology
HTA	Daylight, Sunlight and Overshadowing
WSP	Drainage and Flood Risk
WSP	Ground Conditions
RWDI	Microclimate
WSP	Noise and Vibration
WSP	Socio Economics
RPS	Transportation
Montagu Evans	Heritage, Townscape and Visual

1.7.2. In addition to this ESA and its technical appendices, the following key documents have been submitted in support of the new S73 planning application. Where appropriate some of these will inform the ES:

- Arboricultural Impact Assessment;
- Biodiversity Net Gain Assessment;
- Circular Economy Assessment;
- Construction and Environmental Management Plan;
- Design and Access Statement;
- Delivery and Servicing Plan;
- Energy Statement including Overheating Assessment;
- Outline Construction Logistics Plan;
- Planning Statement;
- Planning Drawings;
- Statement of Community Involvement;
- Sustainability Statement;
- Transport Statement;
- Financial Viability Report;
- Fire Statement; and

- Whole Life Carbon Assessment.

2. EIA

2.1. What is an Environmental Impact Assessment?

Legal Background

2.1.1. The Town and Country Planning (Environmental Impact Assessment Regulations 2017 requires that for certain planning application Environmental Impact Assessment (EIA) is undertaken and an Environmental Statement (ES) is produced and submitted with the planning application.

2.1.2. EIA is a procedure which assesses the environmental impacts of a Project and provides the information within an ES or ESA which serves to inform the decision-making process. EIA is a systematic and objective process through which the likely significant environmental effects of a project can be identified, assessed and, wherever possible, mitigated. The process and its outcomes are then reported in the ES or ESA to the local planning authority and its advisors, and the public. The NTS is provided to allow a wider public understanding of the environmental effects of the Project.

2.1.3. EIA follows an iterative process that usually involves the following stages:

- Screening is the first stage of the EIA process where the relevant authority (local planning authority of the Secretary of State) decide if EIA is required.
- Once it has been agreed that EIA is required for the Project, scoping is undertaken to define what should be assessed. This is done in partnership between the applicant, the local planning authority and stator consultees (including the Environment Agency, Natural England and Historic England).
- With the scope of the EIA set, relevant information on the environmental baseline conditions is collected. This information is then used initially to understand the dynamics of the likely environmental effects an inform the design of the Project to avoid and/or minimise potentially significant adverse environmental effects. It is also at this stage that areas of potential environmental enhancement are identified.
- Any significant adverse effects that are identified during the formal assessment stage are then reviewed against the design to consider whether alterations could be made to avoid or reduce the effect. Should the design be altered, the stage is repeated.
- Where significant adverse effects cannot be avoided or reduced through alterations to the design itself, mitigation measures are considered. Monitoring may also be considered to measure the actual significance of the effect during and postconstruction and allow management of mitigation where appropriate.

2.1.4. Once the EIA is completed, the ES or ESA is submitted to the local planning authority for consideration with the planning application(s).

2.2. The Scope of the EIA

2.2.1. The ES or ESA must contain the information specified in Regulation 18(3) and any additional information specified in Schedule 4 of the 2017 Regulation which is relevant to the specific characteristics of the Project and to the environmental effects likely to be significantly affects.

2.2.2. Regulation 4(2) states:

"the EIA must identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on the following factors:

(a) population and human health;

(b) biodiversity

(c) land, soil, water, air and climate;

(d) material assets, cultural heritage and the landscape;

(e) the interaction between the factors referred to un sub-paragraphs a) to d)".

Scope of the EIA

2.2.3. The principle of Scoping is to determine the likely significant effects associated with the Project and the scope of the technical assessments that should be included as part of the EIA.

2.2.4. In this case, an EIA Scoping exercise has not been undertaken. It is considered that the Scope of the ESA has been informed by the 2014 ES and the nature of the Proposed Amendments. Therefore, the key issues that will inform the Scope for the ESA are considered to be as follows:

- **Baseline conditions** – whether there has been any significant changes in the baseline conditions;
- **Significance of changes** – is reassessment required for all technical topics;
- Guidance, legislation and policy – has there been any significant changes of relevance to the assessment;
- **New identifiable effects** – if the Proposed Amendment gives rise to effects that were not previously identified of identifiable;
- **Mitigation** – is the existing mitigation appropriate or if additional mitigation has been identified;
- **Further information** – is there any further relevant environmental information now available;
- **Conclusions** – if the conclusions of the 2014 ES and subsequent addendum are still valid,
- **Non Technical Summary –** if the NTS need to be updated.

2.3. Topics to be 'Scoped Out' of further assessment within the ESA

Air Quality

2.3.1. Since the 2014 ES, the local air quality monitoring undertaken by LBS shows a general decline in annual mean NO2 concentrations across the borough. It is acknowledged that the lower concentrations shown in 2020 and 2021 will have been influenced by the COVID-19 restrictions in place at the time. Evidence of downward trends of PM10 concentration are less clear. PM2.5 was not monitored within the borough before 2020. However, improvements in the air quality have largely occurred because of less polluting and zero emissions technologies within the road vehicles fleet, which have been influenced by national Government, the GLA and local borough policies and actions. The extension of the Ultra Low Emissions Zone (ULEZ), introduced on 25th October 2021, out from central London to the North and South Circular roads is expected to drive down vehicle emissions further and bring about noticeable improvements in the local air quality.

2.3.2. It is therefore considered that the 2014 ES assessment of air quality reflects the worst case baseline conditions.

2.3.3. The only relevant change of legislation since the 2014 ES is the introduction of the 20ug/m3objective from the annual mean PM2.5, under the Environmental (Miscellaneous Amendments) (EU Exit) Regulations 2020.

2.3.4. Whilst national planning policy has evolved, the current NPPF (2021) has not changed in a way that affects the conclusion of the 2014 ES.

2.3.5. The London Plan (2021) Policy SI 1 requirements are for all new developments to be at least air quality neutral, and that major new development subject to an EIA should have an Air Quality Positive Statement. However, given that the FDS has an implemented extant permission, it is considered that an Air Quality Positive Statement is not required for the Proposed Amendments.

2.3.6. It should, however, be noted that the Proposed Amendments include the provision of Air Source Heat Pumps to meet the heating and cooling requirements of subplots 03 and 04 only. The remainder of the FDS will be served by the Combined Heat and Power energy centre, as per the extant permission. As such it is considered that this will lead to a reduction in the overall FDS NO2 emissions from that which was previously assessed within the 2014 ES.

2.3.7. Further detail in relation to the relevant changes in guidance, policy and legislation are set out within an Air Quality Technical Note at Appendix 2.1.

2.3.8. The Proposed Amendments are not considered to alter the risks associated with dust and PM10 impacts as set out within the 2014 ES. However, it is noted that in the intervening time, all previously existing buildings on the Site have been demolished and construction of the FDS is substantially underway. Notwithstanding the above, the findings of the 2014 ES and mitigation requirements in the form of a CEMP remain valid.

2.3.9. The 2014 ES assumed 2020 as the opening year for the FDS. The air quality impacts determined in the 2014 ES were based on:

- Vehicle emissions factors for 2015 (Defra Emissions Factors Toolkit version 6.0.1) which reflect an older vehicle fleet which substantially greater emissions of NOx and particulates than in 2020 or future years.
- The Site not being within the ULEZ, which has been in operation since October 2021.

2.3.10. The Proposed Amendments are estimated to generate an additional 49 (total) vehicle trips per day (expressed as annual average daily traffic (AADT) distributed over the local road network. It is considered that this net increase in traffic is not significant and will not change the findings of the 2014 ES.

2.3.11. Furthermore, the Proposed Amendments incorporate ASHP technology for subplots 03 and 04 which is considered to result in lower NOx emissions across the FDS as a whole. As such the Proposed Amendments are not considered to materially alter the findings of the 2014 ES and no additional mitigation measures have been identified.

2.3.12. An update of the Air Quality Neutral is presented within the Air Quality Technical Note held at Appendix 2.1. This demonstrates that the FDS as a whole, including the Proposed Amendments, will achieve air quality neural.

2.3.13. Based on the above and the detailed information set out at Appendix 2.1, no further air quality assessment is considered necessary.

Archaeology

2.3.14. No significant effects on buried heritage (archaeology) are anticipated since the original Archaeological Desk Based Assessment[1] produced in 2014 concluded that there was very low potential for archaeological remains pre-dating the post-medieval period.

2.3.15. The 2014 ES held that there is a moderate to high potential for currently unknown archaeological remains of Post-medieval and modern periods to exist. And that such buried remains are likely to be associated with the 19th or 20th century residential and institutional development prior to the development of the Aylesbury Estate. Whilst the 2014 ES goes on to state that the value of such surviving buried archaeological remains (Post-medieval to modern) is considered to be low that the resulting impact, prior to mitigation, would be minor negative.

2.3.16. The 2014 ES recommended a targeted further archaeological works to mitigate the effects on the potential buried/surface archaeological remains within the FDS. These would comprise, within areas of existing recreational open space and landscaping, an intermittent archaeological watching brief of non-archaeological demolition clearance works and development groundworks. All archaeological investigations will be completed in accordance with current Institute for Archaeologists guidance for field practice, as well as being formally agreed through a Written Scheme of Investigation (WSI). However, this mitigation was not secured via a planning condition and works have commenced on Site.

[1] Ref 6.1: WSP (2014) Archaeological Desk-Based Assessment, Aylesbury Estate, Southwark, London

2.3.17. The FDS does not contain any nationally designated (protected) heritage assets, such as scheduled monuments, listed buildings or registered parks and gardens, nor are there any near of the FDS. Similarly, there are no conservation areas on or near the FDS.

2.3.18. The FDS does not lie within an Archaeological Priority Zone (APZ) as defined by the London Borough of Southwark, the closest being the Old Kent Road APZ, along the line of the former major Roman road known as Watling Street which lies 250m north-east of the FDS. However, the projected line of another former Roman road, running from north-west to south-east, lies 80m north-east of the FDS according to 'Southwark Maps'[2], which is considered to be of a sufficient distance from the FDS so as to not give rise to significant impacts.

2.3.19. The Proposed Amendments do not alter the findings of the 2014 ES and no further assessment under EIA is considered to be appropriate.

Ecology

2.3.20. Changes to the baseline conditions have changed since the 2014 ES. All previous buildings have been demolished and vegetation cleared on FDS, and, at the time of writing, substantial construction works are ongoing in relation to the extant permission.

2.3.21. There have been no changes to the surrounding area or protected sites such that the Proposed Amendments would affect local biodiversity. The recommendations set out within the 2014 ES, relating to avoidance and mitigation have been adhered to throughout the demolition and construction to date.

2.3.22. Furthermore, it is anticipated that a planning condition will be applied to secure an Ecological and Landscape Management Plan for subplots 03 and 04. Condition 6 of the original planning permission (ref. 14/AP/3843) has been part discharged in relation to subplots 02, 02 and 06.

2.3.23. It is therefore considered that the conclusions of the 2014 ES remain valid and no further assessment within EIA is required. This is detailed further within updated Ecological Information contacted at Appendix 2.1.

Electronic Interference

2.3.24. In the 2014 ES, the Telecommunications chapter concluded there was 'minor negative significance' to existing dwellings from the OPP it concluded that:

"The sensitivity of reception for residents to the north west is low and the magnitude of change, prior to any required mitigation, is medium. Therefore, there is likely to be a direct, long-term effect on reception of minor negative significance prior to the implementation of mitigation measures."

[2] Ref 6.2: https://geo.southwark.gov.uk

2.3.25. The layout of the Proposed Amendments is broadly in line with the layout that was assessed as part of the 2014 ES. However, it is acknowledged that the massing will see an increase subplots 03 and 04.

2.3.26. The Crystal Palace transmitter is a considerable distance south of the FDS and to the east is the Shooters Hill transmitter and to the north are the BT Tower and Alexandra Palace transmitters. Therefore, any additional transmission shadow caused by the increase in massing is unlikely to cause significant reductions in signal due to a) signal reflections from any of the transmitters and b) the affected properties being a significant distance from the FDS.

2.3.27. Furthermore, analogue television broadcasting has now been phased out and replaced by digital television, which is largely unaffected by atmospheric conditions that rendered analogue television unwatchable and does not suffer reflection effects and ghosted image generation.

2.3.28. Without mitigation there is potential for effects on satellite (TV and radio). The introduction of new buildings may affect users of satellite TV services by blocking the signal between the receiving dish antenna and the satellite from which services are transmitted. The main potential for satellite effects associated with the Proposed Amendments relate to shadowing / signal blocking caused by the physical size of a building.

2.3.29. It is considered that little can be done to 'design out' the effects on broadcast satellite caused by the Proposed Amendments and that most of the mitigation measures would remain the responsibility of the end users, and could include one of, or a combination of, the following:

- Realigning satellite dishes;
- Upgrading end-user equipment;
- Relocating end-user satellite dishes on building façades or rooftops to maintain a direct line of sight,
- Switching end users' systems to subscription cable or ADSL services.

2.3.30. As such it is anticipated that the findings of the 2014 ES are to be applicable to the current Proposed Amendments with the same mitigation measures for any dwellings affected and that no further assessment through EIA is required.

Ground Conditions

2.3.31. The potential effects on Ground Conditions were considered within the 2014 ES, namely:

- Exposure to contamination and geotechnical hazards on construction workers;
- Contamination of potable water supply;
- Third party occupants and properties;
- Groundwater in the aquifers;
- Construction plant/processers to Controlled Waters,

- Exposure to contamination and geotechnical hazards for future occupiers.

2.3.32. All residual effects were assessed as being negligible to minor negative following the implementation of mitigation measures. Furthermore, a series of planning conditions were imposed to the extant permission including, which secured mitigation:

- Condition 04 Site Contamination;
- Condition 07 Groundwater Contamination,
- Condition 08 Further Contamination.

2.3.33. The above conditions have been discharged relating to the whole of the FDS (see Ground Conditions Technical Note at Appendix 2.3 for further detail).

2.3.34. The changes to the baseline conditions, notably the demolition of the previous buildings, are not considered to change the findings of the 2014 ES.

2.3.35. Whilst there have been no changes to the legislative framework, it is acknowledged that there has been changes to the national, regional and local planning policy. However, these changes are not considered to materially alter the findings of the 2014 ES, as further detailed at Appendix 2.3.

2.3.36. The Proposed Amendments are not considered to be of sufficient scale to require further assessment under EIA for ground conditions.

Noise and Vibration

2.3.37. The 2014 ES and subsequent addendum (2015) reported the findings of an assessment relating to potential noise and vibration effects on human receptors within and surrounding the Site, specifically in relation to:

- Noise and vibration from demolition and construction;
- As a result of changes in road traffic,
- Noise from building service plant.

2.3.38. The assessment concluded that with respect to demolition and construction, following appropriate mitigation, noise effects of minor to moderative negative, with some occurrences of major negative significance at the closest nearby sensitive receptors.

2.3.39. With respect to demolition and construction vibration, residual effects of mostly minor negative significance were anticipated when works are at their closest to nearby vibration sensitive receptors.

2.3.40. The increase in road traffic noise arising during demolition and construction works is expected to result in an effect of negligible significance along all roads.

2.3.41. During operation it was considered that there would be no change in road traffic noise as result of the FDS and no mitigation measures were considered necessary. Fixed plant noise emissions were set and residual effects considered to be negligible.

2.3.42. A site suitability assessment demonstrated that with appropriate mitigation measure, such as glazing, appropriate daytime and night-time noise levels could be achieved.

2.3.43. The Proposed Amendments are not considered to be of nature or scale that would significantly change the findings of the 2014 ES (or subsequent 2015 amendment).

2.3.44. Whilst the baseline noise conditions were originally assessed in June 2014 it is noted that the site suitability assessment was based on the results of a 3D noise model which accounted for future traffic patterns, including traffic associated with committed developments (including the outline masterplan). As such it is considered that the baseline noise environmental as previously assessed captures the current site conditions (see Noise Technical Note at Appendix 2.4).

2.3.45. Furthermore, the total number of additional vehicle trips as generated by the Proposed Amendments will not result in a significant change to the results of the 2014 ES (and subsequent amendment).

2.3.46. It is acknowledged the have been changes to the national, regional and local planning policy, and guidance, which are set out in the Noise Technical Note (see Appendix 2.4). However, it is concluded that these changes would not materially alter the approach to the assessment, or change the mitigation and conclusions of the 2014 ES.

2.3.47. It is anticipated that appropriate planning conditions would be applied by LBS to any new permission for any external fixed plant items associated with the development as well as a detailed scheme of sound insulation for the external façade, with a view to ensuring that the target internal noise levels for habitable rooms are achieved.

2.3.48. Consequently, based on the above, it is considered that the conclusions drawn in the 2014 ES remain valid.

Transportation

2.3.49. A Transport Statement (TS) has been prepared in support of the planning application for the Proposed Amendments. In addition to assessing the net increase of 60 homes on subplots 03 and 04, the TS also takes into account the 12 additional homes (over the over the original permission) that were not previously analysed.

2.3.50. The extant permission allowed for a maximum residential parking provision of 287 parking spaces and equated a ratio of 1 space per 0.35 units. The Proposed Amendments will see a reduction in the parking provision to a total of 271 spaces to serve the whole of the FDS. The reduction will occur on subplots 03 and 04, resulting in a total of 62 spaces (at 3% blue badge allocation).

2.3.51. The Proposed Amendments include an increase in the cycle parking provision on subplots 03 and 04 to in line with LBS and London Plan policy.

2.3.52. The TS (see Appendix 2.5) summarises the relevant national, regional and local transport planning policy. The Proposed Amendments are considered to accord with the relevant land use and transport policy.

2.3.53. The same trip generation that was originally assessed within the 2014 Transport Assessment has also been used to determine the net impact of the additional 72 homes (12 as approved under the extant permission (ref. 17/AP/3885) and 60 homes as per the Proposed Amendments). This is based on the overall number of bedrooms.

2.3.54. The Proposed Amendments are predicted to result in a net increase of 36 total person trips in the morning peak and 23 total person trips in the evening peak based on the application of the consented total person trip rates.

2.3.55. Using the trip rates data from the site, delivery and servicing trips have been established for the proposed net increase of 72 residential units.

2.3.56. The Proposed Amendments are expected to generate an additional 7 daily arrivals and departures by delivery and servicing vehicles. These additional trips will be spread throughout the day and the arrival and departure profile will not increase the accumulation of vehicles at the site. Therefore, there is no requirement for any additional delivery or servicing bays above the original planning permission (ref. 14/AP/3843).

2.3.57. The Proposed Amendments (including the 12 units as permitted by the extant permission (ref. 17/AP/3885) are expected to generate an additional 20 and 13 total walking and cycle trips in the morning and evening peak hour. The pedestrian and cycling infrastructure currently in place and proposed as part of the FDS are considered appropriate to accommodate the forecast number of movements on foot and cycle.

2.3.58. A total of 7 additional passengers during the morning peak and 5 passengers in the evening peak are forecast to travel by public transport. It is considered that this number of new trips can easily be accommodate by the extensive public transport network accessible from the site and would not have a material impact beyond the original planning permission (ref. 14/AP/3843).

2.3.59. Based on the above, and the further detail provided in the TS (see Appendix 2.5) it is considered that the Proposed Amendments will not give rise to any new or previously unforeseen effects relating to transportation. And that the findings of the 2014 ES remain robust and the previously identified mitigation measures (CLP and improvements to the public realm and pedestrian and cycle amenity) will still apply.

2.3.60. As such it is considered that no further assessment under EIA is necessary.

Waste

2.3.61. Sufficient waste storage facilities for the residential units will be provided on-site and in accordance with LBS ‘Waste management guidance notes for residential developments (February 2014)’.

2.3.62. All houses and maisonettes will have private bin storage within their curtilage. The flats will have communal bin stores, incorporated into the building design, at ground floor level (2 bin

stores within subplot 03 and 5 bin stores within subplot 04 total of 5 bin stores will be provided in subplot 04). In addition, a bulky waste store will be provided within subplot 04.

2.3.63. Details of the delivery location points, bin / bulky storage provision and bin collections will be provided to residents within their Travel Information Packs upon occupation. Details of delivery locations and bin collections will also be provided to occupiers of the commercial floorspace.

Delivery and Servicing

2.3.64. The servicing and delivery arrangements will be consistent with the extant permission. Bin stores will be provided at ground floor for the residential flats and the houses will have spaced to store refuse within the curtilage. The number and the location of the loading bays remains as per the extant permission (i.e. three loadings bays located to the south of the Site along Albany Road).

2.3.65. The main delivery and servicing routes for subplots 03 and 04 are likely to be taken from the A215 Camberwell Road and the A2 Old Kent Road. Delivery and servicing vehicles are likely to access along Albany Road and Portland Street, via one of the new accesses.

2.3.66. Due to the nature of the proposed use and its location, it is expected most of deliveries will be by small or transit type vans, with limited need for the use of larger goods vehicles.

2.3.67. A detailed Delivery and Servicing Plan (DSP) has been prepared in support of the planning application and is also contained at Appendix 2.6. It sets out the policy context to which the proposed delivery and servicing will relate to subplots 03 and 04.

Water Recourses

2.3.68. In terms of changes to the baseline conditions (i.e. since the 2014 ES), the Flood maps from the LBS SFRA and the EA Flood Map for Planning and Risk of Flooding from Surface Water Map have been updated. However, while these updated maps may show minor changes to flood locations, extents and depths, they do not indicate any increased risk of flooding to the FDS from sources such as surface water, sewer, water mains or groundwater flooding. As per the original baseline conditions, for any localised flood risk from retained sewers, surface water flooding or water main burst, the flow route would be along the existing public highway network.

2.3.69. The FDS was found to lie wholly within defended Flood Zone 3a. The EA data indicated that the River Thames flood defences provide adequate defence against flooding from events up to and including the 1 in 1000 year flood event. Based on this the direct impact of fluvial flooding was considered negligible, however there was a residual risk resulting from a breach/overtopping of flood defences. Further assessment of nine strategic breach/overtopping locations along the reach of the Thames has been undertaken since the 2014 ES. However, examination of the results confirms that none of the nine modelled breach/overtopping locations would individually inundate the FDS (see Drainage and Floodrisk Technical Note Appendix 2.7)

2.3.70. A drainage strategy was carried out and appended to the 2014 ES. It applied 30% climate change to the peak rainfall intensity as recommended by the NPPF at that time. However,

during further design stages, this climate change allowance was uplifted to 40% as required for the drainage strategy design.

2.3.71. There has been a number of changes to legislation, policy and guidance since the 2014 ES. These changes are fully detailed within a Drainage and Floodrisk Technical Note Technical Note at Appendix 2.7. However, none of the changes are considered to result in changes to the assessment methodology or the conclusions of the 2014 ES.

2.3.72. The Proposed Amendment are considered to result in increases to the proposed foul and surface water flows over that of the extant permission.

2.3.73. The proposed discharge rates for subplots 03 and 04 have been agreed with Thames Water Utilities Limited (TWUL) based on a Capacity Impact Assessment undertaken prior to planning. These rates include a combined foul and surface water discharge to the Thames Water network. The proposed surface water discharge has been limited (achieved via on-site attenuation) to provide 65% betterment on existing peak 1 in 2 year brownfield discharge rates once peak foul flow adjustments were considered. This equated to an agreed rate of 111 l/s. The required on-site storage has been designed for the critical 1 in 100 year plus 40% allowance for climate change rainfall event, with the required storage volumes provided by below slab off-line storage tanks located under two of the plots, one of which is subplot 04.

2.3.74. During the detailed design of the subplots 03 and 04 drainage strategy, the surface water and foul water drainage systems will be required to be adapted to accommodate the increases to the proposed foul and surface water flows generated. This will result in an increased storage volume requirement for the storage tank located under subplot 04. This storage will need to be increased sufficiently to account for the increased surface water runoff from the changes to impermeable area, along with a reduction in the surface water discharge rate to account for the increases to the peak foul flow discharge from the site also. With the changes to the on-site storage design, the proposed surface and foul water discharge from subplots 03 and 04 to the TWUL combined sewer will continue to be limited to that agreed with TWUL during planning.

2.3.75. On this basis, the proposed changes to the consented development will not affect the 2014 ES assessment findings for the effects on the off-site infrastructure. Community and Statutory Involvement

Consultation Process

2.3.76. Extensive consultation has taken place with both statutory and non-statutory authorities. This includes involvement in formal pre-application meetings with key stakeholders including:

- A total of 7 meeting with LBS (from 20th August 2020 to 1st December 2021);
- A total of 2 meetings with the GLA (and TfL) (from 26th February to 10th June 2021);
- Extensive in-person and online consultation with key community groups and local residents.

2.3.77. A Statement of Community Involvements (SCI) has been prepared in support of the planning application as a stand alone report. It set outs the details of a number of events held with residents and key stakeholders to explain the Proposed Amendments.

2.3.78. Online, in person and exhibition platforms where utilised to engage with the following stakeholders:

- The Creation Trust (an independent organisation supporting residents through the Aylesbury regeneration.
- Creation CIC
- LBS Housing Team
- Ward Councillors
- Tenant and Residents Associations (TRAs)
- Regeneration Sub-Group
- LBS Regeneration Team
- Community and Faith Groups
- Children and Youth Groups

2.3.79. These consultations have taken place to ensure that any adverse impacts from the Proposed Amendments are taken into account and mitigated where possible. These consultations have informed both the design of the scheme and the EIA.

2.3.80. A Statement of Community Involvement (SCI) prepared by HTA fully reports this exercise with the local community and key stakeholders and is submitted alongside the Planning Application documentations.

2.4. Baseline Information

2.4.1. A wide range of baseline data on the environment has been obtained for the purposes of the assessment including:

- Published documentary information from a variety of sources, including historical and contemporary records;
- Survey information, including background noise levels, ecological features, landscape character, traffic levels in the road network, community facilities, etc;
- Aerial photography; and
- Data provided by stakeholders, including statutory and non-statutory consultees.

2.4.2. A description of the FDS and surroundings is given in Chapter 3. More detailed baseline information considered for each topic assessment is presented in each of the relevant chapters

of this ES as appropriate to describe the significant environmental effects arising from the Project.

2.5. Details to be Assessed

2.5.1. In order for the significant environmental effects of the Proposed Amendments to be identified and assessed, it is necessary to understand the FDS and Location (Chapter 3), as well as to clearly identify all the components of the Proposed Amendments in the context of the overall FDS scheme (Chapter 4)

2.5.2. The planning application is being made in full, with details of the Proposed Amendment being submitted for approval. These details are set out in Chapter 4 of this ES. The plans that are being submitted reflect the above process and the assessment has been based on the detailed set of plans, elevations, and landscape details which are submitted with the planning application.

2.6. Impact Assessment Guidance

2.6.1. The assessments that are being presented in the ES consider the potential for significant environmental effects to affect the baseline conditions as a direct/indirect result of the Project. A description of the aspects of the environment likely to be significantly affected by the development is a requirement of the EIA Regulations. The baseline conditions are defined as the existing state of the environment and how it may develop in the future in the absence of the Project and with certain committed developments included.

2.6.2. Where likely significant adverse effects have been identified during the assessment, it is a requirement to set out the measures that have been proposed to prevent, reduce and where possible offset any effects. These are described in each topic chapters if required.

2.6.3. The remaining residual effects taking account of mitigation measures are stated in each of the ES topic sections and included within summary tables. In each case, significance criteria are applied to identify the extent to which mitigation measures would reduce the effect that has been assessed and the residual effect that would remain.

2.6.4. In order to forecast potential future effects, it is necessary to make predictions. To ensure that predictions are as accurate as possible, a description of the methods used to assess the effects of the Project are also required by the EIA Regulations. It is also necessary to provide an indication of any difficulties or limitations encountered by the technical consultants during the EIA process.

2.6.5. Unless specifically stated otherwise, the proposed assessments will be undertaken in accordance with best practice guidelines published by the relevant professional bodies. Each technical chapter in this statement provides brief details of the baseline and assessment methodology that has been employed for that topic area.

2.6.6. Where there is no topic specific guidance available, a generic framework of assessment criteria and terminology has been developed to enable the prediction of potential effects and their subsequent presentation. The development of this generic framework has drawn upon hgh's

experience of undertaking EIA. Where specific guidance is available, full details of the assessment criteria and terminology have been set out in the context of that topic.

2.7. EIA Assumptions and Limitations

2.7.1. The following key assumptions will be made in preparing this ESA:

- The ESA should be read in conjunction with the 2014 ES and 2015 subsequent amendment.
- All legislative requirements will be met. Therefore, any standard guidance which is provided to ensure minimum legal compliance is not considered to constitute mitigation in the EIA and will not be taken into account;
- The assessment of effects prior to the adoption of mitigation measures will assume that the Project will be constructed in accordance with industry standard techniques. Such techniques will therefore not be considered as mitigation;
- Where further assumptions have been made for individual topic assessments these will be identified within the relevant topic chapters; and
- Any limitations or uncertainties associated with impact prediction or the sensitivity of receptors due to the absence of data or other factors will give rise to uncertainty in the assessment. Any such limitations will be referred to in the relevant technical chapters of this ES.

2.8. Cumulative Assessment

2.8.1. Given the time expired since the 2014 ES, the cumulative assessment has been updated so that that a robust cumulative assessment will account for any existing or approved developments (i.e. anything with planning permission) and any application which could give rise to cumulative impacts.

2.8.2. The scope of committed developments to be assessed within the cumulative assessment will be based on a criteria set out in each technical topic, if relevant.

2.8.3. The projects to be included within the cumulative assessment are listed in Table 2.4 below and shown in Figure 2.1.

Table 2.1: Summary of Cumulative Development

Map Ref No.	Site	Reference	Description of Development	Status
1	Aylesbury Estate Outline Masterplan	14/AP/3844	"Demolition of existing buildings and phased redevelopment to provide a mixed use development comprising a number of buildings ranging between 2 to 20 storeys in height (12.45m - 68.85m AOD) with capacity for up to 2,745 residential units (Class C3), up to 2,500sqm of employment use (Class B1); up to	Consented

			500sqm of retail space (Class A1); 3,100 to 4,750sqm of community use; medical centre and early years facility (Class D1); in addition to up to 3,000sqm flexible retail use (Class A1/A3/A4) or workspace use (Class B1); new landscaping; parks, public realm; energy centre; gas pressure reduction station; up to 1,098 car parking spaces; cycle parking; landscaping and associated works."	
2	Southernwood Retail Park	18/AP/3551	Hybrid planning application for detailed permission for Phase 1 and outline planning permission for Phase 2 comprising: Application for full planning permission for 'Phase 1' comprising demolition of existing buildings and the erection of a part 9, part 14, part 15, part 48 storey development (plus basement) up to 161.25m AOD, with 940 sqm GIA of (Class A1) retail use, 541 sqm GIA of flexible (Class A1/A2/A3) retail/financial and professional services/restaurant and café use, 8671 sqm GIA (Class C1) hotel; 541 (class C3) residential units (51,757 sqm GIA); landscaping, public realm and highway works, car and cycle parking and servicing area, plant and associated works. Application for outline planning permission (with details of internal layouts and external appearance reserved) for 'Phase 2' comprising demolition of existing buildings and the erection of a part 9, part 12, storey development (plus basement) up to 42.80m AOD, with 1049 sqm GIA of flexible (Class A1/A2/A3) retail/financial and professional services/restaurant and café use; 183 (Class C3) residential units (17,847sqm GIA), 1141 sqm GIA (Class D2) cinema and the creation of a 475 sqm GIA (Class C1) hotel service area at basement level; landscaping, public realm and highway works, car and cycle parking and servicing area, plant and associated works.	Consented
3	35-39 Parkhouse Street	19/AP/2011	Demolition of existing buildings and construction of a mixed use building ranging from six to 10 storeys in height (35.15m AOD) comprising 100 residential units (Use Class C3) and 1,323 sqm (GIA) of Class B1/B2/B8 floorspace) with	Pending determination

			associated car parking, landscaping and other associated works.	
4	25-33 Parkhouse Street	20/AP/0858	The redevelopment of the site to provide a mixed-use development comprising buildings up to 11 storeys in height and accommodating new homes (Use Class C3) and commercial floorspace (Use Class B1c), car parking, cycle parking and associated landscaping. Further information: The proposal is for 109 dwellings and 1,351sqm (GIA) of commercial floorspace. The proposal would be a departure from saved policy 1.2 of the Southwark Plan (2007) owing to the proposed provision of residential units within a preferred industrial location, and the proposal would be within the setting of the Addington Park Conservation Area and grade II listed buildings the Lime Kiln in Burgess Park and the former St Georges Church and Groundwork Trust Offices on Wells Way.	Pending determination
5	21-23 Parkhouse Street	19/AP/0469	Demolition of existing building at 21-23 Parkhouse Street and erection of two blocks (Block A and Block B) of 5 and part-7/part-10 storeys. Block A comprises 5-storey block for commercial/employment use (879sqm) and Block B comprises a part-7/part 10-storey block with ground floor commercial/employment use (111sqm) and 33 residential dwellings, accessible car parking, cycle parking, refuse storage, and associated landscaping	Pending Determination

Figure 2.1: Map of Cumulative Schemes

3. The Site and Setting

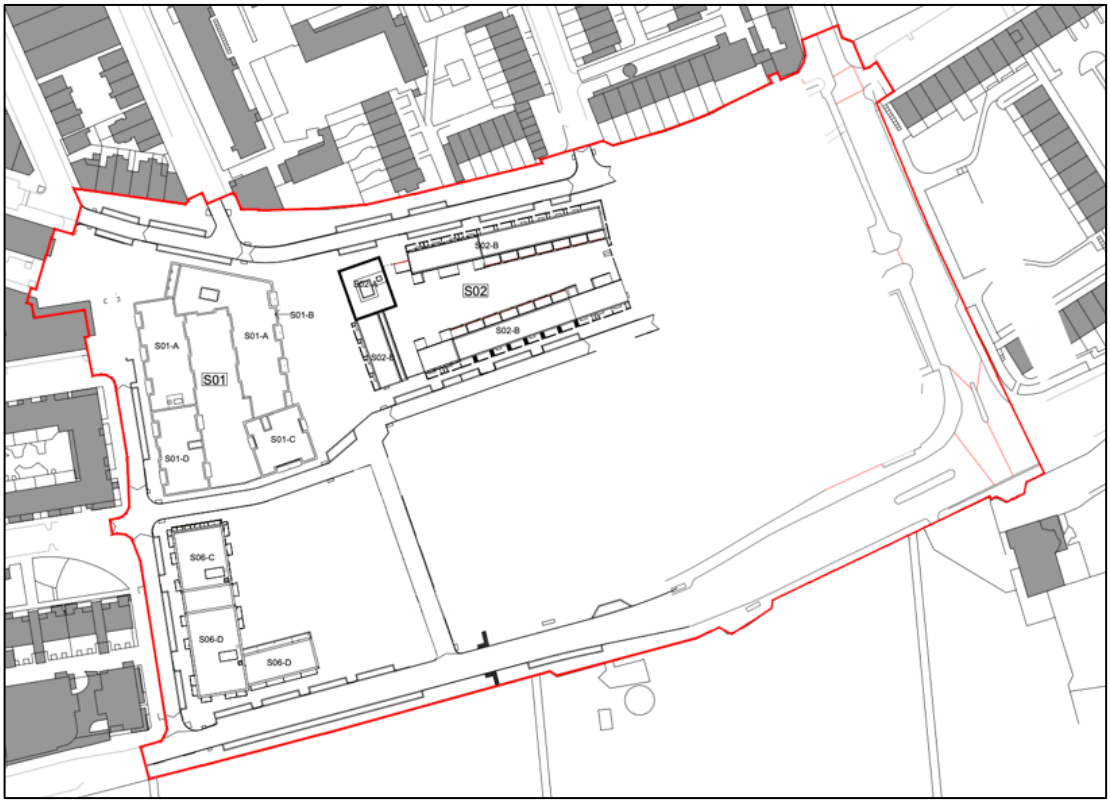
3.1. Introduction

3.1.1. This chapter sets out the location of the FDS and gives an overview of the existing land uses and features as well as an overview of the surrounding area.

3.2. FDS Location

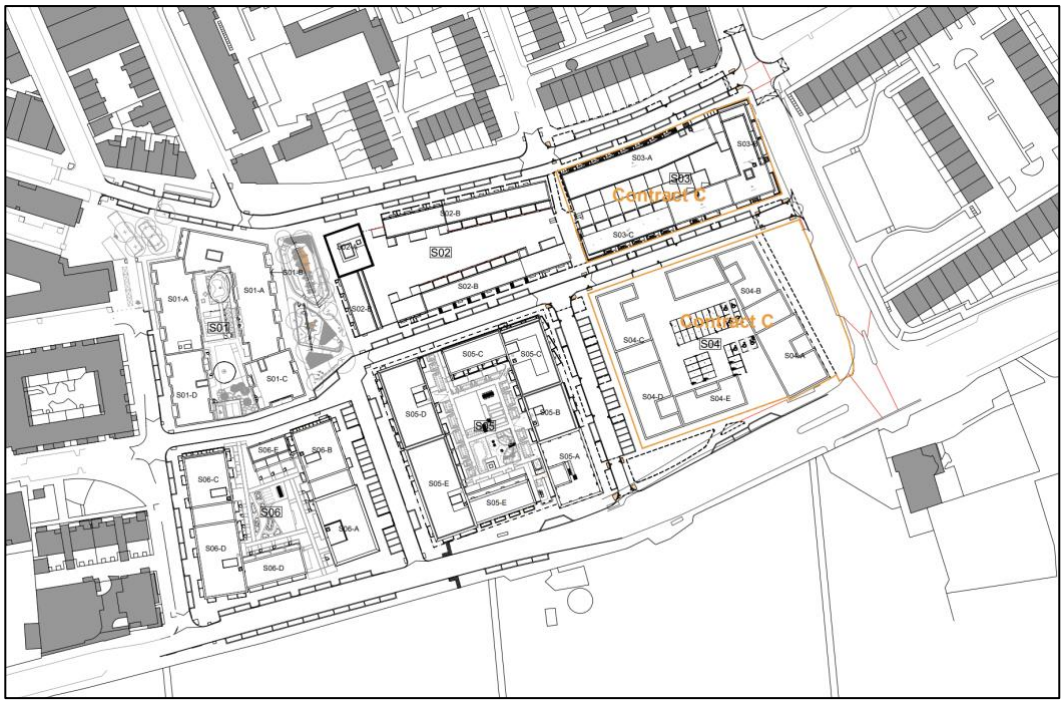
3.2.1. The FDS occupies an area of approximately 4.4ha and lies within the Aylesbury Estate, a local authority housing estate located within Faraday Ward in LBS. Westmoreland Road forms the northern boundary of the FDS, Portland Street the eastern boundary and Albany Road forms the southern boundary beyond which lies Burgess Park. The FDS site boundary is shown in Figure 3.1 below.

Figure 3.1: Red line plan of the FDS, showing the partial construction of the approved scheme



3.2.2. The Proposed Amendments only relates to subplots 3 and 4 (FDS C) of the FDS as shown in Figure 3.2 below.

Figure 3.2: FDS C (subplots 04 and 04)



3.3. Existing FDS

3.3.1. The FDS is hoarded in its entirety and the previous homes (of the Aylesbury Estate) have been demolished under the extant planning permission (ref. 17/AP/3885). Prior to demolition, the site accommodated 566 homes and ancillary garage accommodation spread over eight predominantly residential blocks that ranged in height between 4 and 14 storeys.

3.3.2. The FDS is under construction:

- FDS A: Started on site March 2019, anticipated completion September 2022.
- FDS B: Started on site November 2021, anticipated completion September 2025.
- FDS C: Anticipated start on site March 2023, completion January 2026 (subject to planning).

3.3.3. An aerial photo of the FDS is shown in Figure 3.3 below.

Figure 3.3: Aerial Photo of FDS (taken 09.02.22)

3.4. The Surrounding Area

3.4.1. The FDS is located in southwest of the Aylesbury Regeneration Area and is in the first phase of the regeneration of the Estate. It approximately comprises sites 1b and 1c of Phase 1 (P1) as designated with the Aylesbury Area Action Plan (AAAP).

3.4.2. The Aylesbury Estate was constructed between 1966 and 1977 and is one of the largest housing estates in south London. The existing wider estate is predominately residential, with a mixture of houses, flats, and maisonettes, in buildings ranging from 2 and 14 storeys.

3.4.3. The FDS has a Public Transport Accessibility (PTAL) rating of 4 and 5 and is considered to be in a sustainable location. There are a number of bus stops along Camberwell Road (around 300 m from the site) providing direct connections to Central London and beyond. This includes a number bus stops along Camberwell Road. The site is located approximately 1.3km of Kennington Underground station (Northern line), and approximately 1.5km to Elephant & Castle Underground Station (Bakerloo and Northern lines). Elephant and Castle Rail Station is located approximately 1.3 km from the site (Thameslink).

3.4.4. The area immediately surrounding the FDS largely residential in character with building heights ranging from 2 to 10 storeys.

3.4.5. Elephant and Castle (major town centre) and the former Heygate Estate is located to the north of the Aylesbury Estate (approximately 2.5 miles from the Site), which is also undergoing significant regeneration for high density development.

3.4.6. Several shops and services are also located in the surrounding area, particularly along Walworth Road. Michael Faraday Primary School is located to the northeast of the site.

3.5. Designations

Policy Designations

3.5.1. The adopted development plan for LBS comprises:

- The Southwark Plan 2022 (February 2022); and
- London Plan 2021 (March 2021).

3.5.2. There are a series of Supplementary Planning Documents ("SPD") and Supplementary Planning Guidance ("SPG") that provide further details of how to interpret policies within the development plan.

1.2 The following are important material planning considerations for the determination of the application:

- National Planning Policy Framework (NPPF) (July 2021); and
- National Planning Practice Guidance (PPG) (November 2016, as amended).

3.5.3. Full details of the planning policy context are set out within the Planning Statement which is submitted in support of the planning application.

Ecological Destinations

3.5.4. The nearest statutory designated sites to the estate are Wimbledon Common Special Area of Conservation (SAC) and Lee Valley Special Protection Area (SPA), located 9.9 km to the southwest and 9.5 km to the north respectively.

3.5.5. There are 40 non-statutory designated sites were identified within a 2 km radius of the FDS, with two located immediately adjacent to the southern and eastern boundaries respectively. Burgess Park Site of Borough Grade II Importance for Nature Conservation (SBINC II) to the south is highlighted in the AAAP as an area to be revitalised as part of the Aylesbury Estate redevelopment and Surrey Square Site of Local Importance for Nature Conservation (SLINC) to the east is a small park which includes the neighbouring school's former nature area.

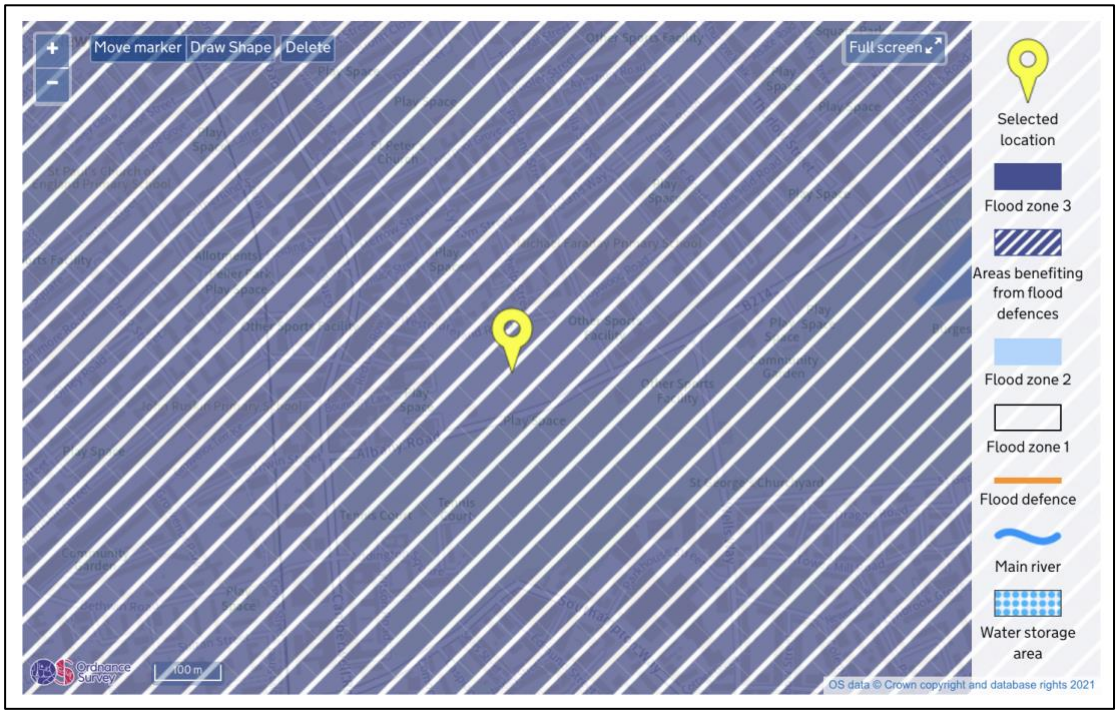
Air Quality

3.5.6. The FDS lies within an "Air Quality Management Area" (AQMA). See Air Quality Technical Note at Appendix 2.1 for further detail.

Flood Risk

3.5.7. The Environmental Agency (EA) Flood Map for Planning identifies the entire site to be located in Flood Zone 3, but within an area that benefits from flood defences (chance of fluvial flood 1% each year, chance of coastal flood reaching site 0.5% each year.

Figure 3.4: Extract from the Environment Agency Flood Map for Planning



Heritage

3.5.8. The FDS is not located within a Conservation Area and does not contain any listed buildings. The FDS is located in vicinity of several Conservation Areas including the Walworth Road Conservation Area to the north and west; Liverpool Grove Conservation Area to the north; and Addington Square Conservation Area to the south.T here are also several listed buildings in the immediate vicinity including Aycliffe House and attached railings, Numbers 1,1a and 3-11 Portland Street and attached railings, and 13-23 Portland Street and attached railings, and Harker's Studio all of which are Statutorily Grade II listed.

3.5.9. The site is also located within the wider setting consultation area of view 1A.1 Alexandra Palace of the London Plan.

3.5.10. Further detail in relation to Heritage is contained within the HTVIA, see separate Volume 3 of this ES Addendum.

Accessibility

3.5.11. The FDS has a Public Transport Accessibility (PTAL) rating of 4 and 5 and is considered to be in a sustainable location. There are a number of bus stops along Camberwell Road (around 300 m from the site) providing direct connections to Central London and beyond. This includes a number bus stops along Camberwell Road. The FDS is located approximately 1.3km of Kennington Underground station (Northern line), and approximately 1.5km to Elephant & Castle Underground Station (Bakerloo and Northern lines). Elephant and Castle Rail Station is located approximately 1.3 km from the FDS (Thameslink).

3.5.12. Further details of the above are contained within the submitted Design and Access Statement and TS (see Appendix 2.5).

4. The Proposed Amendments

4.1. Introduction

4.1.1. This chapter presents the key characteristics of the Proposed Amendments which have informed the assessment. The assessment has also been informed by the application drawings and parameter plans have been submitted in support of the planning application. To avoid unnecessary duplication both in hard copied, and on the planning register, the application. drawings have not been appended to this ES.

4.2. The Need for the Project

4.2.1. This Proposed Amendments seeks to make amendments to FDS C (subplots 3 and 4), to increase, in real terms, the overall number of homes on-site, including an increase in both the numbers and proportion of affordable homes. This will boost the number of units on-site and will include additional shared ownership and social rented units. The scheme reflects the ambition of NHG to maximise the development potential of the Site and improve the viability of the scheme while remaining fully committed to ensuring that the original design principles and amenity standards are maintained.

4.3. The Planning Application

4.3.1. The planning application includes the FDS as shown in Figure 3.1 with the Planning red line site boundary.

4.3.2. The description of development within the Planning Application, is described as:

"Variation to Condition 2 (Approved Plans) and Condition 43 (Quantum of Development) of planning permission 17/AP/3885. Minor amendments include the provision of additional units, provision of non-residential floorspace, revisions to tenure and unit mix, alterations to height and massing, internal reconfigurations, elevational alterations and material changes, revisions to landscaping, amenity, play space, car parking, and cycle storage.

Planning permission 17/AP/3885 is for: "Minor material amendments to planning permission 14/AP/3843 for Demolition of existing buildings and redevelopment to provide a mixed-use development comprising a number of buildings of a variety of heights, providing residential dwellings (Class C3); flexible community use, early years facility (Class D1) or gym (Class D2); public and private open space; formation of new accesses and alterations to existing accesses; energy centre; gas pressure reduction station; associated car and cycle parking and associated works. The proposed amendments include: Provision of additional units (including townhouses in place of the Gas Pressure Reduction Station); Revisions to unit and tenure mix; Internal reconfiguration and elevational alterations; Minor alterations to landscape layouts, amenity space and roof space"

4.4. The Proposed Amendments

4.4.1. The key elements of the Proposed Amendments (subplots 03 and 04 only) are:

- A total additional 60 residential homes (from 842 to 902);
- Provision of an additional 18 shared ownership homes and 9 social rent homes;
- Proportional increase to both shared ownership and social rent provision when measured by habitable rooms;
- Increase in the number of storeys (subplot 03 by 1 storey and subplot 04 but 3 storeys);
- Reduction in both the number and proportion of single bedroom units and the delivery of a greater number of larger family-sized units;
- Increase in the provision of cycle parking to meet the requirements of the new London Plan standards for plots 03 and 04;
- Introduction of Air Source Heat Pumps, and
- Minor alterations to the landscaping.

4.4.2. This is further detailed between the subplots as:

Subplot 03

4.4.3. The Proposed Amendments for subplot 03:

- 21 additional residential units;
- Revised mix of homes and tenure;
- Block 3A: Increase in height from 3 to 4-storeys and provision of maisonettes at the base and flats on the upper levels;
- Block 3B: An additional storey has been added to the eastern block which increases the height from 6 to 7 storeys;
- Additional bike and bin storage at ground floor level;
- Improved configuration of internal layouts; and
- Alterations to the external elevations and facade treatment.

Subplot 04

4.4.4. The Proposed Amendments to subplot 04:

- 39 additional residential units;
- Revised mix of homes and tenure;
- Provision of 88sqm of commercial floorspace (Use Class E);

- Increase in the footprint of Block 4A by 1 home per floor;
- Improved configuration of internal layouts;
- Increase in height and footprint of Block 4A from 20 to 23 storeys.
- An amendment to the layouts of the upper floors of Block 4B to provide lateral apartments instead of duplexes;
- Amendments to the building line of Block 4B to accommodate the tower width;
- A revised mix of residential units and tenures, including additional wheelchair dwellings;
- An increase in bin and bike storage in accordance with the uplift in dwellings and updated unit mix; and
- Alterations to the external elevations and facade treatment.

4.4.5. A Design and Access Statement Addendum accompanies the planning application submission which provide a detailed overview of the Proposed Amendments and has help inform this ES Addendum where appropriate.

Accommodation Schedule

4.4.6. The Proposed Amendments would increase the number of residential units from 261 to 321 on subplots 03 and 04, which would represent an uplift of 60 residential units. For the wider FDS, this would result in an increase of residential units from 842 to 902 (a 7% increase in total units). The accommodation schedule for the extant S.73 consent and proposed amendment for the wider FDS are shown in Table 1 below.

Table 4.1: Consented and Proposed Accommodation Schedule Summary

Consented							Proposed					
	Unit No.	% Split	AH split	HR Split	% Split	AH split	Unit No	% Split	AH Split	HR Split	% Split	AH split
Social rent	348	41%	62%	1190	43%	67%	357	40%	61%	1243	43%	66%
Shared Ownership	211	25%	38%	590	21%	33%	229	25%	39%	653	23%	34%
Private	283	34%		984	36%		316	35%		990	34%	
Total	**842**	**100%**		**2764**	**100%**		**902**	**100%**		2886	100%	

4.4.7. The amended affordable split is 66% social rent and 34% shared ownership. This is a slight change from the previous affordable split of 67% social rent and 33% shared ownership. However, the overall number of social rent habitable rooms has increased by 53 and the overall number of shared ownership habitable rooms has increased by 63.

4.4.8. The overall proposed tenure mix for FDS will comprise 371 x 1 bed (41%), 362 x 2 bed (40%), 124 x 3 bed (14%), 32 x 4 bed (4%), and 13 x 5 bed (1%).

4.5. Access and Parking

4.5.1. The Proposed Amendments includes limited proposed changes to the footprint of both subplots 03 and 04 and the primary access arrangements will remain unchanged. Subplot 03 is primarily pedestrianised, with a number of on-street car and cycle parking spaces, although no changes proposed to the road arrangements approved under the extant consent. Subplot 03 includes two large cycle stores on the ground floor layout within the core of both building 3a and 3b.

Car Parking

4.5.2. The Proposed Amendments will see a reduction in the parking provision so to a total of 271 spaces to serve the whole of the FDS. The reduction will occur on subplots 03 and 04, resulting in a total of 62 spaces (at 3% blue badge allocation).

Cycle Parking

4.5.3. Additional cycle storage is provided at ground floor level of the sobplots 03 and 04 to accommodate the increase in unit numbers in line with the LBS Local Plan and London Plan Policy.

4.6. Amenity/Open Space

1.3 The Design and Access Statement set out the detailed calculations for amenity and open space requirements. Subplot 03 show a total requirement of 120sqm of communal space, calculated from two residential blocks (2 x 50 sqm) and a private amenity space shortfall of 20sqm. Subplot 03 provides an overall communal amenity space area of 175.7sqm which therefore significantly exceeds the LBS policy requirement.

4.6.1. The calculations for subplot 04 show a total requirement of 1,164 sqm of communal amenity space, which is calculated four residential blocks (4 x 50 sqm) and a private amenity space shortfall of 964 sqm. Subplot 04 provides an overall communal amenity space provision of 1,852sqm which significantly exceeds the LBS policy requirement

4.7. Playspace

4.7.1. The Child Yield Calculator indicates that the additional child yield from the proposed additional homes (net increase of 60 homes) will equate to:

- Under 5's = 104 sqm
- Ages 5-11 = 65 sqm
- Ages 12+ = 17 sqm

4.7.2. The Proposed Amendments provide additional on-site provision of Under 5's play space of 47 sqm on subplot 03 and 57 sqm on subplot 04, over and above the existing approved provision. This complies with the additional 104 sqm requirement as set out by the child yield calculation.

4.7.3. An additional 71 sqm of Ages 5-11 play space will be provided in Portland Park adjacent to subplot 4, over and above the approved provision. This complies with the requirement of 65 sqm presented by the child yield calculation. The applicant also commits to providing an additional 23 sqm of 12+ play space offsite to ensure compliance with the policy.

4.7.4. The total proposed on-site play space (for ages 0-11) is proposed as 4,165 sqm with 1,197sqm committed to off-site.

4.7.5. The Play Space Strategy (pages 145-147 of the DAS) provide an example of the types of play space that could be provided. It is assumed that a suitable planning condition will be used to capture the details of these spaces.

4.8. Characteristics and Materials

4.8.1. Full details of the design principles are set out within the Design and Access Statement.

4.9. Building Heights

4.9.1. The Proposed Amendments consist of changes to the built form and height of the consented scheme. The number of storeys on sub plot 3 is to increase from 3 to 4 storeys (block 3A) and 6 to 7 storeys (block 3B). Sub plot 4 is to increase from 20 to 23 storeys on Block 4A. The footprint of the tower has increased in width to accommodate an additional dwelling per floor.

4.10. Landscaping

4.10.1. Changes to the landscape strategy have resulted from the required increase in amenity spaces for the increase in residential units. The changes include the introduction of communal amenity spaces in subplot 3 and amendments to subplot 04 rooftop spaces to maximise and improve sustainability.

4.11. Urban Greening and Biodiversity Net Gain

4.11.1. The Proposed Amendments have been designed with the input of a landscape architect team who have sought to maximise soft landscape and tree cover at ground, podium and roof level. As well as the integration of existing trees to Portland Street, and provision of permeable paving where appropriate. A such it has been possible to achieve 0.43, slight above the minimum 0.4 UGF required for residential schemes by the GLA.

4.11.2. Reasonable endeavours will be made to achieve a 10% Biodiversity Net Gain, which is detailed in a stand alone report which accompanies the planning application.

4.12. Energy and Sustainability

4.12.1. The application is proposing a key amendment to the energy strategy originally approved under the extant consent. The approved energy strategy is for the entire FDS to be served from a single CHP energy centre to provide heating and hot water which is located on subplot 5. The Proposed Amendment to the energy strategy is instead proposing to provide air source heat

pumps on subplots 03 and 04 to provide heating and hot water, which will provide a significant reduction in emissions, reduction in air pollution, and better align with the changes in the Building Regulations Part L. A new Energy Strategy has been produced to support the planning application for the Proposed Amendments and it provides full details of the energy and sustainability strategy for subplots 3 and 4. The Energy Strategy can also be found at Appendix 4.1.

4.12.2. A Sustainability Strategy has been submitted to support the Proposed Amendments, and accompanies the planning application documentation. Opportunities for incorporating sustainable measures into the Proposed Amendments were explored during the design process to ensure that, where possible, the proposed development achieves the latest standards in sustainable design. Therefore, consideration of the principles for a sustainable development has formed an integral part of the design evolution and the resulting scheme is a reflection of this. The sustainability performance of the proposed development is reported and structure around the relevant requirements pertaining to sustainability, i.e. being able to prove that the scheme will achieve and exceed the national, regional and local sustainability targets.

Circular Economy

4.12.3. The Proposed Amendments have been designed to conserve resources, eliminate waste, ease maintenance, and manage waste. The development will incorporate facades with robust and durable materials. Adaptability to future climates will be ensured through drainage design and overheating mitigation. The open plan allows flexibility in the commercial spaces. A strategy will be developed for the end-of-use recovery of materials. Reduction of the raw formwork will be achieved through reusability and rationalisation of the structural grid. The waste hierarchy will be incorporated on-site for the new development, and adequate facilities will be provided to separate waste streams and divert waste from landfill. Adequate space will be provided to segregate waste streams to allow these to be put to beneficial use as much as possible.

Whole Life Carbon

4.12.4. The Whole Lifecycle Carbon (WLC) performance of block S03 is 987 kgCO2e/m2 and of block S04 is 935 kgCO2e/m. Potential reductions in WLC emissions could be achieved through higher recycled content in reinforcement (6-7% reduction) and higher recycled content in concrete such as GGBS (79% reduction). A Whole Life Carbon assessment is submitted in support of the planning application.

4.13. Alternative Locations and Layouts

Introduction

4.13.1. The EIA Regulations do not require a full assessment of all potential alternatives, only a reasonable account of those actually considered by the developers prior to submission of the application.

Alternative Locations

4.13.2. Alternative development options within EIA are often considered primarily in terms of location, however, the nature of the FDS and the Proposed Amendments, that of an estate regeneration, it is not considered appropriate to consider alternative locations to deliver the FDS. The Applicant do not wish to seek alternative locations for the Project and wish to regenerate the existing estate. Therefore, it is not considered necessary to assess alternative locations for the Project.

Alternative Massing

4.13.3. The Proposed Amendments are considered as alternative massing to the extant permission and will be assessed as appropriate within this ES Addendum.

5. Demolition and Phasing

Demolition and Phasing

5.1.1. Chapter 5 of the 2014 ES sets out the proposed demolition and construction works associated with the FDS. This also included indicative timescales for the phasing.

5.1.2. Due to unforeseen circumstances relating to delays in vacant possession and a Compulsory Purchase Order (CPO) process, the indicative phasing as set out within in the 2014 ES is outdated. An update to this provided below this information supersedes the phasing information withing Chapter 5 of the 2014 ES.

FDS

5.1.3. The existing buildings have been entirely demolished under the extant consent and the Site has been excavated to a depth of 2m to remove all previous foundations, abandoned services and drainage runs. FDS contract A is under construction and nearing completion. Construction on FDS contract B commenced in November 2021. FDS contract C will be the final phase.

5.1.4. Current Construction Periods:

- FDS A: Started on site March 2019, anticipated completion September 2022.
- FDS B: Started on site November 2021, anticipated completion September 2025.
- FDS C: Anticipated start on site March 2023, completion January 2026 (subject to planning).

Outline Masterplan

5.1.5. The first (and only) phase of the outline application to have commenced to date is Plot 18. A reserved matters application was granted in December 2021 (ref: 16/AP/2800) for 122 residential units (C3), retail (A1/A3/A4) and a community facility (library D1) in a part 15, part 7 and part 4/6 storey building (known as the North Block); a health centre (D1) and early years facility (D1) in a 4 storey (plus basement) building (known as the South Block); public realm; landscaping; cycle parking and car parking. Several non-material amendments have since been permitted and works have now commenced.

5.1.6. This permission was subsequently amended by a S.73 application (ref: 17/AP/3846) which was linked to the amendment to the FDS. Both applications were approved on the 14th February 2019.

5.1.7. Practical Completion (PC) of Plot 18 is anticipated to be in the Autumn of 2022.

5.1.8. It is considered that the remining information contained within Chapter 5 of the 2014 ES remains relevant to the Proposed Amendments and represents the worst-case scenario. However, this information is further supplemented by the following documents which specifically relate to subplots 03 and 04:

- Construction and Environmental Management Plan (CEMP), see Appendix 5.1, and

- Outline Construction Logistics Plan (CLP), see Appendix 5.2.

6. Daylight, Sunlight and Overshadowing

6.1. Introduction

6.1.1. This Chapter assesses the likely significant environmental effects of the Proposed Amendments on daylight, sunlight availability and overshadowing. In particular it considers the likely significant effects on the neighbouring residential properties and amenity spaces around the FDS. The assessment also considers the likely daylight and sunlight availability and the overshadowing expected within the subplots 04 and 04.

6.1.2. This Chapter provides a summary of the relevant planning policies and describes the methodology used in the assessment, including a description of the significance of criteria applied to define the impact related to daylight, sunlight and overshadowing. The Chapter provides a description of the area included in the study and an overview of the history of the FDS, followed by a description of the relevant baseline conditions and the scenarios included in the analysis.

6.1.3. A description of the likely effects as a result of the Proposed Amendments to the 2014 ES is also provided, including a description of the mitigation measures embedded in the design. A review of the need for additional mitigation measures (if required) is described in the chapter following the description of the results. Finally, a summary of the residual and likely effects is provided.

6.2. Appendices

6.2.1. The Appendices for Chapter 6 are as follows:

- Appendix 6.1: Drawings of the baseline scenarios and proposed and cumulative scenarios
- Appendix 6.2: Results of the Daylight, Sunlight and Overshadowing analysis – Impact on the existing properties
- Append 6.3: Results of the Daylight, Sunlight and Overshadowing analysis – Assessment of the Proposed Amendments

6.3. Legislation, Policy and Guidance

Legislative Framework

6.3.1. There is no applicable legislation of relevance to this assessment.

Planning Policy

National Planning Policy

National Planning Policy Framework, 2021

6.3.2. Paragraph 125, part C stipulates that, "…local planning authorities should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework. In this context, when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards)."

Regional Planning Policy

The Spatial Development Strategy for Greater London – The London Plan, 2021

6.3.3. The key policies relevant for daylight, sunlight and overshadowing matters are:

6.3.4. Policy D6 Housing quality standard "(C)…Housing development should maximise the provision of dual aspect dwellings and normally avoid the provision of single aspect dwellings. A single aspect dwelling should only be provided where it is considered a more appropriate design solution to meet the requirements of Part B in Policy D3 Optimising site capacity through the design-led approach than a dual aspect dwelling, and it can be demonstrated that it will have adequate passive ventilation, daylight and privacy, and avoid overheating." "(D) The design of development should provide sufficient daylight and sunlight to new and surrounding housing that is appropriate for its context, whilst avoiding overheating, minimising overshadowing and maximising the usability of outside amenity space."

6.3.5. Policy D9 Tall buildings "…(C) Development proposals should address the following impacts: …3) environmental impact a) wind, daylight, sunlight penetration and temperature conditions around the building(s) and neighbourhood must be carefully considered and not compromise comfort and the enjoyment of open spaces, including water spaces, around the building."

Housing Supplementary Planning Guidance, 2016

6.3.6. The guidance states that "an appropriate degree of flexibility needs to be applied when using BRE guidelines to assess the daylight and sunlight impacts of new development on surrounding properties, as well as within new developments themselves".

6.3.7. It continues "…guidelines should be applied sensitively to higher density development…where BRE advice suggests considering the use of alternative targets" taking in to account the "local circumstances; the need to optimise housing capacity; and scope for character and form of an area to change over time."

6.3.8. The guide also states that "natural light is also vital to a sense of wellbeing in the home, and this may be restricted in densely developed parts of the city." Housing that provides

"comfortable and enjoyable places of retreat and privacy. Factors to be considered include…daylight and sunlight."

Sustainable Design and Construction Supplementary Planning Guidance, 2014

6.3.9. This guide aims at supporting London's resilience to a changing climate and to support the London Plan in matters related to sustainability and climate change.

6.3.10. Section 2.3 of the document states that: "measures to reduce carbon dioxide emissions include enabling access to daylight and sunlight for uses that require [light]." In addition, the guidance states that "site planning can minimise the impact of the shadow created by the new buildings to protect existing features such as open space and renewable solar technologies on roofs." It goes on to say that "developers should ensure the layout of their site and buildings maximises the opportunities provided by natural systems, such as light."

6.3.11. The guide states that the above effects should "be considered during the design of a development and assessed once the design is finalised."

Local Planning Policy

Southwark Local Development Framework, Core Strategy, 2011

6.3.12. The Policy 12 'Design and Conservation" of the document states: "Development will achieve the highest possible standards of design for buildings and public spaces to help create attractive and distinctive places which are… a pressure to be in."

The Southwark Plan, 2007

6.3.13. Policy 4.2 of the Southwark Plan states: "Planning permission will be granted for residential development, including dwellings within mixed use schemes, provided that they…include high standards of…natural daylight and sunlight…"

6.3.14. On 17 November 2021, the Cabinet agreed the Southwark Plan 2022 for adoption by Council Assembly. The Plan will be considered at Council Assembly on 23 February 2022 for final adoption. The examination of the Plan is now closed. The Plan has been to Cabinet and is capable of adoption. This means that all new applications submitted from 8 December 2021 will be determined using the Southwark Plan 2022 policies.

The New Southwark Plan, 2022

6.3.15. The New Local Plan includes several policies which refer to daylight and sunlight availability in new developments.

6.3.16. Policy P14 Design quality states that development must provide "3. Adequate daylight, sunlight, outlook, and a comfortable microclimate including good acoustic design for new and existing residents."

6.3.17. Policy P15 Residential Design states that developments should "provide acceptable levels of natural daylight by providing a window in every habitable room, except in loft space where a

roof light may be acceptable." The policy goes on saying that the development should "7. Achieve a floor to ceiling height of at least 2.5 meters for at least 75 per cent of the Gross Internal Area of each dwelling to maximise natural ventilation and natural daylight in the dwelling."

6.3.18. Policy 56 Protection of amenity states that a "development should not be permitted when it causes an unacceptable loss of amenity to present or future occupiers or users. Amenity considerations that will be taken into account include …4. Daylight, sunlight, and impact from wind and on microclimate."

Aylesbury Area Action Plan, 2010

6.3.19. The Aylesbury Area Action Plan states that one of the main aims of the development is the improvement of: *"...the open space, security, lighting, play facilities and maintenance".*

Guidance

Historic England Guidance on Tall Buildings – Historic England Advice Note 4, 2015

6.3.20. This document includes recommendations in relation to tall buildings. Paragraph 4.10 of the Historic England Advice Note 4 recommends that the following should be addressed when dealing with tall buildings:

"consideration of the impact on the local environment, including microclimate, overshadowing, night-time appearance, vehicle movements and the environment and amenity of those in the vicinity of the building".

British Standard (BS) 8206: Lighting for buildings, Part 2: 2008 Code of practice for daylighting

6.3.21. BS 8206-2:2008 gives recommendations regarding design for daylight in buildings. It describes good practice in daylighting design and presents criteria intended to enhance the well-being and satisfaction of people in buildings, recognizing that the aims of good lighting go beyond achieving minimum illumination for task performance. It states: "Daylighting gives to a building a unique variety and interest. An interior which looks gloomy, or which does not have a view to the outside when this could reasonably be expected, will be considered unsatisfactory by its users. The recommendations of this part of BS 8206 recognize that a principal aim of the designer is to produce interiors which are comfortable and give pleasure to their occupants."

It should be noted that this standard has been superseded and the current standard for daylight and sunlight is BS EN 17037:2018. For this assessment the previous guide is used until the new BRE guide is published.

CIBSE: Code for interior lighting 1994

6.3.22. This Code has been prepared with the aims of specifying the lighting conditions appropriate for a wide range of interiors, and of offering guidance on design methods for obtaining those conditions. The recommendations given in the Code are representative of good practice. Although the Code has no statutory standing, some of the recommendations are cited as references in certain mandatory standards. Taken together, the recommendations represent a basis for designers to use.

CIBSE Lighting Guide LG10 – Daylighting – A Guide for Designers, 2014

6.3.23. This guide provides a daylight design guide. It states: *"There are three main drivers for improving the daylighting of buildings: energy consumption; benefits to human health and wellbeing; appearance of the space."* The guide also lists 'establishing potential impacts on neighbours' in terms of reflected sunlight, spacing and building form early within the daylighting design process.'

BRE Handbook 'Site Planning for Daylight and Sunlight 2011: A Guide to Good Practice, Second Edition', 2011

6.3.24. The BRE Handbook gives advice which is not mandatory and should not be used as an instrument of planning policy. BRE guidelines have been drafted primarily for use with low density suburban developments and should therefore be used flexibly when dealing with dense urban sites and extensions to existing buildings. The Guide states in the introduction: "The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy." Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design. In special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre, or in an area with modern high-rise buildings, a higher degree of obstruction.

6.3.25. The guide states that *"This guide is a comprehensive revision of the 1991 edition of Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice. It is purely advisory and the numerical target values within it may be varied to meet the needs of the development and its location."*

6.3.26. The guide also states: ""The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. In special circumstances the developer or planning authority may wish to use different target values… in an area with modern high-rise buildings, a higher degree of obstruction maybe unavoidable if new developments are to match the height and proportions of existing building."

6.3.27. The guide adds that "it is intended to be read in conjunction with the interior daylighting recommendations in the British Standard 8206-2 Code of practice for daylighting, and in the CIBSE publication Lighting guide: daylighting and window design."

Southwark Council 2011 Residential Standards Supplementary Planning Document

6.3.28. Section 2.7 Daylight and Sunlight states: *"Residential development should maximize sunlight and daylight, both within the new development and to neighbouring properties. Development should seek to minimize overshadowing or blocking of light to adjoining properties. A lack of daylight can have negative impacts on health as well as making the development gloomy and uninviting. Developments should meet site layout requirements set out in the Building Research Establishment (BRE) Site Layout for Daylight and Sunlight – A Guide to Good Practice (1991)".*

6.3.29. This document is superseded by BRE Handbook 'Site Layout Planning for Daylight and Sunlight 2011: A Guide to Good Practice, Second Edition' (2011)

6.4. Historic Assessment

6.4.1. Chapter 10 of the 2014 ES describes the results of the assessment undertaken for both the FDS and the Outline Masterplan. In particular, it describes the likely effects experienced by the existing properties surrounding each application site.

6.4.2. The assessment undertaken for the minor amendments follows the methodology adopted in the 2014 ES. The target criteria to assess the effects are the same and a summary of the methodology is detailed in the following section.

6.4.3. The same properties identified in the 2014 ES assessment have been identified for inclusion in the updated analysis. However, only the buildings which are close enough to Sub Plots 03 and 04 have been analysed. It is considered only appropriate to re-assess only those surrounding properties that would have the potential to be impacted by the change in massing proposed by the Proposed Amendments to subplots 03 and 04.

6.4.4. The 2014 ES did not identify any negative impact on the properties surrounding the First Development Site in terms of daylight, sunlight and overshadowing.

6.5. Assessment Methodology and Significance Criteria

6.5.1. The technical analysis was carried out by updating the 3D model of the extant planning permission. This assessment accounts for the following scenarios:

- **Scenario 1**: Baseline condition. This corresponds to the site as previously considered in the 2014 ES.
- **Scenario 2**: Extant Permission: This is the permitted and implemented FDS (ref. 17/AP/3885). This is the scenario described in the previous assessment with the extant permission in place
- **Scenario 3**: Extant Permission + Proposed Amendments. This scenario includes the Proposed Amendments to subplots 03 and 04.
- **Scenario 4**: Extant Permission + Proposed Amendments + Cumulative Schemes. This scenario includes the Proposed Amendments and includes any additional consented

schemes which have not been constructed yet but which will be built after the FDS has been completed.

6.5.2. Given that this assessment is an update to the 2014 ES assessment, the methodology used for this analysis is the same as the one detailed in the original assessment. Adopting the same methodology ensures consistency and allows for a direct comparison with the previous analysis. In particular, the methodology used to assess the daylight and sunlight availability follows the criteria described in the BRE handbook Site Layout Planning for Daylight and Sunlight, a Guide to Good Practice (2011). This methodology remains a valid a robust method of assessment. The BRE is currently revising the above guide to align the document with the new BS EN 17037:2018. The new guide is expected to be published in Spring 2022. At the time of writing, however, this new guide is not available and the analysis has been conducted using the same methods described in the 2014 ES.

Daylight

6.5.3. The Vertical Sky Component (VSC) has been calculated to assess the impact on existing neighbouring buildings. Where windows of existing surrounding properties fail to meet the minimum VSC criteria at the face of the window, an assessment of the 'before' and 'after' scenarios has been undertaken to determine whether any negative impact exceeds 20%, the upper acceptable limit in accordance to the guidelines. The Average Daylight Factor (ADF) achieved in the main living areas, i.e. kitchens, living rooms and bedrooms, as well as the potential which these spaces have for a clear view of the sky has been calculated for the proposed units.

Sunlight

6.5.4. Probable Sunlight Hours (PSH) have been assessed for both existing receptors and proposed units. This requires a winter season and an annual assessment. Only windows that face within 90 degrees of south should be assessed. The analysis has been carried out for all the windows serving habitable rooms and facing all the orientations. However, it is important that south-facing living rooms meet or exceed the BRE recommendations.

Overshadowing

6.5.5. Two-hour sun contour has been assessed to identify whether 50% of any garden or amenity space receives a minimum of two hours of direct sun-on-the-ground on 21st March as recommended by the guidelines. The calculations have been carried out on 21st March (spring equinox) and 21 June (mid-summer day). The impact on the existing surrounding open spaces as well as sunlight provision in courtyards and private gardens within phase 1b/1c have been assessed.

Relevant Elements of the Proposed Amendments

6.5.6. The overall approach to the design remains consistent with the consented approval. The Proposed Amendments have been reviewed in line with the methodology adopted for the consented scheme.

6.5.7. The red line of the planning application remains unchanged.

6.5.8. No changes are proposed to the site layout in terms of access for vehicles, pedestrians or cyclists. Access arrangements within the FDS remain as per the consented scheme with minor adjustments made to refuse collection location. Location of entrances to car parks and to residential buildings remain the same as the consented scheme.

6.5.9. Minor amendments to building footprints are proposed. The massing of Plot 03 remains consistent with the extant planning permission.

6.5.10. Changes to the massing include an addition of 3 storeys to Block 4A to sensitively improve the relationship between heights on Subplot 4 and Portland Street. This accompanies a partial increase in height to Block 3A and 3B to increase the number of dwellings. These changes have been highlighted in following sections and within the drawing comparison pack.

6.5.11. Additionally, a number of houses have been substituted for two storey maisonettes with flats above, constituting minor changes to the massing outline in subplots 03 and 04.

Scope of the Assessment

6.5.12. The scope of this analysis is to assess the likely significant environmental effects of the Proposed Amendments on daylight, sunlight availability and overshadowing. In particular, the analysis focuses on the likely significant effects on the neighbouring residential properties and amenity spaces around the FDS. The assessment also considers the likely daylight and sunlight availability and the overshadowing expected within the subplots 03 and 04.

Extent of the Study Area

6.5.13. The study area is defined by the existing residential properties which have windows facing the subplots 03 and 04. The relevant properties are those which are close enough to be affected by the Proposed Amendments. Similarly, any existing amenity space which directly faces subplots 03 and 04 and is close enough to be included in the analysis. Initial calculations were undertaken to determine the properties which are close enough to be included in this assessment and which could be affected by the Proposed Amendments.

- The following properties were included in the assessment and determine the extent of the Study Area:
- 1-29 St Matthew's House
- 1-6 Aycliffe House
- 1-5 Gayhurst
- 80-84 Gayhurst

Consultation

6.5.14. No additional consultation outside of the extensive pre application meetings held with LBS was undertaken with regards to the scope of the assessment and methodology. The methodology for the assessment follows the methodology described in the 2014 ES chapter for the extant permission. Any additional metric would not allow for a direct comparison with the 2014 ES.

Method of Baseline Data Collation

6.5.15. The model used for the extant permission has been updated to reflect the Proposed Amendments. The information produced for the extant permission has been used to inform this assessment alongside the results obtained from the previous analysis. The model of the consented scheme as designed by HTA Design and Hawkins Brown has been used to allow for a comparison between the extant permission and the Proposed Amendments.

Identification of Sensitive Receptors

6.5.16. The receptors of the daylight and sunlight assessment are the windows of habitable rooms where the occupants have a reasonable expectation of daylight. Receptors for overshadowing studies will include gardens and open amenity spaces where pedestrian leisure activities are expected. For the internal daylight assessment (Average Daylight Factor calculation, No Sky Line analysis and room depth criterion) the receptor is the Area of Interest (working plane at 0.85m above the floor of the room).

Assessment Modelling

6.5.17. A digital 3D model has been used for the assessment of both the impact on the surrounding properties and the Proposed Amendments. The model of the existing properties surrounding subplots 03 and 04 is consistent with the model used for the extant permission. An updated model of subplots 03 and 04 instead used based on the drawings and 3D models produced by the design team. Subplots 03 and 04has been placed in the context of its surrounding buildings as shown in the site plan.

Assessment of Daylight Impacts

6.5.18. The methodology is based on guidelines set out in the 2011 BRE Handbook. The methodology to assess daylight impacts of the properties surrounding the Comprehensive Development is in line with the methodology used for the consented scheme and is as follows:

- Test 1: 25 Degree Line method. This test should only be used where the development is of a reasonably uniform profile and is directly opposite the existing building. For this reason, only where this condition is met the 25 degree rule has been applied, and if the development subtends an angle of less than 25 degrees to the centre of the lowest window of an existing building, then it is unlikely to have a substantial effect on the daylight received by the existing dwelling. For an angle greater than 25 degrees or in

the presence of development that has a non-uniform profile, a more detailed assessment is needed to calculate the loss of daylight to the existing building.

- Test 2: Vertical Sky Component method (VSC). The VSC is a unit of measurement that represents the amount of available daylight from the sky, received at a particular window. It is measured on the outside face of the window. This unit is expressed as a percentage, as it is the ratio between the amount of sky visible at the given reference point compared to the amount of light that would be available from a totally unobstructed hemisphere of sky. To put this unit of measurement into perspective, the maximum percentage value for a window with a completely unobstructed view through 90° in every direction is 40%. In order to maintain good levels of daylight the BRE guidance recommend that the VSC of a window should be 27% or greater. However, the 2011 BRE Handbook makes allowance for different target values in cases where a higher degree of obstruction may be unavoidable such as historic city centres or modern high-rise buildings. The guide states that the 27% value is: *"… purely advisory and different targets may be used on the special requirements of the proposed development or its location".*

6.5.19. Where the VSC is greater than 27%, meaning that enough daylight is still reaching the window of the existing building, additional calculations have been carried out further to assess the impact of the Comprehensive Development of daylight provision at the existing properties.

- Test 3: Comparison method: The comparison test considers the VSC results of the baseline condition and the VSC results of the Proposed Amendments in place. The 2011 BRE Handbook states that where the VSC with the Development completed is less than 27% the comparison with the existing situation should be analysed and if the VSC is less than 0.8 times its former value, occupants of the existing building will notice a reduction in the amount of daylight. In order to provide an impact assessment on the existing properties the comparison test has been carried out in any case.

6.5.20. The methodology used to assess the amount of daylight of subplots 03 and 04 differs from that one used for the impact assessment of the existing buildings. Because the size and the shape of the internal spaces are known, the most effective way to assess the quality and quantity of daylight is as follows:

- Average Daylight Factor: The ADF, which measures the overall amount of daylight in a space, is the ratio of the average illuminance on the working plane in a room to the illuminance on an unobstructed horizontal surface outdoors, expressed as a percentage. The ADF takes into account the VSC value, i.e. the amount of daylight received on windows, the size and number of windows, the diffuse visible transmittance of the glazing used, the maintenance factor and the reflectance of the room surfaces. Therefore, it is considered as a more detailed and representative measure of the daylight levels within a space. British Standards BS8206-2 Code of practice for daylighting provides a set of recommended minimum values for different habitable spaces. These are:
    - 2% for kitchens

- 1.5% for living rooms
- 1% for bedrooms

6.5.21. The calculations carried out by HTA analyse all the habitable rooms of subplots 03 and 04 based on the drawings received on 10/12/2021. The size and the position of both windows and internal layout are taken from the drawings, including plants and elevations.

- No-Sky Line: A measure to assess the distribution of daylight in a space is the percentage of area that lies beyond the no-sky line i.e. the area that receives no direct skylight. This is important as it indicates how good the distribution of daylight is in a room. If more than 20% of the working plane lies beyond the no-sky line poor daylight levels are expected within the space.
- Room depth criterion: This is a measure which is used to the determine the light within a room, particularly when this is served by windows located in only one wall. This simple method of assessment accounts for the surface reflections of the internal surfaces but excludes several other factors, such as the obstructions outside the windows. Hence, it provides no input from the quantity of light entering the room.

6.5.22. For the assessment of subplots 03 and 04 only the Average Daylight Factor, the No-Sky view, and the room depth criterion methods described above have been considered. Contrary to the VSC that measures daylight provision only at the window pane and is more appropriately used to measure a change in skylight levels, these consider the amount and distribution of daylight within each room.

Assessment of Sunlight Impacts

6.5.23. The methodology is based on guidelines set out in the 2011 BRE Handbook. The methodology to assess sunlight impacts on the properties surrounding subplots 03 and 04 is as follows:

- Test 1: 25 Degree Line method
- Test 2: APSH and WPSH method: the BRE has produced sunlight templates for London, Manchester and Edinburgh indicating the Annual Probable Sunlight Hours (APSH) for these regions. The London template has been selected for this study which has an APSH of 1,486 hours and a Winter Probable Sunlight Hours of 446 hours. The same VSC reference points are used for the calculation of the APSH and WPSH. It should be considered that sunlight is deemed less important in kitchens and bedrooms.

6.5.24. The 2011 BRE Handbook states: *"In houses, the main requirement for sunlight is in living rooms, where it is valued at any time of day, but especially in the afternoon".*

6.5.25. The 2011 BRE Handbook also states*: "...a south facing window will, in general, receive most sunlight, while a north facing one will receive it only on a handful of occasions. East and west facing windows will receive sunlight only at certain times of day."*

6.5.26. The BS 8206-2 recommends that for a space to be reasonably sunlit:

- at least one main window wall should face within 90o of due south, and

- the centre of at least one window to a main living room should receive 25% of annual probable sunlight hours, including at least 5% of annual probable sunlight hours in the winter months between 21 September and 21 March. If a room has multiple windows on the same wall or on adjacent walls, the 2014 ES highest value of APSH should be taken. If a room has two windows on opposite walls, the APSH due to each can be added together.

6.5.27. It should be noted that the BS 8206-2:2008 standard has been superseded but it is used until the new BRE guide is updated to reflect the current BS EN 17037:2018 standard. Although the new standard is not in use, it should be noted that the new standard states that: *"Verification of sunlight duration needs to be conducted in a space which receives sun beams. The sunlight duration is to be verified at the reference point P described in Annex D, considering as many daylight openings as necessary to reach the recommended value."*

6.5.28. If the available sunlight hours are below the above thresholds, then an additional assessment has been carried out.

- Test 3: Comparison method: The comparison test considers the APSH and WPSH results of the baseline condition and the APSH and WPSH results of the Proposed Amendments in place. The BRE guidance say that if the reduction in sunlight between the baseline condition and the future one results in an APSH and WPSH of at least 0.8 times its former value, then it is considered that the sunlight received is adequate

6.5.29. For the assessment of the Proposed Amendments only the APSH and the WPSH calculations have been undertaken as there are no baseline conditions with which to make the comparison.

Assessment of Overshadowing Impacts

6.5.30. The methodology is based on guidelines set out in the 2011 BRE Handbook. BRE Guide recommends that for a garden or amenity to appear adequately sunlit throughout the year, at least half of it should receive at least two hours of sunlight on 21 March (Spring Equinox). The methodology to assess the sunlight impact of the amenity spaces is as follows:

- Test 1: % of area which receives sun: The path of the sun is tracked and it is compared with the presence of the abstractions within the analysed site. Sunlight provision is considered adequate if at least 50% of the amenity space receives two hours of sunlight on 21 March.
- Test 2: comparison method: This analysis tests if the amenity space receives at least 80% of sunlight of its former value. If this is the case the BRE guidance states that the loss of sunlight is negligible. "The availability of sunlight should be checked for all open spaces where it will be required. This would normally include: gardens (usually the main back garden of a house), parks and playing fields, children's playgrounds..."

6.5.31. For the assessment of the open spaces within subplots 03 and 04 only Test 1 has been undertaken as there are no baseline conditions with which to make the comparison.

6.5.32. For both the impact of the existing amenity spaces and external spaces within subplots 03 and 04 the test on 21 June (mid-summer's day) has been carried out.

6.5.33. The 2011 BRE Handbook suggests that where large buildings are proposed which may affect a number of amenity spaces it is useful to plot a shadow plan to show the location of shadows at different times of the day on 21 March. For this date the shadow range calculation has been carried out at hourly intervals throughout the day from 7:00 a.m. to 5:00 p.m.

Significance Criteria

6.5.34. The Significance Criteria used for this assessment is in line with the criteria used for the consented scheme and no changes are made to the methodology used to assess the impact of the Proposed Amendments. The significance of an environmental effect is determined by the interaction of magnitude and sensitivity, whereby the effects can be positive or negative. A summary of the criteria for determining the scale or magnitude of impact is set out below:

Major: Total loss or major/substantial alteration to key elements/features of the baseline (predevelopment) conditions such that the post development character/composition/attributes will be fundamentally changed.

Moderate: Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed.

Minor: A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character/composition/attributes of the baseline condition will be similar to the pre-development circumstances/ situation.

Negligible: Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

The sensitivity of a receptor is based on the relative importance of the receptor using the scale set out below:

High: The receptor/ resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance

Moderate: The receptor/resource has moderate capacity to absorb change without significantly altering its present character, or is of high importance.

Low: The receptor/resource is tolerant of change without detriment to its character, is of low or local importance.

Significance of Effects

Daylight Assessment

6.5.35. The Significance of Effects used for this assessment is in line with the criteria used for the consented scheme and no changes are made to the methodology used to assess the impact of the Proposed Amendments. A summary of the criteria is provided below:

Major negative effect: where the Proposed Amendments could be expected to have a very significant negative effect. The VSC following development is less than 50% of its existing value;

Moderate negative effect: where the Proposed Amendments could be expected to have a noticeable negative effect. The VSC following development is between 50 and 65% of its existing value;

Minor negative effect: where the Proposed Amendments could be expected to result in a small, barely noticeable negative effect. The VSC following development is between 65% and 80% of its existing value;

Negligible: where no discernible effect is expected as a result of the Proposed Amendments. There are no obstruction of the 25 Degree Line or the VSC is at least 27%or the VSC value following development is of at least 80% of its existing value or it improves up to 20% of its former value.

Minor positive effect: where the Proposed Amendments could be expected to have a barely noticeable positive effect. The VSC following improves between 20% and 35% of its existing value;

Moderate positive effect: where the Proposed Amendments could be expected to have a noticeable positive effect. This is the case when the VSC following development improves between 35% and 50% of its existing value; and

Major positive effect: where the Proposed Amendments could be expected to have a very significant positive effect. This is the case when the VSC improves more than 50% of its existing value.

Sunlight Assessment

6.5.36. The Significance of Effects used for the Sunlight Assessment is in line with the consented scheme and is reported below:

Major negative effect: where the Proposed Amendments could be expected to have a very significant negative effect. The total Average Percentage Sunlight Hours (APSH) is less than 25% and the APSH following development is less than 50% of its existing value or Winter Percentage Sunlight Hours (WPSH) is less than 5% and the WPSH following development is less than 50% of its existing value.

Moderate negative effect: where the Proposed Amendments could be expected to have a noticeable negative effect. The total APSH is less than 25% and the APSH following development is between 50% and 65% of its existing value or the WPSH is less than 5% and the WPSH following development is between 50% and 65% of its existing value.

Minor negative effect: where the Proposed Amendments could be expected to result in a small, barely noticeable negative effect. The total APSH is less than 25% and the APSH following development is between 65% and 80% of its existing value or the WPSH is less than 5% and the WPSH following development is between 65% and 80% of its existing value.

Negligible: where no discernible effect is expected as a result of the Propsoed Amendments. Window wall faces are within 90 degrees of due south and there is no obstruction of the 25 degree line or the APSH value is 25% or greater with at least the 5% of WPSH received during the winter months, or the APSH value and the WPSH value following development is at least 80% of its existing value or the improvement with the developments in place is up to 20% of its existing value.

Minor positive effect: where the Proposed Amendments could be expected to result in a small, barely noticeable positive effect. The total APSH is more than 25% and the APSH following the development improves between 20% and 35% of its existing value or the WPSH is more than 5% and the WPSH following development improves between 20% and 35% of its existing value.

Moderate negative effect: where the Proposed Amendments could be expected to have a noticeable positive effect. The total APSH is more than 25% and the APSH following development improves between 35% and 50% of its existing value or the WPSH is more than 5% and the WPSH following development improves between 35% and 50% of its existing value; and

Major positive effect: where Proposed Amendments could be expected to have a very significant positive effect. The total Average Percentage Sunlight Hours (APSH) is more than 25% and the APSH following development improves more than 50% of its existing value or Winter Percentage Sunlight Hours (WPSH) is more than 5% and the WPSH following development improves more than 50% of its existing value.

Overshadowing Assessment

6.5.37. The Significance of Effects used for the Sunlight Assessment is in line with the consented scheme and is reported below:

Major negative effect: where the Proposed Amendments could be expected to have a very significant negative effect. This is the case when less than 50% of the amenity space receives 2 hours of sunlight or when the sunlight following development is less than 50% of its existing value;

Moderate negative effect: where the Proposed Amendments could be expected to have a noticeable negative effect. This is the case when less than 50% of the amenity space receives 2 hours of sunlight or when the predicted hours of sunlight following development is between 50% and 65% of its existing value;

Minor negative effect: where the Proposed Amendments could be expected to result in a small, barely noticeable negative effect. This is the case when less than 50% of the amenity space receives 2 hours of sunlight or when the predicted hours of sunlight following development is between 65% and 80% of its existing value;

Negligible: where no discernible effect is expected as a result of the Proposed Amendments. This is the case when at least 50% of the amenity space receives 2 hours of sunlight on 21st March or the predicted hours of sunlight following development are at least the 80% of its existing value or the improvement with the developments in place is up to 20% of its existing value.

Minor positive effect: where the Proposed Amendments could be expected to result in a small, barely noticeable positive effect. This is the case when more than 50% of the amenity space receives 2 hours of sunlight or when the predicted hours of sunlight following development improves between 20% and 35% of its existing value;

Moderate positive effect: where the Proposed Amendments could be expected to have a noticeable positive effect. This is the case when more than 50% of the amenity space receives 2 hours of sunlight or when the predicted hours of sunlight following development improves between 35% and 50% of its existing value; and

Major positive effect: where the Proposed Amendments could be expected to have a very significant positive effect. This is the case when more than 50% of the amenity space receives 2 hours of sunlight or when the predicted hours of sunlight following development improves more than 50% of its existing value.

6.5.38. The BRE handbook does not include criteria for the significance of transient overshadowing. The document identifies the different times of the day and year when shadow would be cast over a surrounding area.

Limitations and Assumptions

6.5.39. The model of the existing surrounding buildings (i.e. outside of the red line boundary) has been built based on the information available for the extant permission. No internal survey was undertaken for the residential properties surrounding the FDS for the 2014 ES and a similar approach has been taken for this assessment to be in line with the previous analysis and allow for a comparison. As for the assessment carried out for the Proposed Amendments, this assessment has been undertaken based on the assumption that the windows affected will be those with the most sensitive habitable use, i.e. kitchens, living rooms and bedrooms. All other areas, including bathrooms, circulation areas, cupboards and storage spaces, corridors, etc. have been excluded.

6.6. Baseline Conditions

Daylight and Sunlight

6.6.1. The whole of the FDS extends from Westmoreland Road to the north, Albany Road to the south, Portland Street to the east and Bradenham Place to the west. At the time of the original 2014 EIA the FDS was dominated by the monolithic Bradenham and Chiltern blocks, both 14 storeys and running north-south to the edge of the park. Further large urban blocks ran perpendicular to these blocks. The site has been cleared for the construction of the new buildings which are part of the First Development Site. The two monolithic blocks have been demolished alongside any other building within the FDS. Sub Plots 01 and 02 are currently under construction and the rest of the site is empty. Therefore, the current existing buildings surrounding the FDS receive daylight and sunlight values above the levels described in the assessment of the consented scheme. This condition is in line with the condition described in the original 2014 ES under the construction section. As the current condition is an interim configuration, a detailed comparison with the current baseline condition has not been undertaken. The impacts

of the construction of the Proposed Amendments would steadily increase in magnitude and the substructure and superstructure is built and clad.

Overshadowing

6.6.2. The existing baseline is characterised by an empty site with Sub Plots 01 and 02 under constructions in line with the consented scheme. The existing baseline causes very limited obstruction to the existing properties surrounding the FDS due to the transitioning configuration which is typical of a construction site.

6.6.3. The Baseline Condition is shown in Appendix 6.1.

Future Baseline / Extant Permission

6.6.4. The baseline environment within the planning application red line boundary is evolving rapidly as the buildings within the FDS are constructed. The future baseline consists of the six sub-Plots within the First Development Site as described in the extant permission and in the original 2014 ES chapter. The First development Site is divided in six Sub-Plots and is a residential led scheme with a mix of building sizes ranging from terraced houses, mansion blocks and higher landmark buildings. This configuration represents the scenario described in the consented scheme, which includes more obstructions than the current baseline.

6.6.5. The Future Baseline is shown in Appendix 6.1.

6.6.6. Table 6.1 details the existing surrounding buildings (i.e. out width the red line planning boundary) which can be affected by the Proposed Amendments and which have been assessed as part of this addendum. The location of the sensitive receptors considered in this assessment is shown in Appendix 6.1.

Table 6.1: Existing Surrounding Buildings

Assessed buildings
1-29 St Matthew's House
1-6 Aycliffe House
1-5 Gayhurst
80-84 Gayhurst

6.6.7. Table 6.2 summarises the conditions of the Extant Planning Permission.

Table 6.2: Conditions of the Extant Planning Permission

Address	Vertical Sky Component (VSC)	Annual Percentage of Sunlight Hours (APSH)		
	Total number of windows assessed	Total number of windows meeting the BRE criteria	Total number of rooms assessed	Percentage of south facing living rooms meeting the BRE criteria
1-29 St Matthew's House	72	59	72	100%
1-6 Aycliffe House	12	8	9	100%
1-5 Gayhurst	90	80	36	100%
80-84 Gayhurst	70	70	28	100%
	244	**217**	**145**	**100%**

6.6.8. Of the four buildings considered as sensitive receptors, a total of 244 windows serving 145 rooms were assessed for daylight and sunlight.

6.6.9. For daylight, a total of 217 (89%) windows assessed for VSC meet the BRE criteria. For sunlight, all the south-facing living rooms assessed meet the BRE criteria.

6.7. Assessment of Effects, Mitigation and Residual Effects

Demolition and Construction

6.7.1. In line with the methodology followed for the original 2014 ES chapter, this study does not consider the effects during demolition and construction stages. The evolving and changing nature of demolition and construction activities do not allow for the selection of a specific configuration and only the predicted effects of the completed development have been considered.

6.7.2. The magnitude of impact and the level of effect for the existing properties surrounding the subplots 03 and 04 and the external amenity areas will vary during the construction stages based on the different level of obstruction caused by the construction activities. The massing of the new buildings will increase over time until the buildings are completed. It can, therefore, be assumed that the level of impact during the construction stages will be less than the impact from the new buildings when these have been completed. It can be stated that the completed buildings represent the worst-case assessment with regards to daylight, sunlight and overshadowing effects.

Operation

Daylight Analysis

6.7.3. The results of the detailed analysis indicate that the minor changes to the design will have a negligible impact on the daylight availability compared with the future baseline. This means that for the sensitive windows assessed, the VSC levels with the subplots 03 and 04 in place are very similar to the consented scheme.

6.7.4. Overall, a total of 244 windows have been assessed and all of them (100%) achieve either a VSC value of 27% or experience a reduction of no more than 20% compared to the consented scheme.

6.7.5. It can be concluded that the effect on daylight to these properties is negligible.

6.7.6. Detailed results of the assessment, including the numerical values obtained at the centre of the windows in the two configurations can be found in Appendix 6.2 and summarised in Table 6.2.

Mitigation

6.7.7. The design process to define the Proposed Amendments went through a series of iterations to minimise the impact on the existing properties while maximising the daylight and sunlight availability within the subplots 03 and 04. As a result, the Proposed Amendments contains elements of built-in mitigation within the massing, layout and design. No further mitigation measures are proposed.

Residual Effects

6.7.8. As there are no further mitigation measures proposed and incorporated into the design of the Proposed Amendments or wider FDS, the residual effects remain as presented in the Daylight Analysis section.

Address	Total number of windows assessed	Windows with reductions of no more than 20%	Windows with reductions between 20-34.9%	Windows with reductions between 35-49.9%	Windows with reductions >50%
1-29 St Matthew's House	72	72	0	0	0
1-6 Aycliffe House	12	12	0	0	0
1-5 Gayhurst	90	90	0	0	0
80-84 Gayhurst	70	70	0	0	0

Total	**244**	**244**	**0**	**0**	**0**

Sunlight Analysis

6.7.9. The results of the sunlight assessment indicate that most of the windows achieve Annual and Winter APSH values in line with the BRE recommendations. There are some habitable rooms achieving APSH value below the recommendations. However, these are rooms oriented north where sunlight availability is reduced. The BRE handbook states: "...a south facing window will, in general, receive most sunlight, while a north facing one will receive it only on a handful of occasions. East and west facing windows will receive sunlight only at certain times of day." The document also states that the main requirement for sunlight is for living rooms. It can, therefore, be stated that south-facing living rooms are rooms of high sensitivity, while habitable rooms in other orientation have lower sensitivity. In line with the assessment undertaken for the consented scheme, only south-facing living rooms are considered relevant for this assessment. However, a detailed analysis of all the habitable rooms in close proximity to subplots 03 and 04 have been analysed.

6.7.10. The detailed results of the calculations can be found in Appendix 6.2 and a summary of the results can be found in Tables 6.4 and 6.5.

6.7.11. The results of analysis show that all the south-facing living rooms either meet the BRE recommendations or receive a reduction of no more than 20% of the levels described for the consented scheme.

6.7.12. The results, therefore, indicate that the minor amendments will cause little or no change in sunlight levels with the Proposed Amendments in place. The effect is, therefore, classified as Negligible.

Mitigation

6.7.13. Preliminary studies were conducted to inform the design team on the likely effects on sunlight for the existing properties with the proposed changes to design. No further mitigation measures are proposed other than the ones discussed during the design process, which aimed at minimising the impact on the surrounding properties while maximising sunlight availability within the Proposed Amendments.

Residual Effects

6.7.14. As no further mitigation measures are proposed and incorporated into the design of the Proposed Amendments, the residual effects remain as presented in the Sunlight Analysis section.

Table 6.4: Annual APSH

Annual APSH					
Address	Total number of rooms assessed	% of south facing living rooms with reductions of no more than 20%	% of south facing living rooms with reductions between 20-34.9%	% of south facing living rooms with reductions between 35-49.9%	% of south facing living rooms with reductions > 50%
1-29 St Matthew's House	36	100%	0%	0%	0%
1-6 Aycliffe House	3	100%	0%	0%	0%
1-5 Gayhurst	10	100%	0%	0%	0%
80-84 Gayhurst	8	100%	0%	0%	0%
Total	**57**	**100%**	0%	0%	0%

Table 6.5: Winter APSH

Winter APSH					
Address	Total number of rooms assessed	% of south facing living rooms with reductions of no more than 20%	% of south facing living rooms with reductions between 20-34.9%	% of south facing living rooms with reductions between 35-49.9%	% of south facing living rooms with reductions >50%
1-29 St Matthew's House	36	100%	0%	0%	0%
1-6 Aycliffe House	3	100%	0%	0%	0%
1-5 Gayhurst	10	100%	0%	0%	0%
80-84 Gayhurst	8	100%	0%	0%	0%
Total	**57**	**100%**	0%	0%	0%

Overshadowing Analysis

6.7.15. The Sun-on-the-ground analysis has been conducted for the existing amenity spaces analysed for the consented scheme which are located close enough to the FDS to be affected by it. The location of the sensitive receptors for this analysis can be found in Appendix 10.1. A summary of results can be found in Table 6.6.

6.7.16. A total of 13 amenity spaces have been analysed for this assessment. The results show that there are no changes to sunlight availability in three of the spaces analysed (numbers 10,11 and 12). The remaining spaces achieve either at least two hours of sun on at least 50% of their area on 21 March or a reduction of no more than 20% compared to the consented scheme. The results indicate that there is a small improvement in space no. 13 where sunlight availability is increased by 10% the previous configuration.

6.7.17. The results should be read in conjunctions with the transient overshadowing assessment, which can be found in Appendix 6.2. Sub plot 03 has been designed to reduce the heights to the northern side of the subplots 03 and 04 and to align with the existing architectural and urban character. The minor amendments maintain the principles of the extant permission and reduce the impact on the existing surrounding properties to the greatest extent.

Mitigation

6.7.18. No mitigation measures are proposed for the overshadowing analysis other than the measures identified during the design process. The distance and the height of the Proposed Amendments has been determined based on the feedback provided through initial calculations.

Residual Effects

6.7.19. As there are no further mitigation measures proposed and incorporated into the design of the Proposed Amendments, the residual effects remain as presented in the Overshadowing Analysis section.

Table 6.6: Summary of Overshadowing Analysis

	Percentage of area achieving at least 2 hrs of sun on 21 March			
Amenity space (ID)	Consented scheme	Project	Loss (m2)	Space with reductions of no more than 20%
1	67.74	50	5.97	YES
2	71.88	68.75	1.29	YES

3	77.78	66.67	4.82	YES
4	80.56	69.44	5.04	YES
5	82.22	66.67	8.12	YES
6	83.33	69.44	6.34	YES
7	68.89	55.56	6.49	YES
8	66.67	52.78	5.31	YES
9	86.14	83.17	3.24	YES
10	100	100	0.00	YES
11	100	100	0.00	YES
12	100	100	0.00	YES
13	47.31	52.04	-22.87	YES

Cumulative Effects

6.7.20. The Cumulative Scenario consists of the Proposed Amendments and the surrounding consented buildings in the context of the surrounding existing environment. Other consented developments not considered in the cumulative scenario are not in close enough proximity to the development to affect daylight, sunlight and overshadowing. The consented scheme which has been considered in the cumulative scenario is the Aylesbury Estate Outline Masterplan (LPA ref. 14/AP/3044). This scheme consists of the;

"Demolition of existing buildings and phased redevelopment to provide a mixed use development comprising a number of buildings ranging between 2 to 20 storeys in height (12.45m - 68.85m AOD) with capacity for up to 2,745 residential units (Class C3), up to 2,500sqm of employment use (Class B1); up to 500sqm of retail space (Class A1); 3,100 to 4,750sqm of community use; medical centre and early years facility (Class D1); in addition to up to 3,000sqm flexible retail use (Class A1/A3/A4) or workspace use (Class B1); new landscaping; parks, public realm; energy centre; gas pressure reduction station; up to 1,098 car parking spaces; cycle parking; landscaping and associated works."

6.7.21. The Cumulative Scenario assesses the potential effects in daylight, sunlight and overshadowing of the cumulative scheme on the surrounding residential receptors and amenity spaces. A comparison with the results obtained in the baseline scenario is made.

6.7.22. Appendix 6.1 illustrates the configuration of the cumulative scenario.

Daylight Analysis

6.7.23. Some of the buildings assessed in the previous scenario are planned to be demolished to allow the construction of the new properties which are part of the consented Aylesbury Estate Outline Masterplan. In particular, 1-5 and 80-84 Gayhurst, located to the east of the FDS, have been excluded from this analysis. The remaining properties have windows facing subplots 03 and 04 and the Cumulative Schemes.

6.7.24. The results of the analysis show that the 84 sensitive receptors would not receive significant alterations and the cumulative level of effect on daylight to the assessed properties is considered negligible.

6.7.25. Detailed results of the assessment are presented in Appendix 6.2.

Table 6.7: Summary of Daylight Analysis (Cumulative)

Address	Total number of windows assessed	Windows with reductions of no more than 20%	Windows with reductions between 20-34.9%	Windows with reductions between 35-49.9%	Windows with reductions >50%
1-29 St Matthew's House	72	72	0	0	0
1-6 Aycliffe House	12	12	0	0	0
Total	**84**	**84**	**0**	**0**	**0**

Sunlight Analysis

6.7.26. The methodology for assessing the effects on sunlight is in line with the methodology used for the consented scheme. Only south-facing living rooms have been included in the assessment. These rooms represent the sensitive receptors of this analysis. Only south-facing living rooms of properties at 1-28 St Matthew's House and 1-6 Aycliffe House have been assessed.

6.7.27. The results of the analysis show that the sensitive receptors do not experience additional effects in the cumulative scenario for sunlight. It can be concluded that the cumulative effect to sunlight to the assessed properties is negligible.

6.7.28. Detailed results of the assessment are presented in Appendix 6.2, including the detailed results of rooms facing other orientations.

Table 6.8: Sunlight Analysis APSH (Annual) Cumulative

Annual APSH					
Address	Total number of rooms assessed	% of south facing living rooms with reductions of no more than 20%	% of south facing living rooms with reductions between 20-34.9%	% of south facing living rooms with reductions between 35-49.9%	% of south facing living rooms with reductions >50%
1-29 St Matthew's House	36	100%	0%	0%	0%
1-6 Aycliffe House	3	100%	0%	0%	0%
Total	**39**	**100%**	0%	0%	0%

Table 6.9: Sunlight Analysis APSH (Winter) Cumulative

Winter APSH					
Address	Total number of rooms assessed	% of south facing living rooms with reductions of no more than 20%	% of south facing living rooms with reductions between 20-34.9%	% of south facing living rooms with reductions between 35-49.9%	% of south facing living rooms with reductions > 50%
1-29 St Matthew's House	36	100%	0%	0%	0%
1-6 Aycliffe House	3	100%	0%	0%	0%
Total	**39**	**100%**	0%	0%	0%

Overshadowing Analysis

6.7.29. The amenity spaces included in the assessment of the Cumulative Scenario are illustrated in Appendix 6.1.

6.7.30. The results of the assessment indicate that the private gardens to the north of the subplots 03 and 04 do not experience significant effects in the cumulative scenario. It can be concluded that the cumulative effect to sunlight to the assessed amenity spaces is negligible.

6.7.31. A transient overshadowing analysis has been carried out in addition to the sun-on-the-ground analysis. Appendix 6.2 presents the results of the detailed analysis of the sun-on-the-ground assessment as well as the images of the transient overshadowing analysis.

Table 6.10: Overshadowing Analysis (Cumulative)

	Percentage of area achieving at least 2 hrs of sun on 21 March			
Amenity space (ID)	Consented scheme	Project	Loss (m2)	Space with reductions of no more than 20%
1	67.74	50	5.97	YES
2	71.88	68.75	1.29	YES
3	77.78	66.67	4.82	YES
4	80.56	69.44	5.04	YES
5	82.22	66.67	8.12	YES
6	83.33	69.44	6.34	YES
7	68.89	55.56	6.49	YES
8	66.67	52.78	5.31	YES
9	86.14	83.17	3.24	YES

6.8. Summary

6.8.1. The daylight, sunlight and overshadowing assessments have been undertaken following the methodology described in the original 2014 ES chapter and in line with the current BRE Handbook. The analysis has been conducted for all the sensitive receptors within the FDS. In particular, all the existing properties considered in close enough proximity to the FDS which could be affected by the Proposed Amendments have been analysed.

6.8.2. The effects on daylight, sunlight and overshadowing during the demolition and construction phases have not been analysed through a numerical analysis. However, considerations have been given to the daylight, sunlight and overshadowing effects during these phases. In

particular, the previous buildings have already been demolished and the current daylight and sunlight availability of the existing properties is higher than the levels previously experience by the residents. The construction of the new buildings will gradually increase in magnitude as the construction of structure and the cladding increases. The effects during construction, however, will be less than that of the completed buildings.

6.8.3. During the design process, interim calculations were undertaken to assess the likely effects of the proposed minor changes to the design of Sub Plots 03 and 04. Opportunities for mitigating the impact on the existing buildings surrounding the FDS were discussed with the design team.

6.8.4. The results of the daylight assessment indicate that of the 244 windows assessed, all of them (100%) would either meet the BRE targets or the reduction would be less than 20% of their former value. It can be concluded that the sensitive receptors would not experience a noticeable change in daylight availability. The level of effect is considered negligible.

6.8.5. The results of the sunlight assessment indicate that of the 57 rooms assessed, all of them (100%) would meet the criteria for both annual and winter APSH. These rooms would not experience a noticeable change to sunlight. The level of effect on these rooms is considered negligible.

6.8.6. For overshadowing, the proposed development would cause a negligible effect on all areas assessed.

6.8.7. The results of the cumulative scenario indicate that windows, rooms and open spaces which could be affected by the Proposed Amendments and the consented schemes would not experience a cumulative effect.

Summary of Assessment of Effects											
Description of the Likely Significant Effects (ID)	Significance of Effects					Summary of Mitigation / Enhancement Measures	Significance of Residual Effects				
	(Major, Moderate, Minor, Negligible)	Positive/ Negative	(P/T)	(D/I)	(ST/ MT/ LT)		(Major, Moderate, Minor, Negligible)	Positive/ Negative	(P/T)	(D/I)	(ST/ MT/ LT)
Construction											
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation											
Daylight conditions in the properties surrounding the Project in 244 windows out of 244	Negligible	N/A	P	D	LT	No further mitigation measures required	Negligible	N/A	P	D	LT
Sunlight conditions in the properties surrounding the Project in 57 rooms out of 57	Negligible	N/A	P	D	LT	No further mitigation measures required	Negligible	N/A	P	D	LT
Overshadowing conditions in the properties surrounding the Project in 13 amenity	Negligible	N/A	P	D	LT	No further mitigation measures required	Negligible	N/A	P	D	LT

spaces out of 13											

7. Socio-Economics and Population

7.1. Introduction

7.1.1. This Chapter is part of the Environmental Statement Addendum (ESA) which assesses the likely significant environmental effects of the Aylesbury Estate First Development Site (FDS) Package C; sub-plots S03 and S04 (hereafter referred to as the Proposed Amendments) on Socio-economics and Population. In particular it assesses employment generation, housing provision, and social infrastructure in the context of an updated baseline, methodology, and changes to the FDS since the 2014 ES.

7.1.2. The Proposed Amendments include an uplift of 60 homes has been proposed to Package C (i.e. sub-plots S03 and S04), from 261 homes to 321 homes.

7.1.3. It also identifies proposed mitigation measures to prevent, minimise or control likely adverse significant Socio-economic effects arising from the Proposed Amendments and sets out the subsequent anticipated residual effects.

7.1.4. This chapter should be read together with Chapter 4: The Proposed Amendments Description of this ES, and the Original 2014 ES.

7.2. Legislation, Policy and Guidance

Legislative Framework

7.2.1. There are no legislative requirements which exist in relation to Socio-economics, and therefore the assessment is guided by the Government's planning policy and guidance. A summary of the planning policy relevant to Socio-economics and the Proposed Amendments is provided below.

Planning Policy

National Planning Policy

7.2.2. The revised National Planning Policy Framework (NPPF) (Ref. 7.1) was adopted in July 2021, incorporating policy proposals previously consulted on in the Housing White paper and the 'Planning for the Right Homes in the Right Places' consultation. The NPPF sets out the Government's economic, environmental and social planning policies for England. These policies outline the Government's vision of sustainable development, and *"a framework within which locally-prepared plans for housing and other development can be produced"*.

7.2.3. At the heart of the NPPF is a presumption in favour of sustainable development (Paragraph 11). The NPPF states that the purpose of the planning system is to be plan led (Paragraph 15), with plans providing *"a positive vision for the future of each area; a framework for addressing housing needs and other economic, social and environmental priorities; and a platform for local people to shape their surroundings"*.

7.2.4. Chapter 5: 'Delivering a sufficient supply of homes' emphasises that a local housing needs assessment should inform strategic policies, and *"where major development involving the provision of housing is proposed, planning policies and decisions should expect at least 10% of the total number of homes to be available for affordable home ownership"* (Paragraph 65).

7.2.5. Chapter 6: 'Building a strong, competitive economy' outlines that planning policies should *"set out a clear economic vision and strategy which positively and proactively encourages sustainable economic growth"* (Paragraph 82a).

7.2.6. Chapter 8 of the NPPF outlines how planning policy *"should aim to achieve healthy, inclusive and safe places"* (Paragraph 92). Much of this guidance is relevant to Socio-economics, including the need for local authorities to:

- Ensure *"a sufficient choice of school places is available to meet the needs of existing and new communities";*
- *"Plan positively for the provision and use of shared spaces, community facilities (such as local shops, meeting places, sports venues, open space, cultural buildings, public houses and places of worship) and other local services to enhance the sustainability of communities and residential environments"*; and
- *"Ensure an integrated approach to considering the location of housing, economic uses and community facilities and services"*.

Regional Planning Policy

The London Plan – Spatial Development Strategy for Greater London (2021)

7.2.7. The most recent version of the London Plan was adopted by the Greater London Authority (GLA) in March 2021 (Ref. 7.2). The Plan supersedes the 2016 version of the document and introduces the 'Good Growth' initiative which aims to *"re-balance development in London towards more genuinely affordable homes for working Londoners to buy and rent"* and deliver *"a more socially integrated and sustainable city"*. The London Plan is the overall strategic plan for Greater London, setting out a framework of policies for development in the capital over a 25-year period. The following policies from the London Plan are relevant to Socio-economics and the Proposed Amendments:

- Policy GG1: 'Building strong and inclusive communities' presents the Mayor's commitment to inclusive growth, including ensuring access to facilities, community spaces and infrastructure which help to increase participation and social integration.
- Policy GG4: 'Delivering the homes Londoners need' outlines a strategic target of 50% affordable housing delivery, and the aim of developing homes which provide for a range of needs, helping to facilitate mixed and inclusive communities.
- Policy GG5: 'Growing a good economy' emphasises London's global economic position and the need to promote the strength and potential of the wider region. It seeks to ensure economic diversity, and plan for the delivery of sufficient employment space, as well as recognising the wider impacts housing, transport, and culture can have on economic success.

- Policy H1: 'Increasing Housing Supply' emphasises the need to optimise housing delivery, particularly on suitable and available brownfield sites, with boroughs encouraged to establish ambitious yet achievable build out rates, in line with the net housing completion targets outlined in the Plan. The Plan aims for an additional 522,870 dwellings to be delivered over the ten-year plan period, or 52,287 dwellings to be built annually in London to meet high demand. The housing delivery target for the London Borough of Southwark (LBS) is 23,550 net new homes in the period to 2028/29, or an annual average of 2,355 dwellings.
- Policy H4: 'Delivering affordable housing' outlines that new homes should comprise 50% new affordable dwellings in London, which should be delivered on site. This will contribute to *"meeting the need for an estimated 43,500 new affordable homes per year, as established in the 2017 Strategic Housing Market Assessment"* (Ref. 10.3)
- Policy H6: 'Affordable housing tenure' outlines that of the affordable dwellings delivered, 30% should be for social or affordable rent, 30% intermediate rent or sale dwellings, and the remaining 40% for either social, affordable, or intermediate rent or sale; to be determined by the borough on the basis of identified need.
- Policy H10: 'Housing size mix' sets out that schemes should consist of a range of unit sizes, helping to deliver mixed and inclusive neighbourhoods. It is noted that one-bedroom units "play a very important role in meeting housing need".
- Policy S4: 'Play and informal recreation' outlines that developments should increase opportunities for play, with "good quality, accessible play provision for all ages", and the delivery of both formal and informal play where possible.

Shaping Neighbourhoods: Children and Young People's Play and Informal Recreation Supplementary Planning Guidance (2012)

7.2.8. The GLA's Supplementary Planning Guidance (SPG) 'Shaping Neighbourhoods: Children and Young People's Play and Informal Recreation' (Ref. 7.4) was published in September 2012. The SPG guides the implementation of the London Plan Policy 3.6) (Ref. 7.1), which states that *"the Mayor and appropriate organisations should ensure that all children and young people have safe access to good quality, well designed, secure and stimulating play and informal recreation provision, incorporating trees and greenery wherever possible"*.

7.2.9. The SPG outlines a recommended benchmark standard of 10m^2 of dedicated play space per child (any space to be accessible to the newly resident children and young people living within new developments). Levels of accessibility to play space for new developments are set according to age groups.

Homes for Londoners, Affordable Housing and Viability SPG (2017)

7.2.10. The Affordable Housing and Viability SPG (Ref. 7.5) was published in August 2017. It provides guidance on the means to accelerate the delivery of housing and affordable housing, and supersedes section 3.3 (Build to Rent) and Part 5 (Viability) of the March 2016 SPG (Ref. 10.6). It sets as a strategic priority for housing delivery to be maximised on brownfield sites at transport nodes. It also proposes a 'threshold approach' set to 35% of affordable housing in terms of habitable rooms whereby *"schemes that do not meet this threshold or require public*

subsidy to do so will be required to submit detailed viability information which will be scrutinised and treated transparently".

Social Infrastructure SPG (2015)

7.2.11. The Mayor of London's Social Infrastructure SPG 2015 (Ref. 10.7) sets out guidance on identifying and evaluating the need for social infrastructure, including resources for assessing applications for social infrastructure. It emphasises the need for planning across services to ensure that social infrastructure meets the broader built environment aims of the London Plan.

Local Planning Policy

7.2.12. The Southwark Plan 2022 (Ref. 7.8) was recommended for approval at Cabinet on 7 December 2021, with final adoption at Cabinet on 23 February 2022. As such, the LBS note that all planning applications submitted from 8 December 2021 will be determined using the Southwark Plan 2022 policies. The Southwark Plan will replace a number of the Borough's existing policies, including will replace the Core Strategy (2011) (Ref. 10.9), saved Southwark Plan (2013) policies (Ref. 7.10), and the Aylesbury Area Action Plan (2010) (Ref. 7.11).

7.2.13. Strategic targets are identified for the delivery of quality social rented and intermediate homes, including:

- *"Aim to deliver at least 2,355 new homes every year.*
- *11,000 new council homes will be delivered by 2043 as part of the overall housing target.*
- *Aim to deliver 50% of all new homes as social rented and intermediate homes, with a minimum requirement of 35% (25% social rented and 10% intermediate) in planning applications".*

7.2.14. In Table A: 'Delivery in Vision Areas', Aylesbury is identified as having capacity to deliver a net total of 1,500 new homes, and Policy SP1 'Homes for all' emphasises the need to provide more good quality homes, particularly social rented and intermediate properties, and dwellings of different sizes.

7.2.15. Section AV.01 'Aylesbury Area Vision' identifies that development in the area should *"generate new neighbourhoods with a range of housing tenures and sizes that will attract existing residents to stay and new people to move in…"*, with dwellings suitable for residents at different life stages, with a range of community facilities, employment opportunities, and quality open spaces.

7.2.16. Policy P27 'Education Places' emphasises thar identified need for education facilities must be met, with new school places to be provided for new residents where there is demand.

7.2.17. Policy P28 'Access to Employment and Training' notes that for developments of 5,000m^2 or more, training and jobs for local people must be provided as part of the construction stage. This aims to help overcome barriers to employment and improve workforce participation within the Borough.

7.2.18. Policy P57 'Open Space' identifies that 21% of the Borough is open space, providing an essential resource for residents. Development and regeneration provide the opportunity to deliver improved and new facilities.

Guidance

7.2.19. The following guidance documents have been used during the preparation of this Chapter:

- Homes and Community Agency (HCA) (2015) Employment Density Guide 3rd Edition (Ref. 10.12); and
- English Partnerships (2014) Additionality Guide 4th Edition (Ref. 10.13).

7.3. Historic Assessment

7.3.1. The Original 2014 ES found the following residual effects:

- Construction employment generation (direct, indirect, and induced effects): Moderate Positive
- Operational employment generation: Negligible to Minor Positive
- Housing need: Minor Positive
- Additional local spend: Minor Positive
- Demand for education and healthcare: Negligible Positive

7.3.2. Since this assessment was undertaken, both the methodology for assessing Socio-economic impacts, and the descriptors used for significance of effect have evolved in line with best practice, professional judgement and experience. This is described further in the Limitations and Assumptions section.

7.3.3. The Original 2014 ES assessment was proportionate and appropriate; however this updated ESA Socio-economic assessment provides a re-assessment taking account of the Proposed Amendments, in line with the most recently available policy and guidance. This ESA also assesses Package C sub-plots S03 and S04 only, whereas the 2014 ES assessed the entirety of the FDS site. As such, the two assessments and their findings are not directly comparable. This is considered an appropriate given the FDS extant permission has been implements and under construction.

7.4. Assessment Methodology and Significance Criteria

Scope of the Assessment

7.4.1. The following elements are considered to have the potential to give rise to likely significant effects during construction of the FDS and have therefore been considered within this assessment:

- Construction employment generation.

7.4.2. The following elements are considered to have the potential to give rise to likely significant effects during operation of the FDS and have therefore been considered within this assessment:

- Additional Local Spending;
- Provision of Housing;
- Local service demand (including primary and secondary education, and primary healthcare facilities); and
- Demand for open space and play space.

Extent of the Study Area

7.4.3. The study area for this Socio-economic assessment varies according to receptor. In the absence of statutory guidance on Socio-economic assessments, reference has been made to planning policy, best practice guidance, and professional judgement / experience. Those Socio-economic receptors for which some specific geographical parameters can be applied in relation to the FDS (subplots 03 and 04) are outlined below.

7.4.4. The economic impact is considered relative to Greater London, as this represents the principal labour market catchment area. The LBS is highly accessible from all areas of Greater London, and is likely to be served by labour from all boroughs across Greater London. The Greater London labour market incorporates the population that may reasonably be expected to travel to and benefit from the Proposed Amendments.

7.4.5. The National Travel Survey 2020 (Ref. 7.14) states that the average distance travelled to school by primary school children in Greater London is 2.3km, and for secondary school children in Greater London is 2.7km. These catchments are the areas within which children are most likely to access education facilities, in proximity to their home address.

7.4.6. The Project Site is located within the NHS South East London Clinical Commissioning Group (CCG) area, and comprises GP surgeries from six boroughs: Bexley; Bromley; Greenwich; Lambeth; Lewisham; and Southwark. There is no standardised catchment area within which residents typically access GP or Dental services. As such, a 'typical' walking distance for central London locations (such as the FDS) of 1km has been assumed, on the basis of past experience and professional judgement.

7.4.7. The proximity of the FDS to pocket parks, small open space, local parks and district parks has been assessed, as per the GLA Open Space Hierarchy typologies outlined in the London Plan 2021 (Ref. 7.2).

7.4.8. Table 7.1 presents the different components of the assessment and the geographical scale at which they have been assessed. Catchments identified are proportionate to describe the likely significant Socio-economic effects.

Table 7.1 – Socio-economic Effects by Geographical Scale

Effect	Geographical Area of Effect	Rationale for Area of Effect
Employment generation during the construction phase (direct, indirect and induced effects)	Greater London	Census 2011 Origin and Destination Statistics
Additional local spending	Greater London	Office for National Statistics Regional Statistics 2019-20
Provision of housing	Borough level	London Plan 2021 and the Southwark Plan 2022
Provision of affordable housing	Borough level	London Plan 2021 and the Southwark Plan 2022
Effect on capacity and demand for primary education	Average travel to school area (2.3km)	National Travel Survey 2020
Effect on capacity and demand for secondary education	Average travel to school area (2.7km)	National Travel Survey 2019
Effect on capacity and demand for primary healthcare – GP and Dentist provision	1km radius	Professional judgement and past experience
Provision of open space	0.4km, 1.2km, 3.2km	London Plan 2021
Provision of child play space	100m, 400m and 800m	London Plan 2021, GLA SPG 'Providing for Children and Young People's Play and Informal Recreation'

Consultation

7.4.9. No consultation has been undertaken for Socio-economics and Population in the preparation of this updated ESA chapter. A series of public consultation events were held over the course of 2021, which is outline with the Statement of Community Involvement (SCI) which accompanies the planning application as a standalone report.

Method of Baseline Data Collation

7.4.10. A desk-based baseline data collection exercise has been undertaken which included a review of available information to determine the baseline conditions in the relevant geographical areas of effect. The following data sources have been reviewed:

- Office for National Statistics (ONS) NOMIS (Ref. 7.15);
- English Indices of Deprivation 2019 (Ref. 7.16);

- NHS Choices services finder (Ref. 7.17);
- Public Health England – Borough Health Profiles (Ref. 7.18); and
- Education and Skills Funding Agency, Capacity and Forecast Tables (Ref. 7.19).

Education

7.4.11. The existing baseline education provision relevant to the Proposed Amendments has been assessed taking account of guidance published by the Audit Commission (Ref. 7.20). In terms of the availability of education places, the Audit Commission states that *"it is unrealistic and probably undesirable to aim for a perfect match at each school; a sensible approach would be to plan for a 95% occupancy rate at schools and accept some variation, say plus or minus 10% around this target"*.

7.4.12. The National Travel Survey 2020 (Ref. 7.14) states that the average distance travelled to school by primary school children in Greater London is 2.3km. Given the proximity of the FDS with the neighbouring borough of Lambeth (LBL), the baseline for primary education considers schools in the LBS and LBL within 2.3km of the FDS.

7.4.13. The National Travel Survey shows that secondary school children travel further to school and therefore it is appropriate to consider secondary school education provision on a wider geographical basis. The average distance travelled by secondary school children in Greater London is 2.7km (Ref. 7.14). Transport links including London Underground and Overground services are more accessible to secondary school students compared with younger primary school students, and are likely to facilitate greater movement of secondary school age children. The baseline for secondary education considers all schools within 2.7km of the FDS.

Primary Healthcare

7.4.14. The FDS is located within the NHS South East London CCG area; the location within which the majority of residents at the Proposed Development are likely to access GP and dentist provision. There is no standardised catchment area within which residents typically access GP and dental services. As such, a 'typical' walking distance for central London of one kilometre (km) has been assumed within this Chapter.

Open and Recreational Space

7.4.15. The London Plan (Ref. 7.2) sets out a public open space hierarchy that provides Councils with benchmarks to assess their existing provision of open space (Table 7.2). The baseline presents a summary of the open space hierarchy within the London Plan which will be used to assess open space.

Table 7.2 – Public Open Space Hierarchy in London

Open Space Categorisation	Guidelines on Size of Site (ha)	Distances from Homes to Open Spaces (km)
Regional park	400	3.2 - 8
Metropolitan park	60	3.2

District park	20	1.2
Local parks and open spaces	2	0.4
Small open spaces	<2	<0.4
Pocket parks	<0.4	<0.4
Linear open spaces	Variable	Variable

7.4.16. The GLA's 'Shaping Neighbourhoods: Play and Informal Recreation' SPG (Ref. 10.4) provides guidelines on the maximum acceptable walking distances from child play spaces. The SPG states a recommended benchmark standard of 10m^2 of dedicated play space per child (any space to be accessible to the newly resident children and young people living within new developments). The SPG sets levels of accessibility to play space for new developments according to age groups. The baseline presents a summary of the child play space accessibility benchmarks (see Table 7.3) which will be used to assess play space.

Table 7.3 – Accessibility to Play Space (New Developments)

Age Group (years)	Maximum Walking Distance from Residential Unit (Taking into Account Barriers) (m)
Under 5	100
5-11	400
12+	800

Significance Criteria

7.4.17. The Socio-economic assessment seeks to establish the potential economic and social impacts of the Proposed Amendments and assesses these against the current baseline conditions. The impacts of the Project are considered at varying spatial levels according to the nature of the impact. This approach is consistent with the English Partnerships 'Additionality Guide, A Standard Approach to Assessing the Additional Effect of Projects, 4th Edition' (Ref. 7.13).

7.4.18. A socio-economic receptor or resource, which generally include economic entities and users of social infrastructure provision, can experience a socio-economic effect in different ways, including:

- As an economic/financial gain or loss; and
- As a gain or loss of a resource or access to a resource.

7.4.19. The sensitivity of receptors has been identified on a case-by-case basis with reference to relevant guidance where applicable and/or by employing professional judgement; determination of sensitivity varies depending on the type of receptor.

7.4.20. There is no accepted definition of what constitutes a significant (or not significant) socio-economic effect. It is however recognised that classification of an effect reflects the relationship

between the scale of an impact (magnitude) and the sensitivity (or value) of the affected resource or receptor.

7.4.21. As such Socio-economic effects are assessed on the basis of:

- Consideration of sensitivity to effects: specific values in terms of sensitivity are not attributed to socio-economic resources/receptors due to their diverse nature and scale, however the assessment takes account of the qualitative (rather than quantitative) 'sensitivity' of each receptor and, in particular, their ability to respond to change based on recent rates of change and turnover (if appropriate);
- Magnitude of the impact: this entails consideration of the size of the effect on people or business in the context of the area in which effects will be experienced; and
- Scope for adjustment or mitigation: the socio-economic study is concerned in part with economies. These adjust themselves continually to changes in supply and demand, and the scope for the changes brought about by the project to be accommodated by market adjustment will therefore be a criterion in assessing significance.

7.4.22. The assessment process aims to be objective and quantifies effects as far as possible. However, many socio-economic effects can only be evaluated on a qualitative basis. Effects are defined as follows:

- **Beneficial** classifications of significance indicate an advantageous or beneficial effect on an effect area, which may be minor, moderate, or major in effect;
- **Negligible** classifications of significance indicate imperceptible effects on an effect area; and
- **Adverse** classifications of significance indicate a disadvantageous or adverse effect on an effect area, which may be minor, moderate or major in effect.

7.4.23. Based on consideration of the above, where an effect is assessed as being beneficial or adverse, significance has been assigned using the scale below based on professional judgement:

- **Negligible:** no receptors (or very few) are beneficially or adversely affected. The effect is unlikely to make a measurable difference on the receptors in the relevant areas of effect;
- **Minor:** a small number of receptors are beneficially or adversely affected. The effect is likely to make a small measurable positive or negative difference on receptors in the relevant area(s) of effect;
- **Moderate:** a moderate number of receptors are beneficially or adversely affected. The effect is likely to make a measurable positive or negative difference on receptors in the relevant area(s) of effect; and
- **Major:** all or a large number of receptors are beneficially or adversely affected. The effect is likely to make a substantial positive or negative difference on receptors in the relevant area(s) of effect.

7.4.24. The duration of effect is also considered, with more weight given to permanent changes than to temporary ones. Temporary effects are considered to be those associated with the enabling, demolition and construction works, and may be short term (<1 year), medium term (1-4 years) or long term (5+ years). Permanent effects are generally those associated with the completed development and are expected to be non-reversible.

7.4.25. Effects that are deemed to be significant for the purposes of the Socio-economic assessment are those that are described as being moderate or major beneficial or adverse.

Limitations and Assumptions

7.4.26. As described in Section 1.3, since the Original 2014 ES assessment was undertaken, both the methodology for assessing Socio-economic impacts, and the descriptors used for significance of effect have evolved in line with best practice, professional judgement and experience.

7.4.27. This updated Socio-economic assessment provides a re-assessment of the updated Project parameters for the FDS (i.e. the net increase in the number of homes), in line with the most recently available policy and guidance. It is recognised however that due to the evolution in methodology, and the changes in baseline conditions in the eight-year period since the original assessment was undertaken, the assessment findings of the Original ES 2014 Socio-economic Chapter and this updated Socio-economic assessment are not directly comparable.

7.4.28. The assessment of open and play space was not included in the Original 2014 ES Socio-economic and Population Chapter, however given the importance of green space provision as outlined in the London Plan 2021 (Ref. 10.2) and the Southwark Plan 2022 (Ref. 7.8), and the evolution of WSP's methodology to include this as standard, this ESA Socio-economic chapter includes these elements.

7.4.29. This chapter assessed Socio-economic effects arising from FDS Package C, sub-plots S03 and S04. This represents a total number of 321 homes within Package C, which includes the proposed uplift of 60 homes.

7.4.30. Given that 2014 ES assessed Socio-economic and Population effects arising from the full FDS, it would not be proportionate to compare the residual effects arising from the full FDS and FDS Package C. A professional judgement has been made to summarise if the proposed uplift of 60 homes would pose a significant change to the residual effects assessed in 2014 ES.

7.5. Baseline Conditions

7.5.1. Baseline data is presented (where relevant and available) for the LBS, and a comparison provided with Greater London and Great Britain as a whole.

Population

7.5.2. The 2020 ONS Population estimate for LBS was 320,000 residents, and for Greater London was 9,002,500 residents (Ref. 7.15). The working age population (aged 16-64) as a percentage of the total resident population in LBS, Greater London and Great Britain is shown in Table 7.4.

Table 7.4 – Population aged 16-64 (% of the resident population)

Southwark	Greater London	Great Britain
72.5%	67.2%	62.4%

7.5.3. As shown above, the proportion of working age individuals aged 16-64 in LBS is slightly higher than both Greater London and Great Britain levels, indicating a concentration of working age individuals living in the Borough.

Employment and Economic Activity

7.5.4. The NOMIS Job Densities Report (Ref. 7.15), is available on a Local Authority-wide and sub-regional level and indicates the availability of employment and labour demand. As of 2020[3], the job density level (i.e. the ratio of total jobs to the population aged 16-64) in the LBS was 1.33. This is approximately 25% higher than the Greater London (0.99) level, and over one third higher than the Great Britain level (0.84) and indicates considerably greater employment opportunities within the Borough when compared with Greater London as a whole.

7.5.5. There were estimated to be 241,000 jobs in the LBS in 2020, of which 78.4% were full-time and 22.6% part-time. Table 10.5 shows the proportion of total employees working in each industry sector in 2020 (Ref. 7.15).

Table 7.5 – Proportion of total employees in each industry sector (2020)

Industry Sector	Southwark	Greater London	Great Britain
A: Agriculture, forestry and fishing	0.0	0.1	0.8
B: Mining and quarrying	0.0	0.0	0.2
C: Manufacturing	1.2	2.2	7.9
D: Electricity, gas, steam and air conditioning supply	0.5	0.3	0.5
E: Water supply; sewerage, waste management and remediation activities	0.1	0.4	0.7
F: Construction	1.5	3.3	4.8
G: Wholesale and retail trade; repair of motor vehicles and motorcycles	7.1	12.3	14.9
H: Transportation and storage	5.0	5.0	5.1
I: Accommodation and food service activities	6.2	7.5	7.2
J: Information and communication	10.0	7.8	4.5
K: Financial and insurance activities	2.9	7.5	3.5

[3] The most recently available data at the time of writing.

L: Real estate activities	2.5	2.5	1.8
M: Professional, scientific and technical activities	22.8	13.2	8.7
N: Administrative and support service activities	11.2	9.8	8.8
O: Public administration and defence; compulsory social security	5.8	4.7	4.6
P: Education	7.1	7.6	9.0
Q: Human health and social work activities	11.2	11.3	13.6
R: Arts, Entertainment and Recreation	1.9	2.3	2.2
S: Other service activities	2.9	2.3	1.9

7.5.6. **Error! Reference source not found.**7.5 shows that there Professional, Scientific and Technical; Administrative and Support; and Human Health and Social Work activities are the largest employment sectors within the Borough (22.8%, 11.2% and 11.2% respectively). There are some notable differences between the proportions of employees per sector when comparing LBS with Greater London, with almost twice the proportion of employees in the Professional, Scientific and Technical sector in the LBS than within Greater London. By comparison, the proportion of employees in Greater London within the Financial sector is over twice as high as within the LBS. Overall, the diversity of industries within the Borough includes both higher skilled employment sectors (such as education) and lower skilled sectors (such as Wholesale and Retail Trade).

Deprivation

7.5.7. The Indices of Multiple Deprivation (Ref. 7.16) uses a combination of information relating to seven 'domains': income; employment; health deprivation and disability; education, skills and training; barriers to housing; and crime and living environment to create an overall score of deprivation. Deprivation is scored between 1 and 317 (representing the 317 local authorities within England), with a score of 1 being most deprived and 317 being least deprived.

7.5.8. The Indices of Multiple Deprivation 2019 (Ref. 7.16) ranks the LBS 43rd of the 317 local authorities and falls within the top 15% most deprived areas within England. Southwark ranks 8th of the 33 Greater London Boroughs.

Housing

7.5.9. There are approximately 120,422 dwellings in the LBS based on 2021 Census projections. In terms of tenure, Census data reveals that 53.0% of dwellings within the LBS were privately owned or rented, a lower proportion compared with 73.3% in Greater London (Ref. 7.15).

7.5.10. The Southwark 'Strategic Housing Market Assessment' (SHMA) Update was published in 2019 (Ref. 7.21), commissioned by the Borough to replace the 2014 combined SHMA covering the South East London sub-region (Greenwich, Bexley, Bromley, Lewisham and Southwark). The 2019 update noted that the levels of new housing completions in Southwark over the previous five-year period were *"well below"* the delivery targets and assessed need in the Borough. The demand for affordable homes is projected to continue rising, and the ongoing need for affordable homes within Greater London is reflected in the London Plan (Ref. 7.2) Policy H4, which outlines targets for provision of 50% affordable housing on sites of 10 or more units.

Education

Primary Education

7.5.11. All children are required to attend primary schools from the September following their fourth birthday (although it is possible to defer a year in some instances) and it is the responsibility of the local education authority to ensure that sufficient primary education places are available. Primary education is provided in a variety of local authority managed settings.

7.5.12. Within 2.3km of the FDS there are 55 primary schools: 20 community schools; 22 voluntary aided schools; five foundation schools; four academy converter schools; two academy sponsor schools; and two free schools (Ref. 7.19). Table 10.6 outlines the difference between the school capacity and the number of pupils enrolled in a school (roll) and indicates whether the provision of school places is over or under capacity. The Department for Education (DfE) data for the 2020 school year (the most recently available data at the time of writing) indicates that there was a total surplus of 2,406 primary education places. If it is assumed that 95% occupancy of school places should be planned for, as per the Audit Commission Guidance (Ref. 7.20) and therefore that a 95% occupancy rate means a school has no further capacity[4], there remains a considerable surplus of 1,768 places for primary school children living within 2.3km of the FDS.

Table 10.6 – Rolls and Capacities of Primary Schools within 2.3km

Primary School	Capacity	Roll	Surplus / Deficit	Surplus / Deficit @ 95%
Van Gough Primary	875	570	305	261
Oasis Academy Johanna	240	217	23	11
Surrey Square Primary School	420	469	-49	-49
John Donne Primary School	480	470	10	0
St Paul's CofE	315	234	81	65

[4] Schools which have less than 5% capacity have been assumed to have zero surplus capa-1city and schools with surplus capacity have had a 5% reduction applied to their capacity to account for the fact that they wou-60ld considered to be full at 95% capacity.

Angel Oak Academy	420	421	-1	-1
Walnut Tree Walk Primary	350	279	71	54
Crampton Primary	210	205	5	0
Keyworth Primary	210	376	-166	-166
Henry Fawcett Primary	420	324	96	75
John Ruskin Primary School	420	497	-77	-77
Ashmole Primary	210	226	-16	-16
Comber Grove Community School	315	257	58	42
Loughborough Primary	567	373	194	166
Crawford Primary	630	533	97	66
Grange primary	420	395	25	4
Townsend Primary School	210	176	34	24
Victory Primary School	210	140	70	60
Robert Browning Primary School	420	241	179	158
Michael Faraday Community School	420	460	-40	-40
Pilgrims' Way Primary	210	227	-17	-17
Camelot Primary	555	392	163	135
Oliver Goldsmith Primary	420	404	16	0
Brunswick Park Primary	525	402	123	97
Lyndhurst Primary School	420	427	-7	-7
Dog Kennel Hill School	450	397	53	31
Charlotte Sharman Primary	420	239	181	160
Vauxhall Primary	210	236	-26	-26
Reay Primary School	210	242	-32	-32
Friars Primary Foundation School	210	198	12	2
Charles Dickens Primary School	420	483	-63	-63
John Keats Primary School	420	74	346	325
The Belham Primary School	420	350	70	49
Archbishop Sumner School	210	398	-188	-188

St Mark's CofE	210	218	-8	-8
St Anne's Catholic Primary	420	384	36	15
St Stephen's CofE	210	219	-9	-9
St Joseph's Catholic Infant School	180	162	18	9
St John the Divine Church of England Primary School	210	187	23	13
Christ Church Primary	210	207	3	0
St John's Angell Town Church of England Primary School	630	216	414	383
St Jude's Church of England Primary School	210	198	12	2
St George's Cathedral Catholic Primary School	420	216	204	183
The Cathedral School of St Saviour and St Mary Overy	210	221	-11	-11
Saint Joseph's Catholic Primary School	210	227	-17	-17
St Joseph's Roman Catholic Primary School	315	343	-28	-28
St James' Church of England Primary School	480	551	-71	-71
Boutcher Church of England Primary School	210	209	1	0
English Martyrs Roman Catholic Primary School	420	335	85	64
St Peter's Church of England Primary School	210	192	18	8
St Francis RC Primary	420	412	8	0
Harris Primary Academy Peckham Park	420	338	82	61
St James the Great Roman Catholic Primary School	210	234	-24	-24
St George's Church of England Primary School	210	153	57	47

St Mary Magdalene Church of England Primary School	240	157	83	71
Total	**19,117**	**16,711**	**2,406**	**1,786**

Secondary Education

7.5.13. Secondary schools typically provide education for children between the ages of 11-18. All children are required to stay in education (or training) until the age of 18 and can also choose to study at a higher education college or skills centre. Similar to primary schools, secondary education is provided in a variety of local authority managed settings.

7.5.14. Within 2.7km of the FDS there are 19 secondary schools, as outlined in Table 7.7. There are seven academy sponsor schools, three academy converter schools, four free schools, four voluntary aided schools, and one community school. The DfE data for the 2020 school year (the most recently available data at the time of writing) indicates that there was a total surplus of 2,307 secondary education places (Ref. 7.19). If it is assumed that 95% occupancy of school places should be planned for, as per the Audit Commission Guidance (Ref. 7.20), there remains a considerable total surplus of 1,762 places for secondary school children living within 2.7km of the FDS.

Table 7.7 – Rolls and Capacities of Secondary Schools within 2.7km

Primary School	Capacity	Roll	Surplus / Deficit	Surplus / Deficit @ 95%
St Michael's Catholic College	900	894	6	0
Sacred Heart Catholic School	750	864	-114	-114
Platanos College	1,000	1,002	-2	-2
Harris Academy Bermondsey	1,150	851	299	242
City of London Academy (Southwark)	1,500	1,450	50	0
University Academy of Engineering South Bank	600	751	-151	-151
Ark Walworth Academy	1,200	1,023	177	117
Archbishop Tenison's School	517	335	182	156
Ark All Saints Academy	800	602	198	158
Ark Evelyn Grace Academy	1,200	566	634	574
Lilian Baylis Technology School	838	808	30	0

Haberdashers' Aske's Borough Academy	420	175	245	224
Oasis Academy South Bank	730	699	31	0
Compass School Southwark	600	391	209	179
The Charter School East Dulwich	1,130	597	533	477
Notre Dame Roman Catholic Girls' School	620	614	6	0
St Saviour's and St Olave's Church of England School	825	746	79	38
Saint Gabriel's College	600	565	35	5
The St Thomas the Apostle College	860	1,000	-140	-140
Total	**16,240**	**13,933**	**2,307**	**1,762**

Primary Healthcare

7.5.15. Public Health England produces health profiles for each local authority in England. The 2020 local authority health profile for the LBS (the most recently available at the time of writing) indicates that the health status of the population is broadly similar when compared with the England average (Ref. 7.18).

7.5.16. The LBS performed significantly better than England for a number of health indicators including: female life expectancy; hospital admissions for some conditions; smoking rates; physical activity; and obesity. For a number of measures however, the LBS performed significantly worse than the England average, including: mortality rates for under 75 year olds; diabetes rates; and childhood obesity.

GPs

7.5.17. There are seven GP surgeries located within 1km of the FDS (considered to be a typical walking distance), all of which accepting new patients. At these surgeries there are a total of 20 Full Time Equivalent (FTE) GPs and 43,952 registered patients (Ref. 7.22). The average number of patients per FTE GP at these practices is 2,198 which is somewhat higher than the England average ratio of 1,800 patients per GP, as recommended by the Department of Health (Ref. 7.23). The Dun Cow Surgery and Manor Place Surgery have not published data regarding the number of FTE GPs or registered patients, and therefore cannot be compared to the England average ratio of patients per GP.

Table 7.8 – GP Surgeries within 1km of the FDS

Name	FTE GPs	Registered Patients	Patients per FTE GP

Penrose Surgery	4.9	13,910	2,839
The Dun Cow Surgery	-	-	-
Old Kent Road Surgery	3.95	10,482	2,654
East Street Surgery	4.03	7,405	1,837
The Trafalgar Surgery	1.07	3,950	3,692
Villa Street Surgery	6.05	8,205	1,356
Manor Place Surgery	-	-	-
Total	**20.0**	**43,952**	**2,198**

Dentists

7.5.18. There are five dental practices located within 1km of the FDS: Walworth Road Dental Clinic; Tower Bridge Surgery; The Dental Surgery Old Kent Road; Grange Dental Surgery; and Amelia Street Dental (Ref. 7.17). Dentists are not required to publish information on registered patients in the same way as GP surgeries and there is no available data on the existing numbers of registered patients at these practices. Given that there are only five dental practices within the locality, and these are therefore likely to serve a considerable proportion of the existing local population, in line with the lack of capacity within local GP surgeries, there is anticipated to be a reasonably high number of registered patients and limited existing capacity at the five dental surgeries within 1km of the FDS.

Open Space

7.5.19. The New Southwark Plan (Ref. 7.8) emphasises that the Council's strategy for open spaces centres on the protection of all existing open space, with new spaces and extensions proposed across the Borough to ensure that parks and open spaces meet the needs of a growing and changing population. Open space is protected as Metropolitan Open Land, Borough Open Land or Other Open Space in the New Southwark Plan. The Aylesbury Area is identified as a location for new 'green fingers' which will provide new open space for residents and enhance the connections with Burgess Park and Surrey Square Park.

7.5.20. Table 7.9 identifies existing areas of open space within varying distances of the FDS, in line with GLA Guidance. There are three Small Open Spaces and one Local Park within 0.4km of the FDS, and two District Darks within 1.2km of the FDS; all of which provide landscaped public space for active and passive recreation, incorporating benches, planting, and paths.

Table 7.9 – Open Spaces surrounding the FDS

Open Space Categorisation	Guidelines on the size of open space (ha)	Distance from the Project to open space (km)	Name of open space
Regional Parks	400	3.2-8	Dulwich Park

Metropolitan Parks	60	3.2	Peckham Rye Common Nunhead Cemetery
District Parks	20	1.2	Burgess Park Kennington Park
Local Parks and Open Spaces	2	0.4	Salisbury Row Park
Small Open Spaces	<2	<0.4	Surrey Square Park Nursery Row Park Faraday Gardens
Pocket Parks	0.4	<0.4	-

Play Space

7.5.21. Table 7.10 gives the details of the existing play spaces located within 800m of the FDS. Surrey Square Playground is situated approximately 100m from the FDS and contains an equipped play area suitable for 0-5 year olds and 5–11-year-olds. Within 400m there are three parks with playgrounds, including Burgess Park which offers two different play areas including adventure play facilities and a BMX track suitable for older children. Salisbury Row Park (approximately 500m from the FDS) also offers play facilities for 0-5 and 5-11 year olds, however this is beyond the recommended walking distance for these age groups to access play facilities.

7.5.22. There are no dedicated play or Multi Use Games Areas (MUGA) for older age children within the locality, and a limited availability of equipped play facilities within the recommended walking distances outlined within the GLA's SPG Shaping Play and Children's Recreation (Ref. 7.4) for 12+ year olds.

Table 7.10 – Play spaces within 1km of the FDS

Maximum walking distance from Site (m)	Name of space and facilities	Age group served
100	Surrey Square Park (equipped play space for 0-5 and 5-11 year olds)	Under 5 years
400	Faraday Gardens (equipped play space for 0-5 and 5-11 year olds) Nursery Row Park (equipped play space for 0-5 and 5-11 year olds) Burgess Park (equipped play space for 0-5, 5-11 year olds, and 12+ year olds including adventure play and a BMX track)	5-11 years

800	-	12+ years

Future Baseline

7.5.23. The outline masterplan (ref. 14/AP/3844) is an extant permission for the wider Aylesbury Estate redevelopment, part of which has been completed at the time of writing (Plot 18). In addition, completion of FDS A (sub-plots 01, 02 and part 06) will be completed in September 2022.. Facilities within the wider Site including commercial space, open and play space which will be accessible for residents to use, and will offer an attractive local public realm.

7.5.24. It is anticipated that in the absence of the Proposed Amendments (i.e. Package C, sub-plots S03 and S04, with a net increase of 60 homes from that of the FDS extant permission), a lower number of residential dwellings will be available within the wider Site and LBS. Facilities proposed within the wider Site will remain accessible for residents at the FDS to use, as well as offer an attractive local public realm.

7.6. Assessment of Effects, Mitigation and Residual Effects

Demolition and Construction

Generation of Direct, Indirect and Induced Construction Employment

7.6.1. Construction employment represents a positive economic effect that can be estimated as a function of the scale and type of construction (infrastructure and buildings). The following section estimates gross employment arising from the FDS during the demolition and construction phase and then takes into account leakage, displacement and multiplier effects in order to assess the net effects on construction employment for the Greater London economy.

Gross Direct Demolition and Construction Employment

7.6.2. The estimated enabling works, demolition and construction period is approximately three years. The construction work is not permanent and therefore the effect will be temporary and medium-term in nature. The capital and revenue expenditure involved in the construction period will lead to increased output in the Borough, Greater London and the wider regional economy.

7.6.3. Applying an average gross output per construction industry employee (Ref. 7.24) to the estimated total construction cost, as outlined in the Methodology, it is therefore estimated that there are likely to be 414 Full Time Equivalent (FTE)[5] gross construction employees per annum on the FDS during the demolition and construction phase.

Net Additional Construction Employment

7.6.4. Table 7.11 presents the temporary employment generated by the Proposed Amendments (i.e. Package C; sub-plots S03 and S04, with a net increase of 60 homes from that of the FDS extant permission) taking leakage, displacement and multiplier effects into account. The total net additional employment created within Greater London as a result of the Proposed Development is estimated to be 415 employees per annum, whilst 113 jobs will be created

[5] Full Time Equivalent equates to the number of employees working a 'full' five-day week, given that not all employees will work full time. As such, FTE is used rather than headcount to present accurately the level of employment generation which could suggest a higher employee number than actually exists.

outside of London, resulting in a total net employment generation of 528 jobs on average per annum during the construction period.

Table 7.11 – Construction Employment Generation Per Annum

FTE Employment Generation	Greater London	Outside London	Total
Gross Direct Employment	325	89	414
Displacement	-81	-22	-103
Net Direct Employment	244	67	311
Net Indirect and Induced Employment	171	46	217
Total Net Employment	**415**	**113**	**528**

Source: WSP calculations

7.6.5. In the context of a large labour pool of construction workers in Greater London, the direct, indirect and induced employment, expenditure and upskilling created by the demolition and construction phase of the Proposed Development is likely to have a direct, temporary, medium-term minor beneficial (not significant) effect on the Greater London economy prior to the implementation of mitigation measures.

Mitigation

7.6.6. There are no mitigation measures required or proposed for Socio-economics in relation to construction employment generation. It is not considered appropriate for there to be any monitoring arrangements.

Residual Effect

7.6.7. Given there is no mitigation in relation to construction employment for Socio-economics, the pre-mitigation finding remains the same. Therefore, there is likely to be a direct, temporary, medium-term minor beneficial (not significant) residual effect on the Greater London economy.

7.6.8. 2014 ES reported a long-term moderate to major beneficial (significant) residual effect on the Greater London economy. Given the limited increase on construction employment assessed for the Proposed Amendments when comparing with the large labour pool of construction workers in Greater London, no change is anticipated on the overall residual effect reported on 2014 ES arising from the proposed uplift.

Operation

Changes to employment during operation

7.6.9. The FDS will generate long-term jobs once it is complete and operational. In estimating operational job generation, it is important to consider not just the gross effects of the FDS, but also net effects taking into account leakage, displacement and multiplier effects.

Gross Direct Operational Employment

7.6.10. The Applicant is seeking to provide a total of 88m^2 Gross Internal Area (GIA) Use Class E Commercial, Business and Service employment floorspace. Class E employment floorspace was introduced via a change to the Use Classes Order 1987 (Ref. 7.25) in 2020; combining the former classes of A1 (shops), A2 (financial and professional institutions), A3 (restaurants and cafes), as well as some D1 (non-residential) and D2 (assembly and leisure) space. Employment densities in the HCA Employment Densities Guide (Ref. 10.12) have not yet been updated to reflect this change. Therefore, for the purposes of assessing a 'worst-case scenario' for employment generation in Socio-economic terms, the employment density which is likely to yield the lowest number of employees (in line with the HCA Employment Densities Guide - 3rd Edition 2015) (Ref. 7.12) has been applied. This is a density of 20 employees / m^2 NIA floorspace[6].

7.6.11. When the Proposed Amendments (i.e. Package C, sub-plots S03 and S04, with a net increase of 60 homes from that of the FDS extant permission) is complete and operational, the employment floorspace on-site is estimated to support an estimated 3.5 gross FTE jobs on-site, as presented in Table 7.12.

Table 7.12 – Gross Direct Operational Employment Generation

Use Class	Floorspace (m^2)	Employment Density (per m^2)	Gross Direct FTE Employment
Class E: Commercial, Business and Service	70m^2 NIA	20	3.5

Source: WSP calculations

Total Net Employment

7.6.12. Assuming a leakage of 21.4% outside Greater London, a low level of displacement, and a 1.7 multiplier, it is estimated that the Project will result in the creation of an estimated 4.4 net additional jobs, of which 3.5 are estimated to be taken up by residents of Greater London, and 1 by residents outside Greater London (Table 7.13).

[6] The 88m^2 GIA has been converted to Net Internal Area (NIA) for the purposes of undertaking employment generation calculations, based on the HCA Employment Densities Guide. This results in a NIA of 70m^2.

Table 7.13 – Net Additional Operational Employment Generation

FTE Employment Generation	Greater London	Outside London	Total
Gross Direct Employment	2.8	0.7	3.5
Displacement	-0.7	-0.2	-0.9
Net Direct Employment	2.1	0.5	2.6
Net Indirect and Induced Employment	1.4	0.4	1.8
Total Net Employment	**3.5**	**0.9**	**4.4**

Source: WSP calculations

7.6.13. Taking into account the additional net direct, indirect, and induced employment created by the permanent employment, it is assessed that the Project is likely to have a direct, permanent, long-term negligible (not significant) effect on the Greater London economy prior to the implementation of mitigation measures.

Mitigation

7.6.14. There are no mitigation measures required or proposed for Socio-economics in relation to operational employment generation. It is not considered appropriate for there to be any monitoring arrangements.

Residual Effect

7.6.15. Given there is no mitigation in relation to construction employment for Socio-economics, the pre-mitigation finding remains the same. Therefore, there is likely to be a direct, permanent, long-term negligible (not significant) residual effect on the Greater London economy.

7.6.16. 2014 ES reported a long-term moderate beneficial (significant) residual effect on the Greater London economy. Given the limited increase on operational employment assessed for the Project when comparing with the large labour pool of construction workers in Greater London, no change is anticipated on the overall residual effect reported on 2014 ES arising from the proposed uplift.

Local Spend

7.6.17. To estimate the effect of the Proposed Development in terms of additional local expenditure, average weekly spending figures for residents in Greater London have been applied to the accommodation schedule. The likely number of residents arising from the Project has been calculated based on the GLA Population Calculator (Ref. 7.26).

7.6.18. The amendment to the FDS relating to Package C (i.e. sub-plots S03 and S04) will see a total of 321 residential dwellings, which is a net increase of 60 homes from that of the FDS extant

permission, as outlined in the Accommodation Schedule in Table 7.14. On the basis of the Accommodation Schedule, the amended FDS Package C, sub-plots S03 and S04 will support approximately 735 residents (Table 7.15).

Table 7.14 – Accommodation Schedule at FDS Package C (Sub-plots S03 and S04)

Dwelling Size	Market	Shared Ownership	Social Rent	Total
1 bedroom	47	35	0	**82**
2 bedroom	134	36	18	**188**
3 bedroom	9	4	29	**42**
4 bedroom	0	0	9	**9**
Total	**190**	**75**	**56**	**321**

Table 7.15 – Estimated Number of Residents at FDS Package C (Sub-plots S03 and S04)

Dwelling Size	Market	Shared Ownership	Social Rent	Total
1 bedroom	75	56	0	**132**
2 bedroom	274	74	47	**394**
3 bedroom	25	11	119	**155**
4 bedroom	0	0	54	**54**
Total	**374**	**141**	**220**	**735**

Source: WSP calculations. Note: columns may not sum exactly due to rounding of numbers.

7.6.19. Applying ONS annual household spending estimates per person, by region (£13,052) (Ref. 7.27) to the estimated 515 residents projected to reside in the market and shared ownership dwellings for the FDS (i.e. Package C, sub-plots S03 and S04, with a net increase of 60 homes from that of the FDS extant permission), results in a total net benefit (taking displacement and leakage into account) of approximately £4.5 million (m) per annum, as outlined in Table 7.17.

Table 7.16 – Direct, Indirect, and Induced Spend per person

	Gross Direct Expenditure	Net Direct Expenditure (applying displacement of 0.25)	Net Indirect expenditure (applying leakage of 0.10)	Total Net Expenditure per person
Total spending (£)	13,052	9,789	979	8,810

Table 7.17 – Direct, Indirect and Induced Spend from Residents at the Project in Greater London

	Gross Direct Expenditure	Net Direct Expenditure (applying displacement of 0.25)	Net Indirect expenditure (applying leakage of 0.10)	Total Net Expenditure per person
Total spending (£)	6,721,780	5,041,335	504,134	4,537,202

Source: WSP calculations

7.6.20. Taking into account the additional net direct, indirect, and induced spend generated by residents at the Package C, sub-plots S03 and S04 (with a net increase of 60 homes from that of the FDS extant permission), it is assessed that the Project is likely to have a direct, permanent, long term minor beneficial (not significant) effect on the Greater London economy prior to the implementation of mitigation measures.

Mitigation

7.6.21. There are no mitigation measures required or proposed for Socio-economics in relation to additional local spend. It is not considered appropriate for there to be any monitoring arrangements.

Residual Effect

7.6.22. Given there is no mitigation in relation to additional local spending for Socio-economics, the pre-mitigation finding remains the same. Therefore, there is likely to be a direct, permanent, long-term minor beneficial (not significant) residual effect on the Greater London economy.

7.6.23. 2014 ES reported a long-term moderate beneficial (significant) residual effect on the Greater London economy. Given the limited increase on local spend assessed for the Project when comparing with the large residential number in Greater London, no change is anticipated on the overall residual effect reported on 2014 ES arising from the proposed uplift.

Effect on Schools

7.6.24. For the purposes of this assessment, child occupancy rates contained within the GLA Population Calculator (Ref. 7.26) have been applied to the accommodation schedule for the Package C, sub-plots S03 and S04, (with a net increase of 60 homes from that of the FDS extant permission) (with discounts applied to take account of leakage to private schools and attendance in other boroughs) to calculate the number of children requiring primary and secondary school places.

7.6.25. The estimated child yields for education have been based on the accommodation schedule outlined in Table 7.14, with the resultant demand for education places outlined in Table 7.18 below.

Table 7.18 – Estimated Child Yields for Education Demand

	Primary Education Places	Secondary Education Places	Total
Child Yield for Education	25	14	39

Source: WSP calculations

Primary Education Provision

7.6.26. With respect to primary school places the baseline analysis shows that there is currently a surplus of 2,406 primary school places in the LBS within 2.3km of the Project Site or a surplus of 1,768 places if a school is deemed at capacity if 95% of their places are taken up (as per Audit Commission guidance).

7.6.27. The LBS Infrastructure Plan (IP) (Ref. 7.28) was updated in 2017 and notes that at the time of writing, expansions to provide an additional 19 Forms of Entry[7] (FE) were underway. The IP notes that *"there is an anticipated 8FE additional need over and above this required by 2024/2025"* however does not specify the locations within the Borough where these FE are projected to be required. While there has been no update to the IDP since 2017, it can be assumed that given continued population growth and a steady increase in birth rates, combined with increased rates of residential development, there is still likely to be considerable demand for new forms of entry which the Borough are continuing to plan for.

7.6.28. While the IP indicates that demand for primary education at schools in the Borough could continue in the long term, the construction period for the FDS is projected to last until spring 2026. As such, estimating the availability of additional capacity and any surplus primary places to meet demand based on current capacity (also taking account of the fact that funding availability may change, and any planned schools may not come forward) is difficult.

7.6.29. Overall, there is currently a reasonable level of capacity at primary schools within 2.3km of the FDS to accommodate the 25 additional primary aged children projected to reside at the Project (see Table 7.18) without placing significant pressure on existing capacity. It is therefore assessed that the increased demand for primary education places generated by the Proposed Amendments will have a direct, permanent, long term negligible (not significant) effect on primary education provision in the LBS prior to the implementation of mitigation measures.

Mitigation

7.6.30. There are no mitigation measures required or proposed for Socio-economics in relation to the demand for primary education places. It is not considered appropriate for there to be any monitoring arrangements.

[7] A Form of Entry equates to one class of 30 pupils.

Residual Effect

7.6.31. Given there is no mitigation in relation to primary education provision for Socio-economics, the pre-mitigation finding remains the same. Therefore, there is likely to be a direct, permanent, long-term negligible (not significant) residual effect on meeting primary education provision in the LBS.

7.6.32. 2014 ES reported a long-term negligible (not significant) residual effect on education provision. Given the negligible increase on primary education spaces required for the Project, no change is anticipated on the overall residual effect reported on 2014 ES arising from the proposed uplift.

Secondary Education Provision

7.6.33. With respect to secondary school places the baseline analysis shows that there is currently a surplus of 2,307 primary school places in the LBS within 2.7km of the Project Site, and there will remain a surplus of 1,762 places if a school is deemed at capacity if 95% of their places are taken up.

7.6.34. The LBS IP (Ref. 7.26) notes that an additional 6FE would be required to meet demand by 2019/20, however gives no further projections of need in the longer term. It is assumed that there are fewer long-term pressures on the availability of secondary education places, due to these secondary expansions having taking place.

7.6.35. Overall, there is currently a reasonable level of capacity at secondary schools within 2.7km of the Project Site to accommodate the additional 14 secondary age children projected to reside at the Project without placing significant pressure on existing capacity. It is therefore assessed that the increased demand for secondary education places generated by the Project will have a direct, permanent, long term negligible (not significant) effect on secondary education provision in the LBS prior to the implementation of mitigation measures.

Mitigation

7.6.36. There are no mitigation measures required or proposed for Socio-economics in relation to the demand for secondary education places. It is not considered appropriate for there to be any monitoring arrangements.

Residual Effect

7.6.37. Given there is no mitigation in relation to primary education provision for Socio-economics, the pre-mitigation finding remains the same. Therefore, there is likely to be a direct, permanent, long-term negligible (not significant) residual effect on meeting secondary education provision in the LBS.

7.6.38. 2014 ES reported a long-term negligible (not significant) residual effect on education provision. Given the negligible increase on secondary education spaces required for the Project, no change is anticipated on the overall residual effect reported on 2014 ES arising from the proposed uplift.

Effect on Health

GPs

7.6.39. There are currently seven GP surgeries located within 1km of the Project Site (considered to be a typical walking distance), with a total of 20 FTE GPs and an average list size of 2,198 registered patients; a higher (i.e. worse) level of provision than the 1,800 patients per GP England average as outlined by the Department of Health (Ref. 10.23).

7.6.40. The accommodation schedule will give rise to a projected population yield of 735 residents within FDS Package C (i.e. sub-plots S03 and S04, with a net increase of 60 homes from that of the FDS extant permission). Taking a 'worst-case scenario' in which all new residents register with a local GP, the additional residents would increase the overall practice list size to 2,234 patients per GP which is an increase of 36 patients per GP.

7.6.41. It is therefore assessed that the increased demand for primary healthcare provision generated by the Proposed Development will have a direct, permanent, long term minor adverse (not significant) effect on GP services in the LBS prior to the implementation of mitigation measures.

Mitigation

7.6.42. It is proposed that Socio-economic mitigation in relation to the demand for primary healthcare could take the form of s106 contributions from new development (such as the Proposed Amendments) to fund new or enhanced GP provision. It is not considered appropriate for there to be any monitoring arrangements.

Residual Effect

7.6.43. If it is assumed that mitigation in the form of s106 contributions is provided by the Applicant which will serve to reduce the impact of the Project on the demand for GP provision, therefore there is likely to be a direct, permanent, long-term negligible (not significant) residual effect on meeting GP provision in the LBS following mitigation.

7.6.44. 2014 ES reported a long-term negligible (not significant) residual effect on capacity of healthcare facilities. Given the negligible increase on capacity of healthcare facilities required for the Project, no change is anticipated on the overall residual effect reported on 2014 ES arising from the proposed uplift.

Dentists

7.6.45. There are five dental practices within 1km of the Project Site, however there is currently no information about the number of dentists or registered patients. In line with the existing level of provision within GP services locally however, it is reasonable to assume that there is likely to be a worse level of service provision than the England average within local dental practices. It is therefore assessed that the increased demand for primary healthcare provision generated by the Project will have a direct, permanent, long term minor adverse (not significant) effect on dental services in the LBS.

Residual Effect

7.6.46. If it is assumed that mitigation in the form of s106 contributions is provided by the Applicant which will serve to reduce the impact of the Project on the demand for dental provision, therefore there is likely to be a direct, permanent, long-term negligible (not significant) residual effect on meeting dental provision in the LBS following mitigation.

7.6.47. 2014 ES reported a long-term negligible (not significant) residual effect on capacity of healthcare facilities. Given the negligible increase on demand for dental provision required for the Project, no change is anticipated on the overall residual effect reported on 2014 ES arising from the proposed uplift.

Effect on Housing Needs

Housing

7.6.48. The London Plan 2021 outlines a target for delivery of 2,355 additional homes within the LBS per annum over the period to 2028/29 (Ref. 7.2). Package C, sub-plots S03 and S04, (with a net increase of 60 homes from that of the FDS extant permission) will contribute to meeting housing delivery targets by adding 321 dwellings to the existing stock of the LBS, which represents 13.6% of the annual target outlined in the London Plan. Although the occupation of homes will occur gradually over the planned construction phase, the additional 321 homes are considered to have an overall direct, permanent, long term minor beneficial (not significant) effect on meeting the annual target for new housing provision in LBS prior to the implementation of mitigation measures.

Affordable Housing

7.6.49. The London Plan (Ref. 7.2) does not outline a strategic, London-wide target for affordable housing provision; however, it notes that *"the maximum reasonable amount of affordable housing should be sought"*, with an average of 50% affordable housing delivery on sites of 10 units or more, with a range of homes of different sizes. Affordable housing is made up of homes subsidised below market values, which at the Project comprises shared ownership and social rented dwellings. Subplots 03 and 04, as a result of the Proposed Amendments, will deliver 75 shared ownership units and 56 social rented units, of which 32% will be family sized units of three or four bedrooms. Overall, affordable housing comprises 40% of the total units on Project Site. On the basis of London Plan delivery targets (assuming a target of 50% of the annual 2,355 homes per annum to be delivered within the LBS should be affordable) subplots 03 and 04 will provides 11.1% of the Borough's annual affordable housing provision target.

7.6.50. Overall, it is assessed that the provision of housing and affordable housing of different sizes will have a direct, permanent, long term minor beneficial (not significant) effect on meeting the annual target for new housing provision in the LBS prior to the implementation of mitigation measures.

Mitigation

7.6.51. There are no mitigation measures required or proposed for Socio-economics in relation to the provision of housing and affordable housing. It is not considered appropriate for there to be any monitoring arrangements.

Residual Effect

7.6.52. Given there is no mitigation in relation to housing or affordable housing provision for Socio-economics, the pre-mitigation finding remains the same. Therefore, there is likely to be a direct, permanent, long-term minor beneficial (not significant) residual effect on meeting the target for new housing provision in the LBS.

7.6.53. 2014 ES reported a long-term minor beneficial (not significant) residual effect on housing needs. Given the limited increase of the proposed uplift of 60 homes within Package C (i.e. sub-plots S03 and S04), no change is anticipated on the overall residual effect reported on 2014 ES arising from the proposed uplift.

Open and Play Space

Open Space

7.6.54. Public and communal open spaces will be created across the Project Site to serve the 735 new residents who will reside at the Package C, sub-plots S03 and S04, (with a net increase of 60 homes from that of the FDS extant permission). These spaces 2,025m^2 new provision which will be linked by a landscaped amenity space and streetscapes, and comprise:

- A new open space; Portland Park;
- Two communal courtyards to serve the two residential blocks (S03 and S04); and
- A roof terrace on block S04.

7.6.55. These spaces have been designed to have a distinctive character with a range of outdoor environments including areas of raised planting, seating, and flexible hard landscaping space. The new open space will provide active and passive relaxation space for new and existing local residents.

7.6.56. In light of the proposed provision of landscaped open and amenity space, it is therefore assessed that the Proposed Development will have a direct, permanent, long term minor beneficial (not significant) effect on open space provision in the locality, prior to the implementation of mitigation measures.

Mitigation

7.6.57. There are no mitigation measures proposed for Socio-economics in relation to open space provision. It is not considered appropriate for there to be any monitoring arrangements.

Residual Effect

7.6.58. Given there is no mitigation in relation to open space provision for Socio-economics, the pre-mitigation finding remains the same. Therefore, there is likely to be a direct, permanent, long-term minor beneficial (not significant) residual effect on open space provision local to the Project Site.

Play Space

7.6.59. The GLA's SPG recommends that 10m^2 of play and recreation space per child should be provided for children and young people in new developments (Ref. 7.4). In order to calculate the estimated number of children aged 0-17 residing within the Project, the GLA Population Yield Calculator (Ref. 7.26) has been used to obtain the child yield arising from the Project. It should be noted that this method differs to that used to calculate education requirements, and results in an estimated 158 children projected to reside at the Proposed Development.

7.6.60. Applying GLA Play Space Guidance (Ref. 7.4) there is a requirement for 1,580m^2 of play space to serve the 158 children aged 0-17 projected to reside within the Project. There is a total of 1,530m^2 play and playable space provided to serve all age groups:

- 0-5 year olds: within the communal courtyards, 436m^2 of doorstep playable space will be located within a safe and visible area close to dwellings, with an additional 475m^2 equipped play space within Portland Park.
- 5-11 year olds: 596m^2 equipped play space within Portland Park
- 12+ year olds: 23m^2 offsite provision in an adjacent plot, which is easily accessible for older children who are able to travel further away from their homes unaccompanied to access play facilities.

7.6.61. All play areas have been carefully designed to be inclusive and accessible to children with a wide range of abilities and provide an interesting and playable landscape. Whilst the provision of play space at the Project does not fully meet the required provision levels, this represents a significant improvement to the existing provision on-site and in the locality. Open spaces at the Project site also provide access to open areas for informal play and recreation which will serve the needs of resident children at the Project.

7.6.62. In light of the proposed provision of landscaped and equipped play space, it is therefore assessed that the Proposed Development will have a direct, permanent, long term negligible (not significant) effect on play space provision in the locality, prior to the implementation of mitigation measures.

Mitigation

7.6.63. There are no mitigation measures proposed for Socio-economics in relation to play space provision. It is not considered appropriate for there to be any monitoring arrangements.

Residual Effect

7.6.64. Given there is no mitigation in relation to play space provision for Socio-economics, the pre-mitigation finding remains the same. Therefore, there is likely to be a direct, permanent, long-term negligible (not significant) residual effect on play space provision local to the Project Site.

7.7. Summary

7.7.1. Table 7.19 provides a summary of the findings of the Socio-economic assessment.

7.7.2. The proposed uplift of 60 homes within Package C (i.e. sub-plots S03 and S04) is anticipated to affect the residential Socio-economic and Population effects reported in 2014 ES

Table 7.19 – Summary of Socio-economic Effects

Receptor	Potential Effects	Significance of Effects Prior to Mitigation	Additional Mitigation	Residual Effects
Construction Phase				
The local and regional economy	Construction employment generation	Minor Beneficial (not significant) T / D, I / MT	N/A	Minor Beneficial (not significant) T / D, I / MT
Operational Phase				
The local and regional economy	Operational employment generation	Minor Beneficial (not significant) P / D, I, LT	N/A	Minor Beneficial (not significant) P / D, I, LT
The local and regional economy	Additional local spending (direct, indirect, and induced)	Minor Beneficial (not significant) P / D, I / LT	N/A	Minor Beneficial (not significant) P / D, I / LT
The LBS housing market and residents	Provision of housing and affordable housing	Minor Beneficial (not significant) P / D / LT	N/A	Minor Beneficial (not significant) P / D / LT

Receptor	Potential Effects	Significance of Effects Prior to Mitigation	Additional Mitigation	Residual Effects
Education provision (and users) within LBS	Demand for primary education	Negligible (not significant) P / D / LT	N/A	Negligible (not significant) P / D / LT
Education provision (and users) within LBS	Demand for secondary education	Negligible (not significant) P / D / LT	N/A	Negligible (not significant) P / D / LT
Primary healthcare provision (and users) within LBS	Demand for GP and dentist provision	Minor adverse (not significant) P / D / LT	Mitigation in the form of s106 contributions will help to provide additional capacity for primary healthcare facilities in the locality.	Negligible (not significant) P / D / LT
Open space provision (and users) within LBS	Open space provision	Minor Beneficial (not significant) P / D / LT	N/A	Minor Beneficial (not significant) P / D / LT
Play space provision (and users) within LBS	Play space provision	Negligible (not significant) P / D / LT	N/A	Negligible (not significant) P / D / LT

Key to table: P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable

References

Ref. 7.1 – UK Government (2021) National Planning Policy Framework
Ref. 7.2 - Greater London Authority (2021) The London Plan
Ref. 7.3 – Greater London Authority (2017) The London Strategic Housing Market Assessment
Ref. 7.4 - Greater London Authority (2012) Shaping Neighbourhoods: Children and Young People's Play and Informal Recreation Supplementary Planning Guidance
Ref. 7.5 - Greater London Authority (2017) Homes for Londoners, Affordable Housing and Viability SPG
Ref. 7.6 – Greater London Authority (2016) Housing SPG
Ref. 7.7 - Greater London Authority (2015) Social Infrastructure SPG
Ref. 7.8 – London Borough of Southwark (2022) The Southwark Plan 2022
Ref. 7.9 - London Borough of Southwark (2011) Local Plan, Core Strategy
Ref. 7.10 - London Borough of Southwark (2013) The Southwark Plan
Ref. 7.11 - London Borough of Southwark (2010) Aylesbury Area Action Plan
Ref. 7.12 - Homes and Community Agency (HCA) (2015) Employment Density Guide 3rd Edition

Ref. 7.13 - English Partnerships (2014) Additionality Guide 4th Edition
Ref. 7.14 - Department for Transport (2020) National Travel Survey: England
Ref. 7.15 - Office for National Statistics (2021) NOMIS
Ref. 7.16 - Department for Communities and Local Government (2019) Indices of Multiple Deprivation
Ref. 7.17 - NHS Choices Service Finder. [Online] accessed via https://www.nhs.uk/nhs-services/services-near-you/
Ref. 7.18 - Public Health England (2020) Borough Health Profiles – Southwark
Ref. 7.19 - Education and Skills Funding Agency (2020) Capacity and Forecast Tables
Ref. 7.20 - Audit Commission (1996) Trading Places: The Supply and Allocation of School Places
Ref. 7.21 - London Borough of Southwark (2019) Strategic Housing Market Assessment
Ref. 7.22 - NHS Digital Information Service: GP Workforce practice data (2020)
Ref. 7.23 - NHS London Healthy Urban Development Unit (HUDU), (2007); HUDU Planning Contribution
Ref. 7.24 – Office for National Statistics (2021) Business Register and Employment Survey - GB level employment (thousands) by Broad Industry Group
Ref. 7.25 - UK Government (1987) The Town and Country Planning (Use Classes) Order 1987
Ref. 7.26 - Greater London Authority (2019) Population Yield Calculator
Ref. 7.27 - Office for National Statistics (2021) Household Spending
Ref. 7.28 - London Borough of Southwark (2017) Infrastructure Plan

8. Wind

8.1. Introduction

8.1.1. This Chapter presents an assessment of the likely significant environmental effects of the Proposed Amendments on the local wind microclimate, within and surrounding the Site. Measures to prevent, offset or mitigate any negative effects are identified, as well as methods that will enhance the FDS and surrounding area. The assessment summarised in this Chapter is based on the wind modelling and analysis undertaken by RWDI and presented in **Appendix 8.1**.

8.1.2. The likely significant effects of the development on the local wind environment have been assessed against best practice criteria for pedestrian comfort and safety. These two aspects are associated with pedestrian use of public open spaces and it is important to ensure that the design follows UK good practice design guidelines developed to minimise associated negative effects.

8.2. Appendices

Table 8.1: Appendices for Chapter 8

Appendix No.	Document
8.1	Wind Technical Appendix

8.3. Legislation, Policy and Guidance

Legislative Framework

8.3.1. There is no legislation direction relating to wind microclimate issues relevant to the Proposed Amendments.

Planning Policy

National Planning Policy

8.3.2. National Planning Policy Framework (2019)[8]

In February 2019, the Government published an updated version of the NPPF There are no policies or statements that are directly related to the wind microclimate, although the promotion of high-quality built environments was emphasised in the NPPF. For instance, paragraph 127 states the following: "*[…] f) Create places that are safe, inclusive and*

[8] Department for Communities and Local Government, 2019. Revised National Planning Policy Framework. London. HMSO

accessible and which promote health and well-being, with high standard of amenity for existing and future users"

8.3.3. National Planning Practice Guidance (2019)[9]

The NPPG was published in November 2016 to support the NPPF and was updated in October 2019. There is no guidance within the NPPG related to tall buildings and wind microclimate issues.

8.3.4. UK Climate Projections (UKCP18) (2018)[10]

The UK Climate Projections (UKCP18) published by the Met Office presents a number of different predicted scenarios. The 'Climate Projects Report' published by UKCP18 presents the probable changes in wind speed for 2070 - 2099 in both the summer and winter seasons. With these predictions, the current trends in the climate change are not likely to have any significant effects on the predicted wind microclimate conditions in and around the Project. It is therefore not necessary to provide a quantitative analysis of the increase in storm frequency and its implication on the effect on the wind microclimate.

Regional Planning Policy

8.3.5. The London Plan 2021 – The Spatial Development Strategy for Greater London[11]

The London Plan 2021 is the Spatial Development Strategy for Greater London. It places importance on the creation and maintenance of a high-quality environment for London. The following policies apply specifically in relation to wind microclimate:

Policy D3 Optimising site capacity through the design-led approach (Para 3.3.8), states that:

- *"Buildings […] massing, scale and layout […] should complement the existing streetscape and surrounding area. Particular attention should be paid to the design of the parts of a building or public realm that people most frequently see or interact with in terms of its legibility, use, detailing, materials and location of entrances. Creating a comfortable pedestrian environment with regard to levels of […] wind".*

Policy D8 Public realm, Development Plans and development proposals should, states that:

- *"Consideration should also be given to the local microclimate created by buildings, and the impact of service entrances and facades on the public realm."*
- *"Ensure that appropriate shade, shelter, seating […] with other microclimatic considerations, including temperature and wind, taken into account in order to encourage people to spend time in a place."*

Policy D9 Tall buildings: Environmental impact, states that:

[9] Department for Communities and Local Government, 2019. Planning Practice Guidance.
[10] Met Office, 2018. UKCP18 Science Overview Report.
[11] Greater London Authority, 2021. The London Plan. London. GLA

- *"Wind […] around the building(s) and neighbourhood must be carefully considered and not compromise comfort and the enjoyment of open spaces, including water spaces, around the building";*
- *"Air movement affected by the building(s) should […] not adversely affect street-level conditions".*

Policy D9 Tall buildings: Cumulative impacts, states that:

- *"The cumulative visual, functional and environmental impacts of proposed, consented and planned tall buildings in an area must be considered when assessing tall building proposals and when developing plans for an area. Mitigation measures should be identified and designed into the building as integral features from the outset to avoid retro-fitting."*

Local Planning Policy

8.3.6. Southwark Core Strategy[12]

Section 5.112 states that:

- *"The height and scale of development is an important consideration in creating attractive and distinctive places. English Heritage and CABE have produced guidance on tall buildings, which has been endorsed by the Government. This advises that in the right place tall buildings can make positive contributions to places […] However they need to be well designed so that they do not […] create wind tunnels".*

8.3.7. The Southwark Plan (2019 to 2036)[13]

Policy P13, Design pf places, states that:

- *"Development must:*

1. *9. Provide opportunity for formal and informal play;*
2. *10."Provide adequate outdoor seating for residents and visitors".*

Policy P14, Design Quality, states that:

- *" Development must provide:*

1. *3. Adequate daylight […] and a comfortable microclimate […];*
2. *10. A positive pedestrian experience"*

Policy P17, Tall Buildings, states that:

- *"Tall buildings must:*

1. *6. Provide […]accessible space at or near to the top of the building and communal facilities […]"*

[12] London Borough of Southwark, 2011. Core strategy. London. LBS
[13] London Borough of Southwark, 2022. The Southwark Plan. London. LBS

- *"The design of tall buildings will be required to:*

1. *3. Avoid harmful and uncomfortable environmental impacts including wind shear […];*
2. *5. Have a positive relationship with the public realm […] and create a positive pedestrian experience".*

Policy P56, Protection of amenity, states that:

- *"Development should not […]. Amenity considerations that will be taken into account include:*

1. *4. Daylight, […] and impacts from wind and on microclimate"*

8.3.8. Southwark CDD1 Borough-wide Tall Building Research Paper[14]

Paragraph 2.4 states that:

- *"Design should also consider the potential negative impact on microclimate and environment, to minimise potential impact such as […] wind tunnel effects".*

8.3.9. Southwark CDB11 Borough-wide Tall Buildings Background Paper[15]

Paragraph 4.2 states that:

- *"The height and scale of development […] need to be well designed so that they do not […] create wind tunnels and they should help create more landscaped public spaces and enliven places."*

8.3.10. Saved Southwark Plan (2007)[16]

Policy 3.13, Urban Design, states that:

- *"Principles of good urban design must be taken into account in all developments. Urban design is the relationship between different buildings and streets, squares, parks and waterways and other spaces that make up the public domain; the nature and quality of the public domain itself; the relationship of one part of an urban area to another; and the pattern of movement and activity."*
- *"In designing new developments, consideration must be given to: […] Site layout – Building location, public spaces, microclimate, and outlook, site access and servicing, permeability, safety and ease of movement including vehicular, pedestrians and cyclists".*

Policy 3.13, Reasons, states that:

- *"[Landscaping] should form an integral part of the development and be appropriately designed and located having regard for […] microclimate impacts […]. Landscaping can be provided within the public realm, within semi-private spaces such as front*

[14] London Borough of Southwark, 2010. CDD1 Borough-wide Tall Building Research Paper. London. LBS
[15] London Borough of Southwark, 2010. CDB11 Borough-wide Tall Building Background Paper. London. LBS
[16] London Borough of Southwark, 2007. Saved Southwark Plan. London. LBS

gardens and within private amenity spaces such as courtyards, rear gardens and roof terraces. Green roofs and brown roofs can also be considered as other forms of landscaping."

Policy 3. 20, Reasons, state that:

- *"Tall buildings can […] cause unpleasant environmental effects, especially on the micro-climate."*

8.3.11. Aylesbury Area Action Plan (2010)

The Aylesbury Area Action Plan states that buildings which are taller than the general height need careful consideration. It also states that in the presence of these taller buildings, proposals should demonstrate that:

- "*… harmful effects on residents, pedestrians and cyclists, such as […] wind funnelling, will be minimised."*

Guidance

8.3.12. Guidance on tall buildings (2007)[17]

English Heritage and the Commission for Architecture and the Built Environment (CABE) produced a revised and updated version of their joint guidance on tall buildings. The final version was released in July 2007 and in section Criteria for evaluation, state that:

- *"… planning permission for tall buildings should ensure therefore that the following criteria are fully addressed: […] The effect on the local environment, including microclimate".*

8.3.13. Historic England Advice Note 4: Tall Buildings (2015)[18]

The Historic England Advice Note 4: Tall Buildings states in Section 4.7:

- *"Planning applications for tall buildings are likely to require an environmental impact assessment (EIA), which would be expected to address matters in respect of both the proposed building and its cumulative impact, including: […] e. Other relevant environmental issues, particularly sustainability and environmental performance, eg the street level wind environment."*

8.3.14. The London Plan Supplementary Planning Guidance: Sustainable Design and Construction (2014)[19]

Section 2.3.7 of the SPG refers to that large buildings having the ability to alter their local environment and affect the micro-climate. It states:

[17] Commission for Architecture and the Built Environment and English Heritage, 2007. Guidance on tall buildings. London. CABE and English Heritage
[18] Commission for Architecture and the Built Environment and English Heritage, 2015. Historic England Advice Note
[19] Greater London Authority (2014). The London Plan Supplementary Planning Guidance: Sustainable Design and Construction

- *"Where a proposed development is significantly taller than its surrounding environment, developers should carry out an assessment of its potential impact on the conditions at ground level and ensure the resulting design of the development provides suitable conditions for the intended uses."*

It also states that one way to assess the impact of a large building on the comfort of the street environment is the Lawson Comfort Criteria, a widely accepted scale to assess the pedestrian comfort and safety developed by T.V. Lawson from Bristol University. This method is comparable with international guidance, and it has been used in this study. The Lawson Criteria set out a scale for assessing the suitability of wind conditions in the urban environment based upon threshold values of wind speed and frequency of occurrence. It sets out a range of pedestrian activities from sitting to crossing the road and for each activity defines a wind speed and frequency of occurrence.

The Best Practice Guidelines for the Computational Fluid Dynamics Simulation of Flows in the Urban Environment has also been used as a technical reference for the study.

8.4. Historic Assessment

8.4.1. The pedestrian comfort and safety has been assessed previously in 2014 (within the original 2014 ES) by comparing the results against the Bristol Variant of the Lawson Comfort Criteria. The results of this assessment concluded that with the FDS built out including the proposed landscaping and wind mitigation measures, “the pedestrian comfort and safety at ground level and courtyard level would be expected to be suitable for the intended uses. The same good conditions are expected on the roof areas and on the balconies”.

8.4.2. As reported in the 2014 ES with the inclusion of the proposed wind mitigation measures wind conditions on-Project Site and off-Project Site would range from **Negligible (not significant) to Moderate Positive (not significant)** effects. These residual effects would be consistent with the wind conditions reported within this chapter.

8.4.3. A cumulative assessment of the scheme known as Aylesbury Phase 2B (which is currently at pre application stage) will also be compared to the 2014 assessment where appropriate.

8.5. Assessment Methodology and Significance Criteria

Scope of the Assessment

8.5.1. This Chapter reports the assessment of the likely significant effects of the subplots 03 and 04 on the wind environment at pedestrian level within the Site and its surroundings. Review of the wind assessment within the original 2014 ES along with the professional experience have informed the scope for this assessment.

8.5.2. The assessment within this chapter is focused on subplots03 and 04only. As the remaining plots of the extant permission have been partially built or have begun construction these have been included as existing buildings of the assessment.

8.5.3. The main interactions of wind with a building occurs relatively close to the building, particularly when there are neighbouring buildings and streets along which the wind can be channelled. This means that the focus of the assessment will be within the FDS and the immediate surrounding streets and public realm, on the relative comfort of FDS residents, visitors and users of the public, communal and private open spaces and pedestrians utilising other public realm areas, such as pedestrian routes within and bordering the FDS.

8.5.4. Due to the scale of the Proposed Amendments, a comprehensive assessment of baseline (existing) and likely pedestrian level wind conditions upon completion of the Project has been undertaken, based on wind tunnel testing of a physical scale model and the industry standard Lawson Comfort Criteria.

8.5.5. The local wind conditions were assessed and quantified for the following configurations:

- Configuration 1: Extant Planning Permission Site with Existing Surrounding Buildings;
- Configuration 2: The Proposed Amendments (Plot 03 and Plot 04) with Extant Planning Permission Site and Existing Surrounding Buildings; and
- Configuration 3: The Proposed Amendments (Plot 03 and Plot 04) with Extant Planning Permission Site, Existing Surrounding Buildings, Proposed Landscaping and Wind Mitigation Measures; and
- Configuration 4: The Proposed Amendments (Plot 03 and Plot 04) with Extant Planning Permission Site and Cumulative Surrounding Buildings.

8.5.6. It should be noted that Configurations 2 and 4 were assessed with-out any proposed landscaping measures to assess the worst-case scenario.

Extent of the Study Area

8.5.7. The wind tunnel model of is built at a scale of 1:300 and includes the surrounding area within a 360m radius of the centre of the FDS (hereafter referred as the 'surrounding area'). The immediate surrounding area consists of a mixture of low to mid-rise urban residential developments and as such a 360m radius is considered a robust study area for the wind assessment. This will hereafter be referred to as the 'Study Area'. The area to the south and south-west of the FDS consist of Burgess Park and the low to mid-rise buildings of Elmington Estate.

8.5.8. The cumulative assessment is based on the cumulative scheme list as defined within **Chapter 2**. Cumulative developments outside of the 360m radius are not modelled but are taken account of in the terrain analysis.

Consultation

8.5.9. A Scoping Opinion has not been sought as the original 2014 ES is considered to be sufficient to inform the assessment methodology since there haven't been any significant changes to planning policies which would change the required methodology since 2014 ES. The wind conditions at and around the FDS have been assessed by RWDI who a specialist wind

consultancy with over 30 years of wind microclimate experience in the UK is. Recently RWDI worked closely with local authorities to develop wind microclimate guidelines to meet particular challenges including City of London and Leeds City council

Method of Baseline Data Collation

8.5.10. The baseline conditions of the Site in its existing condition (referred to as the 'Project Site') together with the wider surrounding area (within a 360m radius of the site) have been defined using wind tunnel testing to provide a detailed, quantitative assessment of the existing wind microclimate conditions in terms of pedestrian comfort and safety.

8.5.11. Mean and peak wind speeds have been measured at each location around the existing Project Site and within the wider surrounding area at a scaled height of 1.5m (in accordance with the Lawson Comfort Criteria) above ground level for both the windiest season (normally winter in the UK) to show the worst-case scenario, and summer season for amenity spaces (amenity spaces are assessed during the summer season as these areas are expected to be used most frequently during this period with an expectation of calmer conditions compared to other times of the year). They have also been measured at locations across the existing Project Site and at other surrounding buildings, paths, roads, areas of open spaces and elevated amenity spaces (including the central podium and terraces) for 36 wind directions in 10° increments within a 360m radius of the Project Site which is considered a large enough scale to ensure all wind effects are captured. Details of the tunnel test methodology is presented in the 'Wind Tunnel Test Methodology' section of this ES Chapter.

8.5.12. The results have been combined with long-term meteorological climate data for the London area (Heathrow and London City Airports). The meteorological data used in this assessment is deemed to be representative of the local wind microclimate for the London area. The meteorological data used is presented shown as a 'wind rose' in Figure 2 Appendix 8.1

8.5.13. The baseline conditions are reflected within the wind scenario – 'Configuration 1: Existing Project Site with Existing Surrounding Buildings' (also referred as the 'Baseline Scenario'). Further detail on the wind tunnel testing methodology can be found in Appendix 8.1.

8.5.14. It is acknowledged that a direct comparison with the baseline conditions would be useful to understand changes from the existing (baseline) wind conditions across the Project Site due to the Project. However, a comparison of the measured wind environment for the Project with the existing conditions does not take into account any change in pedestrian activity that would accompany the Project. Comparisons between the baseline scenario and 'completed development' scenarios have therefore been made where pedestrian activity is the same in the baseline and with the Project in place.

8.5.15. [Can we add that given this planning application takes the form of a Section 73 application (Minor Material Amendment) to the extant planning permission, it is considered that a more helpful compassion is to the findings of the original 2014 ES, including the HTA Wind Microclimate Assessment that was included at appendix 9.1 of the 2014 ES.

Method of Future Baseline Data Collation

8.5.16. The future baseline condition (in the event that the Proposed Amendments do not come forward) has been considered using professional judgement informed by the results of the Baseline Scenario (Configuration 1) and the wind tunnel results of the cumulative effects assessment (Configuration 4).

8.5.17. The cumulative scenario would provide information of the general changes, if any, in wind conditions around the site as a result of the Cumulative Schemes. The cumulative effects assessment takes into account the relevant Cumulative Schemes within the area surrounding the site that have the potential to influence wind conditions within and immediately surrounding the site.

Method of Completed Development Data Collation

8.5.18. In order to assess the local wind environment associated with the completed Project and the resulting pedestrian comfort within and surrounding the Project Site, wind tunnel testing of the Project has been undertaken.

8.5.19. Wind tunnel testing is one of the most well-established and robust means of assessing the pedestrian wind microclimate. Such testing allows the pedestrian level wind microclimate within and surrounding the Project Site to be quantified and classified in accordance with the accepted criteria (refer to 'Assessment Criteria' section of this ES Chapter).

8.5.20. Wind tunnel testing provides a detailed assessment of the mean and gust wind conditions in and around the Project Site for 36 wind directions, in 10° increments in terms of pedestrian comfort and safety and provides a basis to assess the potential wind microclimate impacts and likely effects of the Project with regards to its intended use. Strong winds are also reported when they occur.

Wind Tunnel Testing Methodology

8.5.21. The methodology for quantifying the pedestrian level wind environment is outlined below within four steps. Full details of the assessment methodology can be obtained by reference to **Appendix 8.1.**

- Step 1: The subject Project Site's induced wind speeds are measured for the appropriate configuration(s) at the appropriate pedestrian level(s) in the wind tunnel;
- Step 2: Standard meteorological data is adjusted to account for conditions at a subject Project Site (for this assessment, meteorological data has been derived from London meteorological stations (Heathrow and London City Airports));
- Step 3: Data from Step 1 and Step 2 is combined to obtain the expected frequency and magnitude of wind speed for the appropriate configuration(s) and at the appropriate pedestrian level(s); and
- Step 4: The results of Step 3 are compared with the Lawson Comfort Criteria (and where relevant, the change in the wind microclimate conditions between appropriate

test configuration(s)) to 'grade / score' the conditions within and around a subject Project Site.

8.5.22. To produce the results within the wind tunnel, a 1:300 scale model comprising the Project Site and the surrounding area (including relevant existing and future buildings and other topographical features) was constructed allowing for the surrounding area within a 360 metre (m) radius of the centre of the Project Site of the Project to be modelled (the radius is determined based on the scale model and due to the physical constraints of the wind tunnel test section) (Figure 14.1). This radius is considered a large enough scale to ensure all likely wind effects are captured. Other developments outside the 360m radius of the Project Site would not individually be expected to modify the wind approaching the Project Site and as such have been included within the analysis of the surrounding terrain.

8.5.23. In order to model the likely effects of gustiness or turbulence (which depends on the geographical location) a series of spires and floor roughness elements have been employed in the wind tunnel in order to create a 'boundary layer' that is representative of the urban location of the Project Site.

8.5.24. Wind speed measurements around the FDS for the tested configurations were established using Irwin probes. These measure the mean and peak (gust) wind speeds at a full-scale height of approximately 1.5m above the surface upon which the probe is located. These results are combined with long-term meteorological climate data for the London area and then benchmarked against the Lawson Comfort Criteria (LDDC variant - both in terms of pedestrian comfort and safety), to determine the suitability of different areas within and surrounding the Project Site.

8.5.25. The wind speed was measured at up to 75 locations for the Project scenarios and the baseline scenarios for all wind directions in equal increments, with 0˚ representing wind blowing from the north and 90˚ wind from the east (and so on). Some probe numbers will not be present in specific configurations due to probe locations clashing with the existing buildings or the probed building is not forming part of the assessment.

Model Configurations Assessed

8.5.26. The assessment of the wind microclimate is based on the results from the test of the physical model within the wind tunnel to provide a detailed, quantitative assessment.

8.5.27. Therefore, the wind microclimate across the Project Site was tested for the following configurations:

- Configuration 1: Extant Planning Permission Site with Existing Surrounding Buildings;
- Configuration 2: The Proposed Amendments (Plot 03 and Plot 04) with Extant Planning Permission Site and Existing Surrounding Buildings;
- Configuration 3: The Proposed Amendments (Plot 03 and Plot 04) with Extant Planning Permission Site, Existing Surrounding Buildings, Proposed Landscaping and Wind Mitigation Measures; and

- Configuration 4: The Proposed Amendments (Plot 03 and Plot 04) with Extant Planning Permission Site and Cumulative Surrounding Buildings;

8.5.28. No landscaping has been assessed in order to present a worst-case scenario for Configurations 1, 2 and 4). The proposed landscaping design along with the developed wind mitigation measures have been incorporated into Configurations 3 to test the effectiveness of the proposed landscaping scheme and wind mitigation measures.

8.5.29. The Cumulative Schemes identified within the 360m radius of the Project Site assessed in the wind tunnel model (in Configurations 4) are:

- 1-13 Southampton Way (Planning Ref: 21/AP/0451);
- 25-33 Parkhouse Street (Planning Ref: 20/AP/0858); and
- Outline Masterplan Scheme (Planning Ref:14/AP/3844).

Figure 8.1: View from the south of the Proposed Amendments with Cumulative Surrounding Buildings in the wind tunnel (Configuration 3)

Assessment Criteria

Lawson Comfort Criteria

8.5.30. The assessment of the wind conditions requires a standard against which the measurements can be compared. The assessment of the wind tunnel test results presented in this chapter

adopts the Lawson Comfort Criteria ('the Lawson Criteria') (LDDC version). The Lawson Comfort Criteria, which seek to define the reaction of an average pedestrian to the wind, are described in Table X.1. If the measured wind conditions exceed the threshold wind speed for more than 5% of the time, then they are unacceptable for the stated pedestrian activity and the expectation is that there may be complaints of nuisance or people will not use the area for its intended purpose

8.5.31. The Lawson Comfort Criteria sets out four pedestrian activities and reflects the fact that less active pursuits require more benign wind conditions. The four categories are sitting, standing, strolling and walking, in ascending order of activity level, with a fifth category for conditions that are uncomfortable for all pedestrian uses. In other words, the wind conditions in an area for sitting need to be calmer than a location that people merely walk past. The distinction between strolling and walking is that in the strolling scenario pedestrians are more likely to take on a leisurely pace, with the intention of taking time to move through the area, whereas in the walking scenario pedestrians are intending to move through the area quickly and are therefore expected to be more tolerant of stronger winds.

8.5.32. The Lawson Comfort Criteria are derived for open air conditions and assume that pedestrians would be suitably dressed for the season. Thermal comfort is not evaluated as part of the assessment.

8.5.33. The coloured key in Table 8.1 corresponds to the presentation of wind tunnel test results described later in this ES Chapter.

Table 8.2: Lawson Comfort Criteria

Key	Comfort Category	Threshold	Description
	Sitting	0-4 m/s	Light breezes desired for outdoor restaurants and seating areas where one can read a paper or comfortably sit for long periods.
	Standing	4-6 m/s	Gentle breezes suitable for main building entrances, pick-up/drop-off points and bus stops.
	Strolling[20]	6-8 m/s	Moderate breezes that would be appropriate for strolling along a city/town centre street, plaza or park.
	Walking	8-10 m/s	Relatively high speeds that can be tolerated if the objective is to walk, run or cycle without lingering.
	Uncomfortable	>10 m/s	Winds of this magnitude are considered a nuisance for most activities, and wind mitigation is typically recommended.

[20] *The distinction between strolling and walking is that in the strolling scenario, pedestrians are more likely to take on a leisurely pace, with the intention of taking time to move through the area, whereas in the walking scenario pedestrians are intending to move through the area quickly and are therefore expected to be more tolerant of stronger winds.*

Target Wind Conditions

8.5.34. For a mixed-use urban environment, such as the Project Site and surrounding area, the desired wind microclimate for the Project and surrounding area would typically need to have areas suitable for sitting, standing/entrance use and strolling.

8.5.35. The walking and uncomfortable classifications may be acceptable in isolated areas, but these classifications are also associated with occasional strong winds (which are described below) and so the aim has been to avoid conditions falling into these categories.

8.5.36. The assessment is based on worst-case wind speeds, expected to be encountered during the winter season (December, January and February) in the UK. Additional consideration has been made for summer (June, July and August) wind conditions due to the presence of above ground amenity spaces (podium, terrace and balcony levels). This complies with the standard methodology set out by Lawson for wind-microclimate assessments.

Thoroughfares

8.5.37. A pedestrian thoroughfare should be suitable for strolling or calmer during the windiest season. The assessment for pedestrian thoroughfares therefore focuses on the windiest season result, as a worst-case assessment.

8.5.38. Localised occurrences of walking conditions may be acceptable in areas with limited footfall, or service areas, as long as the strong wind criteria (see section 'Strong Winds') is not exceeded.

Entrances

8.5.39. In areas in proximity to building entrances, a wind environment suitable for standing or calmer is desired, as pedestrians will transition from the calm indoors to the windier outdoors throughout the year. The assessment for building entrances therefore focuses on the windiest season result, as a worst-case assessment.

8.5.40. Generally, an entrance that is recessed provides a transitional zone with calmer wind conditions for pedestrians exiting the building. If strolling conditions were observed on the pavement outside a recessed entrance, acceptable standing conditions would be expected at the recessed entrance and would therefore be suitable for an entrance use.

Bus Stops

8.5.41. The target conditions for pedestrian waiting at the bus stop is a wind microclimate that is suitable for standing use during the windiest season.

Pedestrian Crossings

8.5.42. The target conditions for pedestrian crossings is a wind microclimate that is suitable for walking use during the windiest season.

Amenity Areas and Roof Terraces

8.5.43. The target conditions for seating in amenity areas is a wind microclimate that is suitable for sitting use during the summer season. This is because these areas are more likely to be frequently used during the summer when pedestrians would expect to be able to sit comfortably. If an area is classified as suitable for sitting in the summer, the windier conditions that occur during the winter season usually mean that the area would be classified as suitable for standing in the windiest season, unless additional shelter was provided. This is considered to be tolerable on the basis that such an area would be most frequently used for sitting during the summer months. At other times of the year, the expectation of usability is lower due to other factors such as temperature and precipitation.

8.5.44. Large upper-level terraces and large amenity spaces are assessed on the basis that they are intended for good weather use only. A mix of sitting and standing conditions during the summer would be acceptable provided that any desired seating areas are situated in areas having sitting use wind conditions.

Balconies

8.5.45. The target conditions for private amenity spaces such as balconies is a wind microclimate that is suitable for sitting or standing use during the summer season. The private amenity spaces would require standing conditions at a minimum during the summer season provided there aren't any allocated seating provisions in these private amenity spaces.

Strong Winds

8.5.46. The Lawson Criteria also specifies a strong wind threshold when winds exceed 15m/s for more than 0.025% of the time (approximately 2.2 hours of the year) and would have the potential to cause distress to pedestrians and cyclists. These instances are referred to as 'S15 Exceeded' in the figures. Exceedance of this threshold may indicate a need for remedial measures or a careful assessment of the expected use of that location; e.g. is it reasonable to expect older adults or young children to be present at the location on the windiest day of the year?

8.5.47. Wind speeds that exceed 20m/s for more than 0.025% of the time (approximately 2.2 hours of the year) represent safety issues for all members of the population and would require mitigation to provide an appropriate wind microclimate environment. These instances are referred to as 'S20 Exceeded' in the figures.

8.5.48. Strong winds are generally associated with areas which would be classified as acceptable for walking or conditions which would be considered uncomfortable. In a mixed-use urban development scheme, walking and uncomfortable conditions would not usually form part of the 'target' wind environment and would usually require mitigation due to pedestrian comfort considerations. This mitigation would also have the impact of reducing the frequency of, or even eliminate, any strong winds.

Vehicles and Cyclists

8.5.49. The Lawson Criteria does not specifically assess the potential for vehicles to overturn in high winds. However, given that strong wind occurrences would require mitigation in any case (for the safety of pedestrians and cyclists), such mitigation would also minimise the risk of vehicle overturning.

8.5.50. The Lawson Criteria does not specify criteria for acceptable wind conditions for cyclists; however, the occurrence of winds exceeding the strong winds threshold would be considered unsuitable for cyclists. The assessment for roads focuses on annual strong winds.

Meteorological Data

8.5.51. The UK Meteorological Office supplies records of the number of hours that wind occurs for ranges of wind speed and by direction. Meteorological data for London Combined (Heathrow and London City Airports) provides a representation of the local wind microclimate for the wider London area. Further details of the meteorological data used for this assessment can be found in section 2.4 of Appendix 8.1.

8.5.52. The meteorological data obtained for London indicates that the prevailing wind throughout the year is from the south-west (i.e. 210 to 240 degrees on the compass). This is typical for many areas of southern England. There is a secondary peak from the north-east during the late spring and early summer. The winds from the north-east are not as strong as the prevailing winds from the south-west.

8.5.53. The meteorological data from each airport has been corrected to open country conditions at 10m height, to account for the effects of nearby terrain, using the methodology set out in ESDU 01008.

Identification of Sensitive Receptors

8.5.54. The criteria used in the assessment of the potential effects is based on the relationship between the desired pedestrian uses (as defined by the Lawson Criteria) in relation to the wind conditions measured at a particular receptor location with the Development in place. This allows for the assessment to take into account any changes in pedestrian activity that might take place as a result of the Proposed Amendments.

8.5.55. The sensitivity of receptors is related to the intended pedestrian use at each location. There are no separate definitions for sensitivity. The important consideration is whether the wind conditions experienced at a particular receptor location are suitable for the intended use, in terms of pedestrian comfort and strong winds. All receptors are considered to be highly sensitive to the local wind microclimate conditions and are given an equal weighting. The sensitivity for all receptors is defined as high.

8.5.56. Sensitive receptors include the following locations (where present on the Development) with the required wind conditions specified for each use:

- Thoroughfares – targeting ‘Strolling’ wind conditions;

- Entrances – targeting ‘Standing’ wind conditions;
- Secondary Entrances - targeting ‘Strolling’ wind conditions or calmer;
- Seating areas – targeting ‘Sitting’ wind conditions during the summer season;
- Amenity spaces – targeting ‘Sitting’ wind conditions during the summer season (with ‘Standing’ wind conditions acceptable at mixed-use amenity areas and large amenity spaces);
- Large terraces – targeting ‘Standing’ wind conditions during the summer season if no long-term seating is intended; and,
- Private balconies – targeting ‘Standing and sitting’ wind conditions during the summer season provided no allocated seating provisions in these spaces otherwise ‘Sitting’ conditions would be required.

8.5.57. In addition, the wind conditions on the surrounding area will also be considered within the area that would potentially be influenced by the Proposed Amendments. For sensitive receptors surrounding the Project Site, consideration was given to the uses listed above where appropriate, as well as:

- Bus Stops – targeting ‘Standing’ wind conditions or calmer;
- Pedestrian Crossings – targeting ‘Walking’ wind conditions.
- Roads/Car Parks - targeting no 'Strong Winds'.

8.5.58. The off-Project Site and Extant Permission locations will include a comparison with the Baseline Scenario. The significance of the effect will be defined based on whether there is a material change in the wind conditions. An example of a material change would be a location which was suitable and safe in the baseline becoming unsuitable or unsafe, or an already unsuitable/unsafe location being made worse by the Development.

Significance of Effects

Magnitude of Impact

8.5.59. The assessment criteria for the modelled wind microclimate, as shown in **Table 8.1**, comprise an increasing scale to reflect increasing wind speeds.

8.5.60. **Table 8.2** shows the low, moderate and major impact magnitude categories indicate the severity of the difference between the desired microclimate and the expected wind conditions in the presence of the Proposed Amendments.

Assessing Significance

8.5.61. The significance criteria used in the assessment of potential and residual effects at the numbered receptors are based upon the comparison of the predicated wind conditions at particular locations with the desired pedestrian use of an area as defined by the Lawson Criteria

and, the predicted wind conditions at that area. This comparison takes into account any change in pedestrian activity that might arise as a result of the Proposed Amendments.

8.5.62. A seven-point scale has been utilised within this assessment, as shown in **Table 8.2**. The reason for this approach is provided in the following example: once the development has been completed, if the wind conditions at a particular location are required to be suitable for standing, but the expected wind conditions are identified as being suitable for strolling, the difference between the desired and expected wind conditions is described as being one-category windier than desired. In this case, the effect would be identified as negative, and of low significance.

8.5.63. In terms of the nature of the effect, effects can either be positive (calmer conditions than required) or negative (windier conditions than required). A negative effect implies that a location has a wind environment that is unsuitable for its intended use and mitigation would therefore be required.

Table 8.3: Magnitude of Impact Descriptors

Expected Wind Microclimate	Scale and Nature of Effect
Wind conditions are 3-steps calmer than those desired	Major Positive
Wind conditions are 2-steps calmer than those desired	Moderate Positive
Wind conditions are 1-step calmer than those desired	Minor Positive
Wind conditions are as desired	Negligible
Wind conditions are 1-step winder than those desired	Minor Negative
Wind conditions are 2-steps windier than those desired	Moderate Negative
Wind conditions are 3-steps windier than those desired	Major Negative

8.5.64. Where potential negative effects are identified, a corresponding entry has been included in the 'Mitigation' section of the ES to describe the remedial measures expected to mitigate the effect. The size and extent of mitigation measures is typically proportional to the significance of the impact. For example, a minor negative effect (for example) would usually be resolved with small, localised mitigation measures, while a major negative effect would require a larger intervention.

8.5.65. In line with Lawson's overall methodology, strong winds are reported separately from the comfort assessment and do not form part of the significance criteria. This is because any strong wind exceedance is considered to be significant regardless of its scale.

8.5.66. Effects during the demolition and construction works are direct, local and short-term (temporary).

8.5.67. Effects once the development is completed are direct, local and long-term (permanent).

8.5.68. Residual effects reported in the assessment for the completed/occupied Development are permanent.

8.5.69. Wind conditions experienced across the Study Area with the Development in place are also compared against the baseline conditions where appropriate.

Limitations and Assumptions

8.5.70. It is assumed that there will be Project Site hoarding with restricted access (i.e. not accessible to the general public) across the Project Site during the construction work. As the area would not typically be for the pedestrian use, windier conditions would be tolerable during demolition and construction activities.

8.5.71. The wind tunnel model was constructed based on the following drawing information:

- Plot 3 3D Model: NHG-FDS-HTA-A_S03-M3_Main Building_210510 – 3D View – {3D – LUE}.rvt (Received November 4th, 2021);
- Plot 4 3D Model: AYLE-HBA-BC-ZZ-M3-A-0001.rvt (Received November 8th, 2021);
- Cumulative Information: Aylesbury phase FDS cumulative development list (Received November 9th, 2021); and
- Landscaping Information: Heights for Upper and Lower Levels (Received May 11th, 2021).

8.5.72. The assessment is based on worst-case wind speeds, expected to be encountered during the winter season (December, January and February) in the UK. Additional consideration has been made for summer (June, July and August) wind conditions due to the presence of roof terrace level public amenity space. This complies with the standard methodology set out by Lawson for wind-microclimate assessments.

8.5.73. The usage of outdoor amenity spaces and rooftop terraces has been assessed for the summer season only as it is expected that the wind environment will play a larger role in the usability of these spaces during this period. During the windiest season (winter), it is expected that other environmental factors (such as precipitation and temperature) would play more of a role in the usability of these spaces.

8.5.74. This chapter focuses on the wind conditions at the Plot 03 and Plot 04 (plots subjected to changes). These changes wouldn't be expected to affect the wind conditions at the rest of the FDS scheme and the wind conditions on the rest of the FDC Scheme would remain consistent as reported in the 2014 ES. It should be noted that the pedestrian and safety of the Project has been assessed previously in 2014 by comparing the results against the Bristol Variant of the Lawson Comfort criteria. Also measurement locations were included in some areas of the FDS scheme which is under construction to assess is there are any material changes.

8.6. Baseline Conditions

Configuration 1: Extant Planning Permission Site with Existing Surrounding Buildings

8.6.1. Wind conditions for Configuration 1 (the baseline scenario) are presented in **Figure 8.2** for the windiest season and **Figure 8.3** for the summer season.

Pedestrian Comfort

8.6.2. During the windiest season, wind conditions at on-Project Site and off-Project Site locations (throughfares and pedestrian crossings) range from suitable for sitting to strolling use during the windiest season. Wind conditions at bus stops and entrance range from suitable for sitting to standing use during the windiest season.

8.6.3. Wind conditions during the summer season are typically the same or one category calmer, with more probe locations being suitable for sitting use.

Strong Winds

8.6.4. There are no instances of strong winds exceeding 15m/s for more than 0.025% of the time (approximately 2.2 hours per year) at any probe locations at and around the Project Site in the baseline scenario.

Figure 8.2: Configuration 1: Extant Planning Permission Site with Existing Surrounding Buildings – Ground floor (windiest season)

Figure 8.3: Configuration 1: Extant Planning Permission Site with Existing Surrounding Buildings – Ground floor (summer season)

8.7. Future Baseline

8.7.1. The wind conditions for the future baseline scenario have been informed by the baseline wind tunnel testing scenario (Configuration 1) and the wind tunnel testing of the Project with the Cumulative Schemes (Configuration 4). Based on the wind conditions presented in Configuration 4, Cumulative Schemes to the south and north of the Site would not be expected to substantially influence the wind conditions on- Site. However, the Outline Master Plan to the east of the Site would be expected to provide some beneficial shelter to the eastern side of the Site. Therefore, In the absence of the Project, the overall wind microclimate conditions across the Project Site would be expected to remain similar to, or better than, the current baseline conditions (Configuration 1) suitable for sitting to strolling use during the windiest season.

8.8. Assessment of Effects, Mitigation and Residual Effects

Demolition and Construction

8.8.1. Based on the description of the baseline environment (Configuration 1), it would be expected that conditions during demolition and construction would be suitable for a working construction Project Site and pedestrian thoroughfares around the Project Site (with the hoarding in place). Therefore, the likely effect is expected to be Negligible (not significant) and no design and/or management measures are considered necessary during the demolition and construction of the Project.

8.8.2. During the demolition and construction period all off-Project Site locations (thoroughfares and entrances) would remain suitable for their intended uses. Strong winds exceeding the safety threshold would not occur at any off-Project Site locations. It is therefore considered that there would be a Negligible (not significant) effect during demolition and construction of the Project.

8.8.3. As construction of the Project proceeds, wind conditions at the Project Site would gradually adjust from those of the existing Project Site to those of the completed the Project, as described in the following section 'Operation' and would not be significant. Off-Project Site the effects would be **Negligible (not significant)** and would thus not require wind mitigation.

8.8.4. Wind mitigation measures would however need to be put in place prior to the completion and occupation of the Project to mitigate against negative wind conditions on-Project Site once the Project is completed.

Operation

Configuration 2: The Proposed Development (Plot 03 and Plot 04) with Extant Planning Permission Site and Existing Surrounding Buildings

8.8.5. The assessment of the wind conditions for Configuration 2 is based on the results presented in **Figure 8.4** and **Figure 8.5** for the windiest and summer seasons respectively for ground floor level and **Figure 8.6** for elevated levels during the summer season. Safety exceedances are presented in **Figure 8.7** for elevated levels.

8.8.6. The residual effects discussed in this section are based on Configuration 3 with the inclusion of the proposed landscaping and wind mitigation measures.

Pedestrian comfort

8.8.7. With the Project built out wind conditions would largely remain similar to the baseline, with windier and calmer conditions to the south-east and east of Plot 04 respectively. Overall, the wind microclimate would be similar to that reported in 2014 with balconies requiring wind mitigation measures, however, an additional entrance would require mitigation at the south-western corner of Plot 04.

Thoroughfares

On-Project Site

8.8.8. Thoroughfares would have wind conditions suitable for sitting to strolling use which represents a **Moderate Positive (not significant)** to **Negligible (not significant)** effects during the windiest season.

Off-Project Site

8.8.9. Thoroughfares in the vicinity of the Project would be suitable for sitting to standing use during the windiest season, which would represent a **Negligible (not significant)** effect.

Mitigation

8.8.10. No wind mitigation measures would be required.

Residual Effect

8.8.11. On-Project Site residual effects for thoroughfares would range from **Moderate Positive (not significant)** to **Negligible (not significant)**.

8.8.12. Off-Project Site residual effects for thoroughfares would be **Negligible (not significant).**

Entrances

On-Project Site

8.8.13. The majority of entrances to the Project would have wind conditions ranging from suitable for sitting to standing use, representing a **Minor Positive (not significant)** to **Negligible (not significant)** effect during the windiest season.

8.8.14. The exception to this is at the south-western entrance to Plot 4 (probe location 67) which would have wind conditions suitable for strolling use during the windiest season. However, this would be an entrance to the patio area therefore strolling conditions would be acceptable during the windiest season as patio area is expected to be used during the summer season. This would represent a **Negligible (not significant)** effect.

Off-Project Site

8.8.15. Wind conditions at existing entrances to the development surrounding the Project would range from suitable for sitting to standing use during the windiest season. This would represent a **Negligible (not significant)** effect.

Mitigation

8.8.16. Wind mitigation measures in the form of dense planting (i.e. hedging or shrubs 2m in height 1.5m wide) placed on the southern side of the entrance would likely provide adequate shelter to achieve a suitable wind environment or alternatively recessing the entrance by 1.5m from the building façade.

Residual Effect

8.8.17. On-Project Site residual effects for entrances would range from **Minor Positive (not significant)** to **Negligible (not significant)**.

8.8.18. Off-Project Site residual effects for entrances would be **Negligible (not significant)** effect.

Bus Stops

On-Project Site

8.8.19. Wind conditions at bus stops to the south of the Project along Albany Road would be suitable for standing use during the windiest season. These wind conditions would represent a **Negligible (not significant)** effect.

Mitigation

8.8.20. No wind mitigation measures would be required.

Residual Effect

8.8.21. Residual effects for bus stops would be **Negligible (not significant)**.

Pedestrian Crossings

On-Project Site

8.8.22. Wind conditions at pedestrian crossings on roads surrounding the Project would range from suitable for standing to strolling use during the windiest season, representing **Moderate Positive (not significant)** to **Minor Positive (not significant)** effects.

Off-Project Site

8.8.23. Wind conditions at pedestrian crossings off-Project Site would also range from suitable for standing to strolling use during the windiest season, representing a **Negligible (not significant)** effect.

Mitigation

8.8.24. No wind mitigation measures would be required.

Residual Effect

8.8.25. On-Project Site residual effects for pedestrian crossings would range from **Moderate Positive (not significant)** to **Minor Positive (not significant)**.

8.8.26. Off-Project Site residual effects for pedestrian crossings would be **Negligible (not significant).**

Ground Level Amenity

On-Project Site

8.8.27. The majority of amenity spaces including designated seating areas would be range from suitable for sitting to standing use during the summer season. These conditions would represent a **Negligible (not significant)** effect.

Off-Project Site

8.8.28. Off-Project Site amenity spaces would also range from suitable for sitting to standing use during the summer season, representing a **Negligible (not significant)** effect.

Mitigation

8.8.29. No wind mitigation measures would be required.

Residual Effect

8.8.30. On-Project Site and off-Project Site residual effects for ground level amenity spaces would be **Negligible (not significant).**

Balconies, Podium Level and Roof Areas

On-Project Site

8.8.31. The majority of wind conditions at balconies, podium level and roof areas would range from suitable for sitting to standing use during the summer season. Standing conditions on the podium level seating provisions (probe locations 232, 233, 239 and 241) would be one category windier than suitable for the intended use, these conditions would range from **Negligible (not significant)** to **Minor Negative (significant)** effects.

8.8.32. The roof top probe location 226 which would be suitable for strolling use during the summer season would be a green roof terrace with no accessibility for amenity. Therefore, this would represent a **Negligible (not significant)** effect. Mitigation

8.8.33. Inclusion of landscaping measures which include 2-6m high trees, 2.5m high pergola structure with 50% porous roof and 1.1m high hedges. These measures would provide beneficial shelter to the podium level seating provisions identified above.

Residual Effect

8.8.34. With the inclusion of the wind mitigation measures, the residual effects on elevated level amenity spaces would be a **Negligible (not significant)** effect.

Strong winds

8.8.35. Strong winds with the potential of being a safety concern for vulnerable occupants would occur at the stack of balconies located on the north-western corner represented by probe location 208. This would represent a **significant** effect and would therefore require mitigation to be made safe for users.

Mitigation

8.8.36. Inclusion of 0.45m high solid balustrade along the perimeter of the balcony.

Residual Effect

8.8.37. With the inclusion of the wind mitigation measures, the balcony amenity spaces would have wind conditions safe for the occupant use, representing a **not significant** effect.

Figure 8.4: Configuration 2: The Proposed Amendments (Plot 03 and Plot 04) with Extant Planning Permission Site and Existing Surrounding Buildings – Ground floor (windiest season)

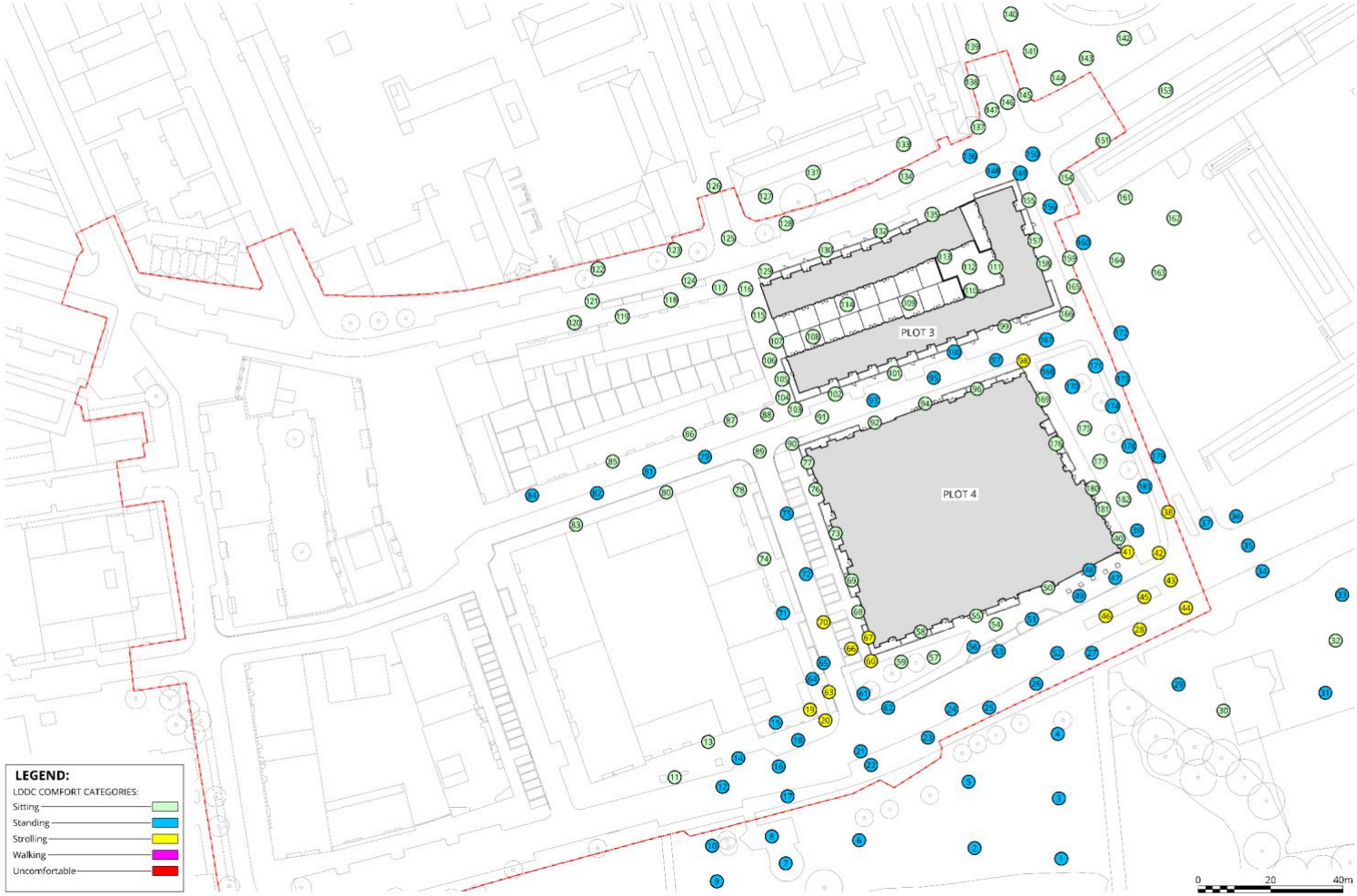


Figure 8.5: Configuration 2: The Proposed Amendments (Plot 03 and Plot 04) with Extant Planning Permission Site and Existing Surrounding Buildings – Ground floor (summer season)

Figure 8.6: Configuration 2: The Propsoed Amendments (Plot 03 and Plot 04) with Extant Planning Permission and Existing Surrounding Buildings – Elevated levels (summer season)

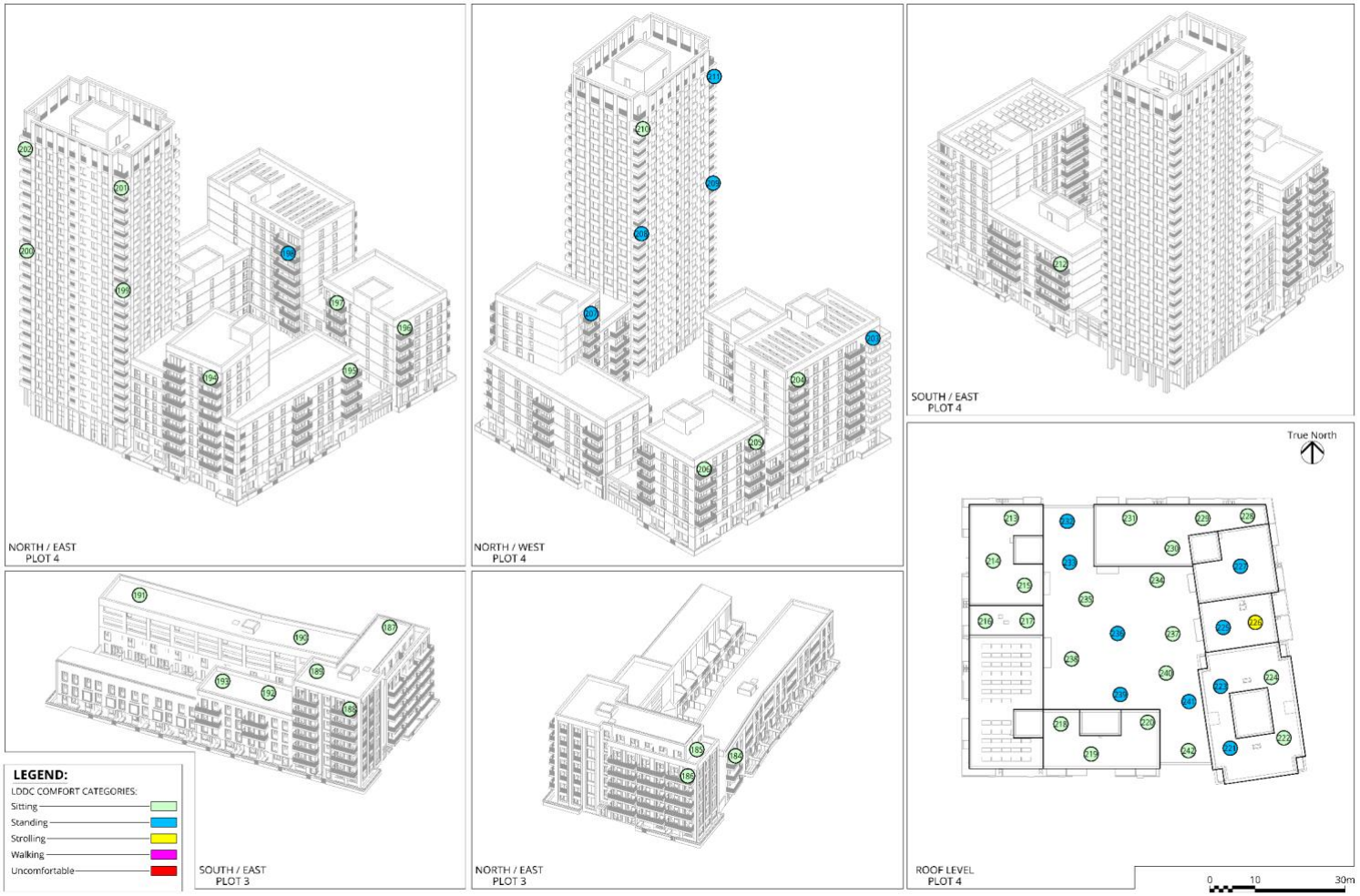
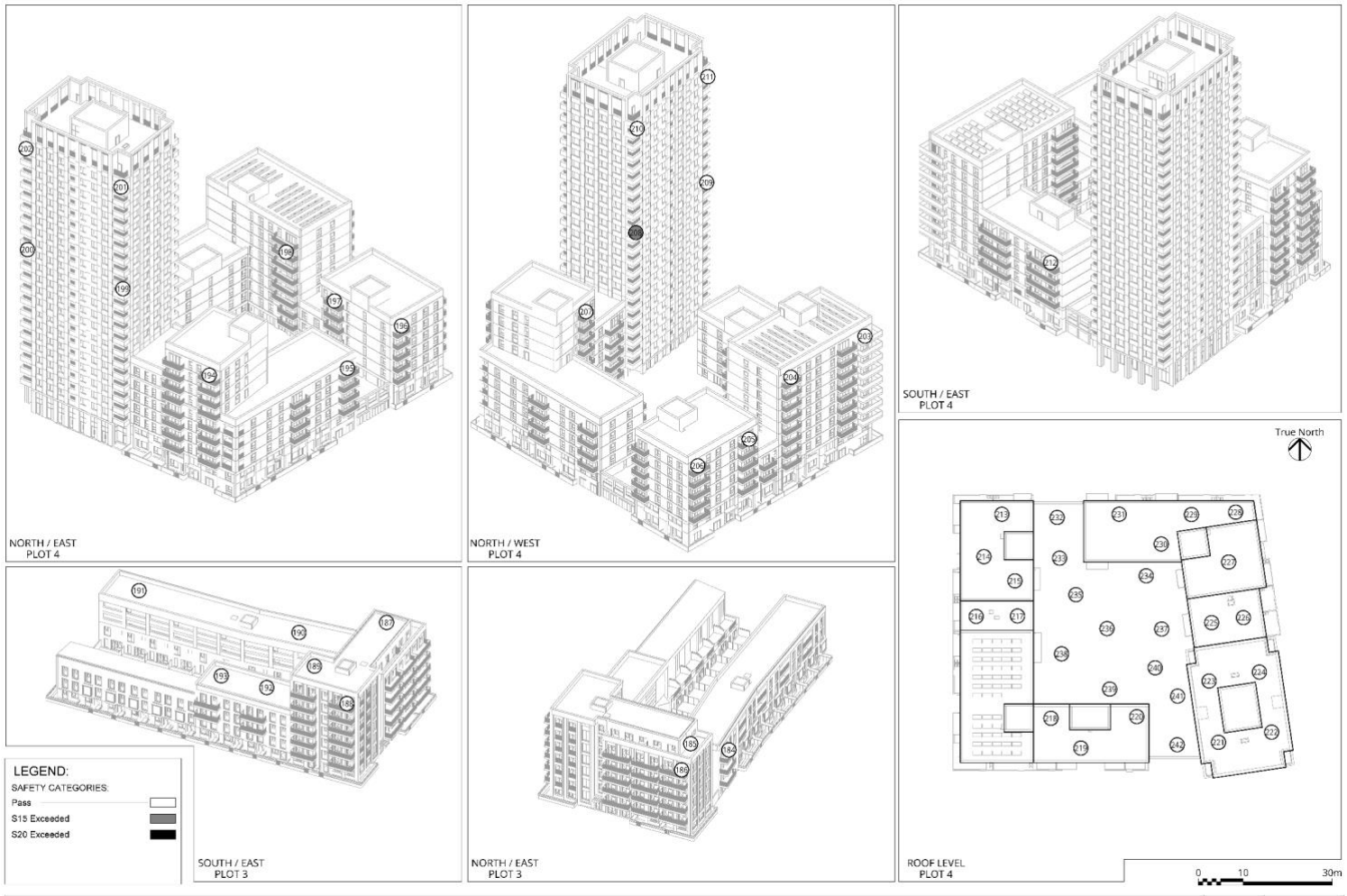


Figure 8.7: Configuration 2: The Project (Plot 03 and Plot 04) with Extant Planning Permission Site and Existing Surrounding Buildings – Elevated levels (strong winds)



8.9. Summary

8.9.1. As reported in the 2014 ES with the inclusion of the proposed wind mitigation measures wind conditions on-Project Site and off-Project Site would range from **Negligible (not significant) to Moderate Positive (not significant)** effects. These residual effects would be consistent with the wind conditions reported within this chapter. The **Table 8.3** below provide a tabulated summary of the residual effects after the implementation of the proposed landscaping and mitigation measures. The wind conditions at and around the Project Site with the inclusion of the proposed landscaping and mitigation measures are provided in **Figure 8.8 and Figure 8.9** for the windiest and summer seasons respectively for ground floor level and **Figure 8.10** for elevated levels during the summer season.

Table 8.3: Summary of Residual Effects

Receptor	Target Wind Conditions	Significance of Effects					Summary of Mitigation/ Enhancement Measures
		Scale and Nature	Significant / Not Significant	(P/T)	(D/I)	ST/MT/LT	
Demolition and Construction							
Demolition and construction site workers	No Strong Winds	Negligible	Not Significant	T	D	LT	No Mitigation Required
Off-Project Site thoroughfares, entrances, bus stops and pedestrian crossings (comfort)	Sitting to Strolling Use	Negligible	Not Significant	T	D	LT	No Mitigation Required
Off-Project Site thoroughfares, entrances, bus stops and pedestrian crossings (safety)	No Strong Winds	Negligible	Not Significant	T	D	LT	No Mitigation Required
Operational Development (On-Project Site)							

Thoroughfares (Windiest Season)	**Strolling use or calmer**	**Moderate Positive to Negligible**	**Not Significant**	**P**	**D**	**LT**	**No Mitigation Required**
Main Entrances (Windiest Season)	**Standing use or calmer**	**Minor Positive to Negligible**	**Not Significant**	**P**	**D**	**LT**	**No Mitigation Required**
Secondary Entrances (Windiest Season)	**Strolling use or calmer**	**Minor Positive to Negligible**	**Not Significant**	**P**	**D**	**LT**	**No Mitigation Required**
Bus Stops (Windiest Season)	**Standing use of calmer**	**Negligible**	**Not Significant**	**P**	**D**	**LT**	**No Mitigation Required**
Pedestrian Crossings (Windiest Season)	**Walking use or calmer**	**Moderate Positive to Negligible**	**Not Significant**	**P**	**D**	**LT**	**No Mitigation Required**
Ground Level Amenity (Summer Season)	**Sitting to Standing use**	**Negligible**	**Not Significant**	**P**	**D**	**LT**	**No Mitigation Required**
Elevated Levels Amenity (Summer Season)	**Sitting to Standing use**	**Negligible**	**Not Significant**	**P**	**D**	**LT**	**Inclusion of the proposed landscaping scheme and addition of 0.45m high solid balustrade of the balconies of the tower of Plot 4**
Roads/Car Parks/Cycle Lanes	**No Strong Winds**	**Negligible**	**Not Significant**	**P**	**D**	**LT**	**No Mitigation Required**
Operational Development (Off-Project Site)							
Thoroughfares (Windiest Season)	**Strolling use or calmer**	**Negligible**	**Not Significant**	**P**	**D**	**LT**	**No Mitigation Required**

Entrances (Windiest Season)	**Standing use or calmer**	**Negligible**	**Not Significant**	**P**	**D**	**LT**	**No Mitigation Required**
Pedestrian Crossings (Windiest Season)	**Walking use or calmer**	**Negligible**	**Not Significant**	**P**	**D**	**LT**	**No Mitigation Required**
Ground Level Amenity (Summer Season)	**Sitting to Standing use**	**Negligible**	**Not Significant**	**P**	**D**	**LT**	**No Mitigation Required**
Roads/Car Parks/Cycle Lanes	**No Strong Winds**	**Negligible**	**Not Significant**	**P**	**D**	**LT**	**No Mitigation Required**

Figure 8.8: Configuration 3: The Project (Plot 03 and Plot 04) with Extant Planning Permission Site, Existing Surrounding Buildings, Proposed Landscaping and Wind Mitigation Measures – Ground Floor (Windiest Season)

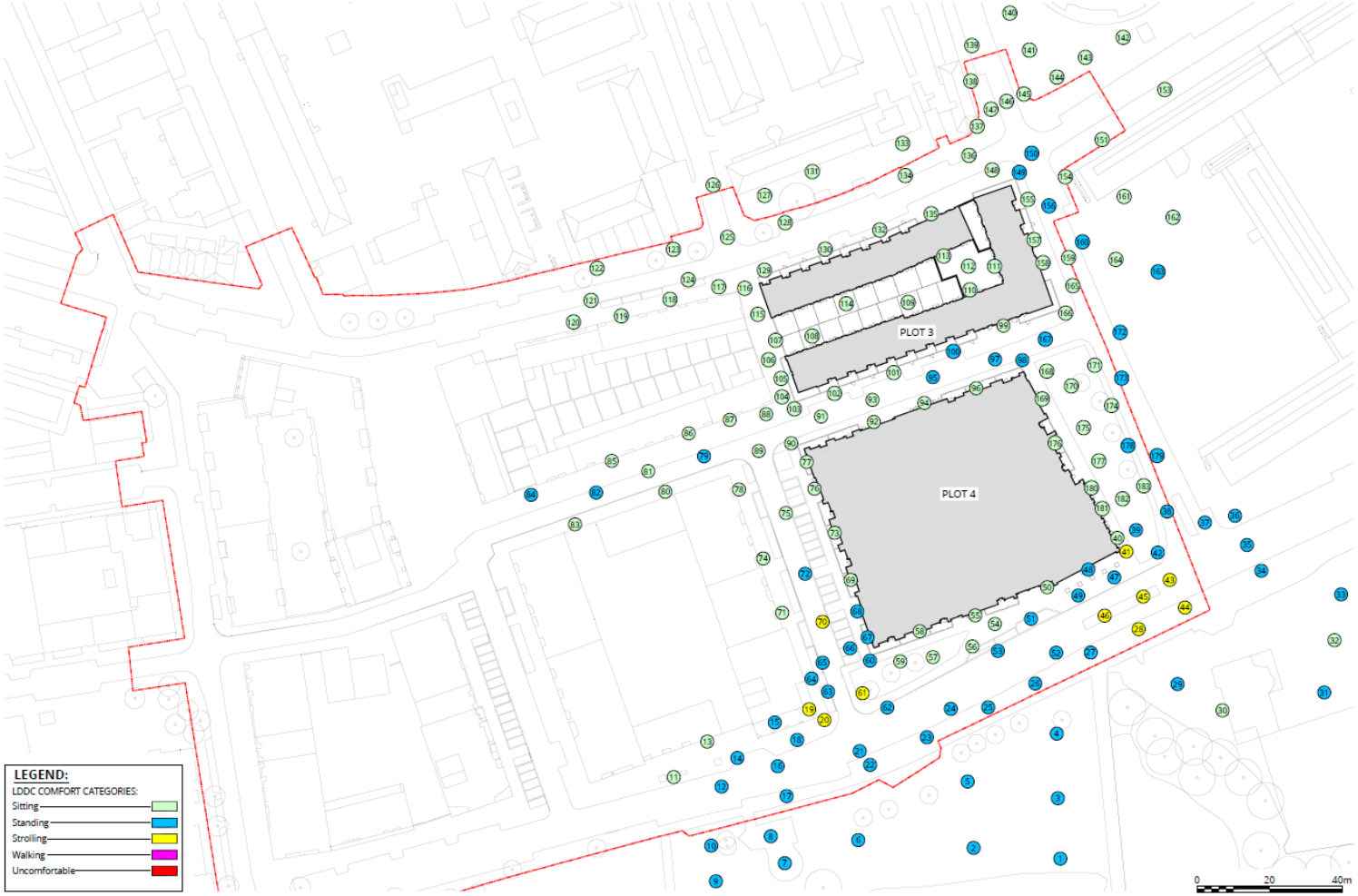


Figure 8.9: Configuration 3: The Project (Plot 03 and Plot 04) with Extant Planning Permission Site, Existing Surrounding Buildings, Proposed Landscaping and Wind Mitigation Measures – Ground Floor (Summer Season)

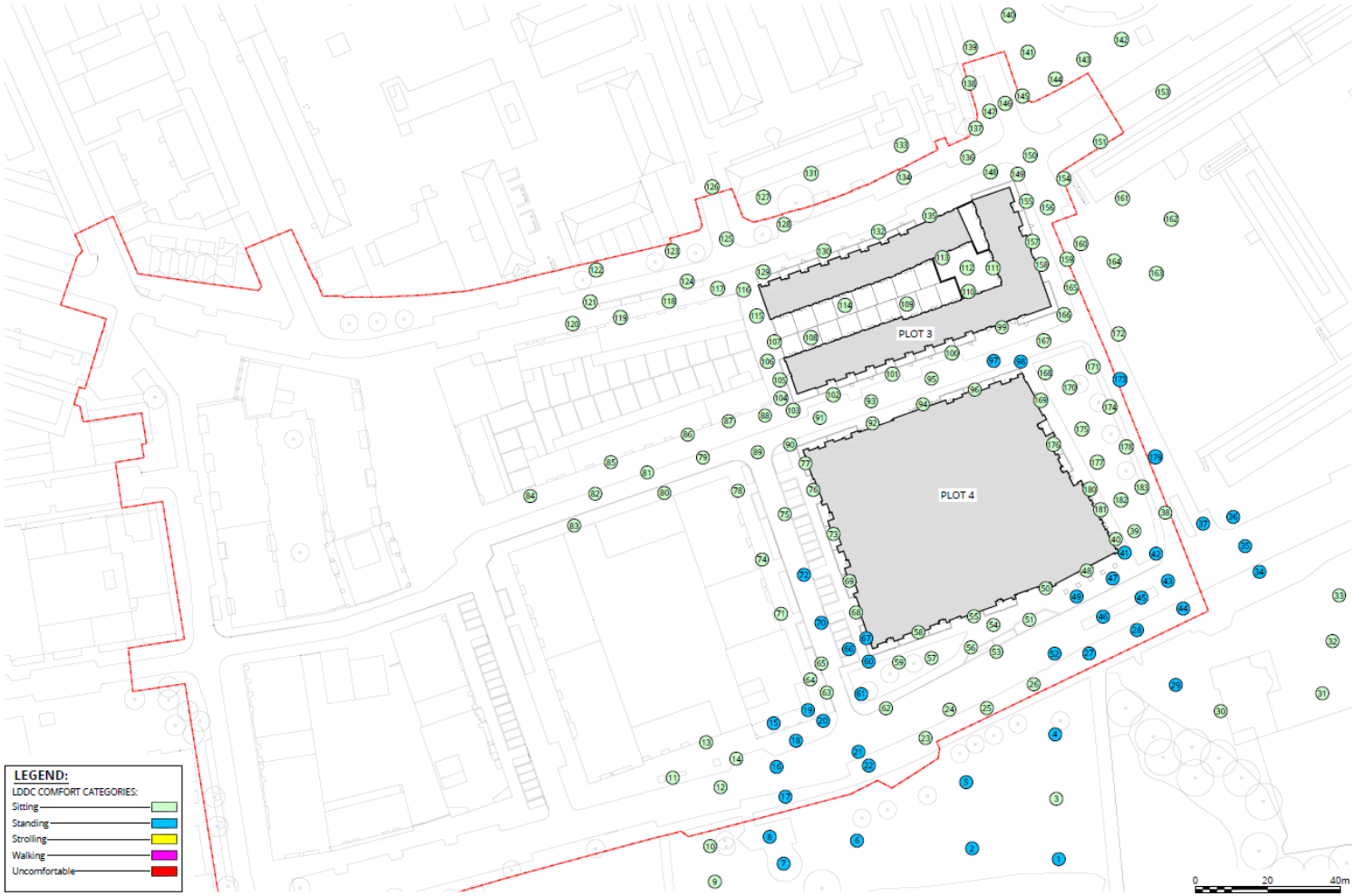
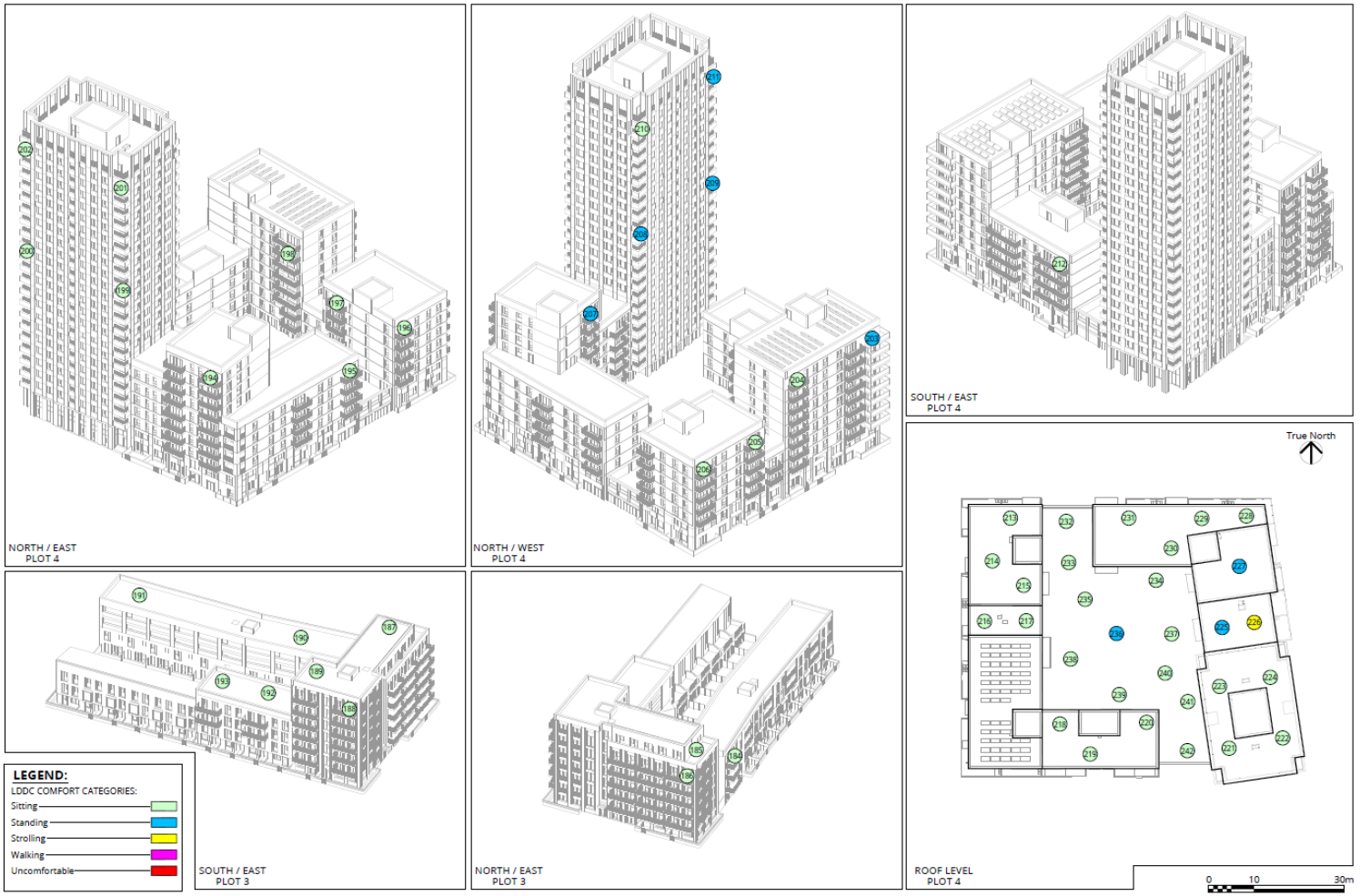


Figure 8.10: Configuration 3: The Project (Plot 03 and Plot 04) with Extant Planning Permission Site, Existing Surrounding Buildings, Proposed Landscaping and Wind Mitigation Measures – ISO Levels (Summer Season)



Future

Configuration 4: The Project with Cumulative Surrounding Buildings

8.9.2. The assessment of the wind conditions for Configuration 4 is based on the results presented in **Figure 8.11** and **Figure 8.12** for the windiest and summer seasons respectively for ground floor level and **Figure 8.13** for elevated levels during the summer season.

Pedestrian comfort

8.9.3. With the cumulative surrounding buildings introduced to the south and north of the Project wind conditions would largely remain similar to Configuration 2 as the cumulative surrounds are relatively far and would not have a substantial influence on the wind microclimate of the Project.

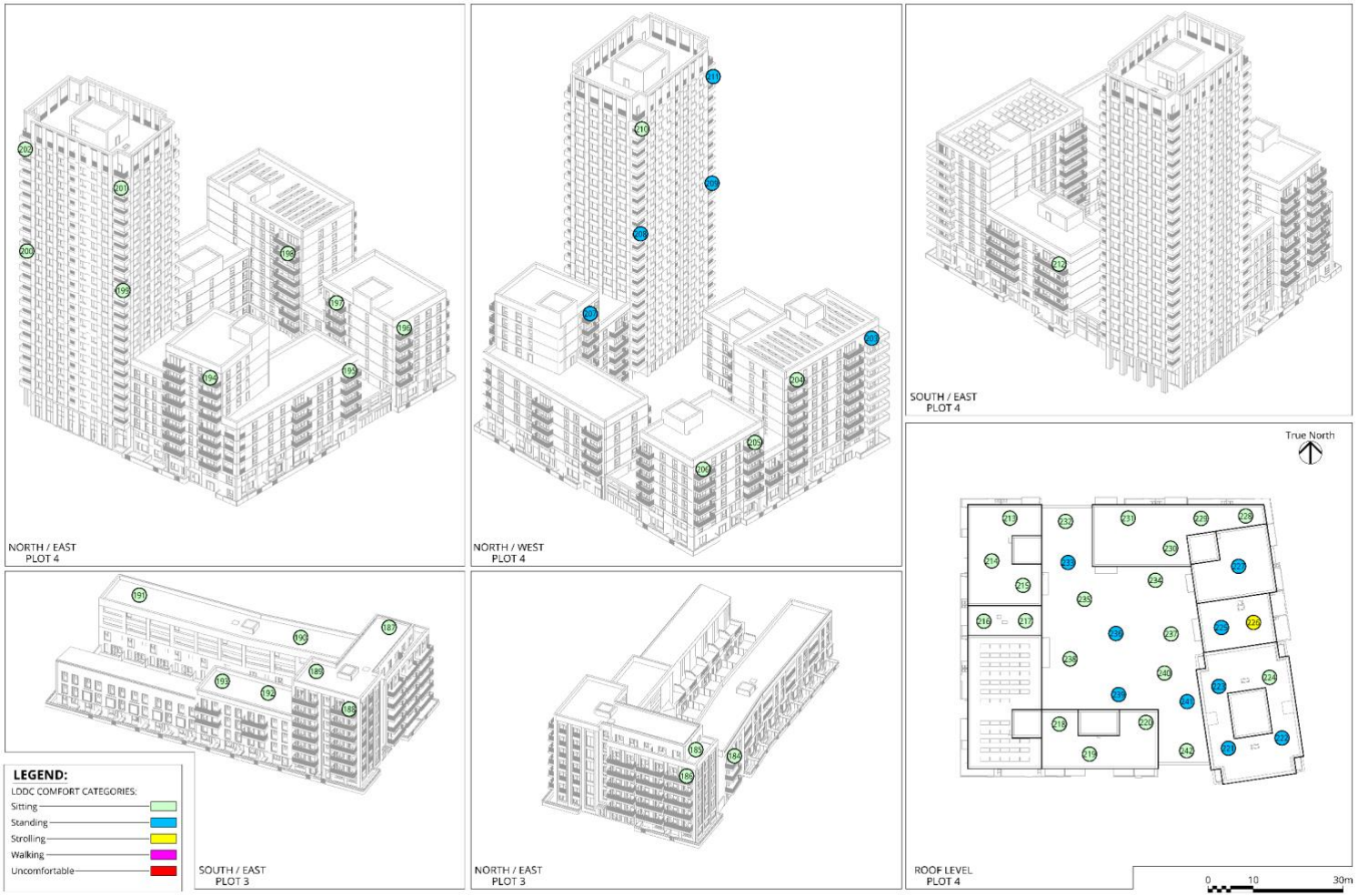
Strong winds

8.9.4. No instances of strong winds with the potential for being a safety concern would occur in this Configuration.

Figure 8.11: Configuration 4: The Proposed Amendments (Plot 03 and Plot 04) with Extant Project Site and Cumulative Surrounding Buildings – Ground floor (windiest season)

Figure 8.12: Configuration 4: The Proposed Amendments (Plot 03 and Plot 04) with Extant Project Site and Cumulative Surrounding Buildings – Ground floor (summer season)

Figure 8.13: Configuration 4: The Proposed Amendments (Plot 03 and Plot 04) with Extant Project Site and Cumulative Surrounding Buildings – Elevated levels (summer season



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