Daylight, Sunlight & Overshadowing Review

Homebase Site
84 Manor Road
Richmond
TW9 1YB

Title	# Daylight & Sunlight Review
Address	Homebase Site 84 Manor Road Richmond TW9 1YB
Client	Greater London Authority
Agents For	N/A
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Report Preface

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1.0 Introduction

TFT Consultants have been appointed by the Greater London Authority to undertake a review of the potential daylight, sunlight and overshadowing impacts that could be caused as a result of developing the Homebase Site at 84 Manor Road, Richmond.

The application was considered at The London Borough of Richmond Upon Thames Planning Committee on 3 July 2019 and was refused for reasons relating to affordable housing, residential amenity, living standard, energy and absence of a legal agreement.

TFT Consultants prepared a detailed daylight and sunlight report dated 22 January 2020 and the findings documented in this report should be review in conjunction with the historic report.

Point 2 Consultants have been appointed by the developer to provide a daylight, sunlight and overshadowing report to support the planning application. It is understood that following a consultation period with the Greater London Authority, the scheme profile has been amended. Therefore, the findings documented in this report has been based on the updated Point 2 Daylight and Sunlight Report – P1685 July V2 dated 30 July 2020.

TFT have not undertaken a full technical assessment to verify the findings reported and have assumed that the results documented in the report are correct.

2.0 Daylight and Sunlight Methodology

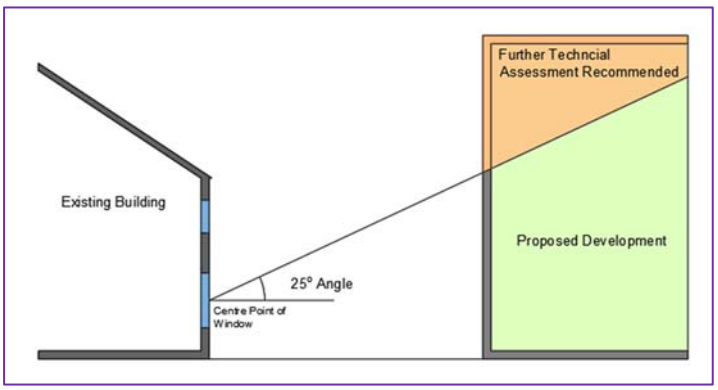
The Point 2 analysis has been undertaken in accordance with the methodology outlined in The Building Research Establishment Report *"Site Layout for Daylight and Sunlight 2011"* (BRE 209). The BRE document is the principle guidance when considering daylight, sunlight and overshadowing and appropriate document to use when considering the daylight and sunlight implications of a proposed development.

The aim of the guide is to ensure good conditions in the local environment. It is intended for building designers and their clients, consultants and planning officials. The advice given is not mandatory, although it provides numerical guidelines, these should be interpreted flexibly as 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.

Daylight to Neighbouring Buildings

When considering the impact on neighbouring buildings, the BRE report recommends that if any new development exceeds an angle of more than 25º from the centre point of the neighbouring window as shown in the diagram below, a more detailed check is needed to find the loss of skylight to the existing building.

25 Degree Angle Drawing



Where a proposed development exceeds the 25º angle, the BRE proposes two main methods for calculating daylight levels to neighbouring residential properties. These are the Vertical Sky Component (VSC), the No Sky Line (NSL) and both methods have been considered for the purpose of this report.

Vertical Sky Component (VSC)

The VSC quantifies the amount of skylight available at a reference point on the external face of the window (usually the centre point), it does not account for the size and shape of the room the window serves. The Standard CIE (Commission Internationale de L'Eclairage – International Commission on Illumination) overcast sky is used, and the ratio is expressed as a percentage.

The maximum potential VSC for unobstructed sky view is marginally under 40%. The BRE suggests that if the VSC is less than 27%, and is less than 0.8 times its former value, then the neighbouring buildings will experience a noticeable reduction in the amount of skylight they receive.

No Sky Line (NSL)

The NSL calculates the daylight distribution within a room by plotting the NSL. The NSL divides points on working plane (0.85m above FFL) which can or cannot see visible sky.

If following construction of new development, a room is likely to experience a noticeable reduction if a significant area of the room is beyond the NSL or is less than 0.8 times its former value. It should be noted that consideration will need to be given to the depths of single aspect rooms. If the room is greater than 5m deep, then an adverse infringement may be unavoidable. The report appears to have used reasonable assumptions when assessing assuming room layouts.

The report considered both the VSC and NSL assessment methods to evaluate the effect the proposed development may have on the neighbouring residential properties.

Daylight to New Proposed Habitable Spaces

Average Daylight Factor (ADF)

The BRE guidance suggests that the ADF method is used to show whether habitable rooms within proposed developments will benefit from adequate levels of light. It is also common for this method to be used to show that neighbouring properties will maintain sufficient levels of light in the proposed condition where the room layouts are known.

The calculation considers the VSC value, the size and number of windows serving the space, the overall size of the room and it is intended to give an overall percentage value. BS 8206-2 *Code of practice for daylighting* recommends ADF values of 2% in kitchens, 1.5% in living rooms and 1% in bedrooms. The Point 2 report uses 1.5% as the benchmark for multiuse spaces such as living/kitchen/dining areas and for some rooms the kitchens have been removed from the assessment. The BRE states that if the layout means that a small internal galley-type kitchen is inevitable, it should be directly linked to a well-daylit living room.

The ADF calculations also considers other factors such as the glass transmittance value, a maintenance factor for dirt on glass, window frame correction factor and reflectance values for the internal materials used for the floor, walls and ceilings. The report does not list the factors used for the ADF assessment; however, for the purposes of this report TFT have assumed that the factors listed below have been used to generate the ADF results. As these were used by Point 2 in the previous Internal Daylight Report:

- Window Transmittance (Typical Double-Glazed Unit): 0.68
- Maintenance Factor: 0.8
- Glazing Correction Factor: 0.9
- Wall Reflectance (Pale Cream Paint): 0.81
- Ceiling Reflectance (White Paint): 0.85

The factors used above are appropriate for this type of development.

Sunlight

When considering the impact on the amount of sunlight to neighbouring buildings, the BRE report recommends that all main living rooms should be considered if they have a window facing within 90^0 of due south. Direct sunlight to kitchens and bedrooms are considered less important. To calculate this, the BRE has produced sunlight templates for London, Manchester and Edinburgh establishing the Annual Probable Sunlight Hours (APSH) of unobstructed light for these areas.

For this assessment, we have used the London template where the maximum APSH is 1,486 hours.

If following the construction of a new development, a living room window facing within 90^0 due south will experience a noticeable reduction in direct sunlight if:

- It receives less than 20% of annual probable sunlight hours, or less than 5% of annual probable sunlight hours between 21 September and 21 March, and receives less than 0.8 times its former sunlight hours during either period,
- And has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

Overshadowing

The overshadowing assessment calculates the impact the proposed development will have on neighbouring private and public amenity spaces, such as gardens, parks and play areas. The BRE recommends that 50% of any qualifying amenity area should be able to receive at least 2 hours of direct sunlight on 21 March.

3.0 Planning Policy and Guidance

National Planning Policy Framework: June 2019

The National Planning Policy Framework (NPPF) adopted in June 2019, sets out the Government's planning policies and how these are expected to be applied. It provides a framework that can be used by councils to produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities.

Section 4 of the NPPF relates to Decision-making setting out the principles to consider when determining applications. Paragraph 38 states that *"Local planning authorities should approach decisions on proposed development in a positive and creative way".*

Paragraph 123 (c) mentions daylight and sunlight stating that local planning authorities "*when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight".*

Draft London Plan: Published on 13 August 2018

The London Plan is the overall strategic plan for London, setting out an integrated economic, environmental, transport and social framework for the development of London over the next 20-25 years.

Paragraph 7.28 Policy 7.7: Location and design of tall and large buildings states that *"The Mayor will work with boroughs where tall and large buildings might be appropriate, sensitive or inappropriate. He will help to develop local strategies to help ensure these buildings are delivered in ways that maximise their benefits and minimise negative impacts locally and across borough boundaries as appropriate".*

London Plan 2016: Housing Supplementary Planning Guidance – Updated August 2017

The Housing Supplementary Planning Guidance (SPG) provides advice on the implementation of housing policies and the following sections referenced below suggest that a more flexible approach should be taken when considering the daylight and sunlight implications of a proposed development.

Paragraph 1.3.45 Policy 7.6Bd suggests "*An appropriate degree of flexibility needs to be applied when using BRE guidelines to assess the daylight impacts of new development on surrounding properties, as well as within new developments themselves."*

Paragraph 1.3.46 also suggest that *"Decision makers should recognise that fully optimising housing potential on large sites may necessitate standards which depart from these presently experienced but will still achieve satisfactory levels of residential amenity…"*

Paragraph 2.3.47 *"Quantitative standards on daylight and sunlight should not be applied rigidly, without carefully considering the location and context and standards experienced in broadly comparable housing typologies in London.*

London Borough of Richmond Upon Thames: July 2018

The Council's Local Plan will set out policies and guidance for the development of the borough over the next 15 years up to 2033. Policy LP8 Amenity and Living Condition states that *"The Council will ensure the design and layout enables good standards of daylight and sunlight to be achieved in new development and in existing properties affected by new development".*

Paragraph 4.8.5 relates to daylight, sunlight and solar glare suggesting that "*the Council will have regard to the most recent Building Research Establishment guidance".*

When considering new development within the borough. Spatial Strategy – Spatial Distribution of Development, Paragraph 3.1.35 states that *"Despite the constrained nature of the borough, there is a need to provide housing, employment, education, retail, leisure and other community and infrastructure services that are needed to support growth within the borough."*

4.0 Adopting Appropriate Alternative Values

When dealing with a development site that contains low-level buildings, the numerical guideline outlined in the BRE are often considered inappropriate, especially in a dense urban location where the daylight and sunlight levels are already compromised. The BRE guide acknowledges this, stating that in an area with modern high-rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the heights and proportions of the neighbouring buildings. Therefore, in certain circumstances, the local authority may wish to use alternative target values to evaluate the daylight and sunlight implications of developing an adjacent site.

Having regard to the flexible approach outlined in the NPPF and the SPG, the following target values have been used to assess the daylight and sunlight implications of the proposed scheme. This is also the standard generally adopted in regeneration areas in urban locations and is considered a reasonable approach to evaluating the daylight and sunlight implications based on the type of development and current use of the site; although, it is noted that it is questionable whether the site is situated in a suburban or urban location.

- Vertical Sky Component: 15% VSC or within 20% of the existing baseline condition
- No-Sky Line: 50% of the room area or within 20% of the existing baseline condition
- APSH: 15% annually and no target for the winter months

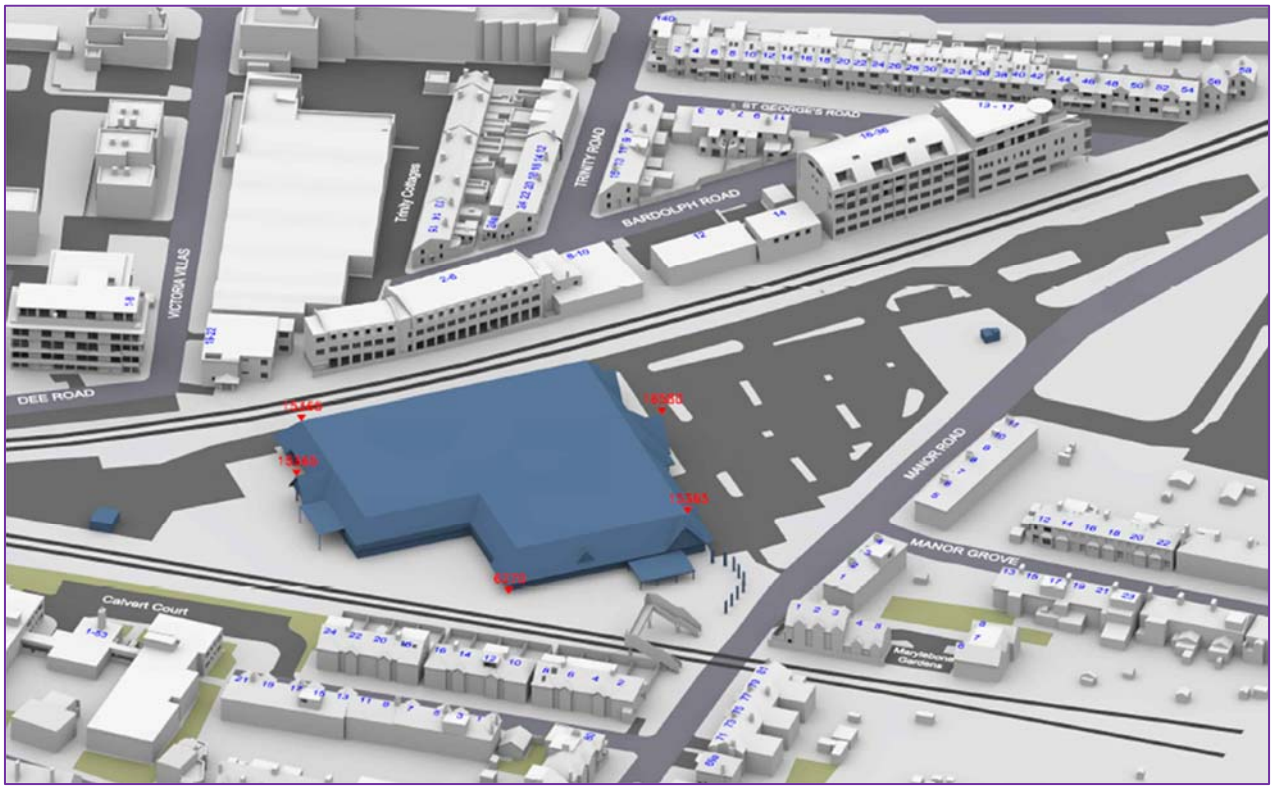
This approach was also noted in the recent *Rainbird* judicial review for a scheme in Whitechapel, which considered factors such as whether a neighbouring development is taking more than its fair share of light, such that a greater reduction would be unavoidable of one site is not to be prejudiced by another.

Also stating that in areas that are designated by the local authority for substantial growth or providing opportunities for change and sustainable regeneration, the sort of change that would be brought about by the introduction of taller, denser development is to be expected, included reductions in daylight and sunlight levels.

5.0 Development Site and Scheme Proposal

Development Site

The image below shows the development site and the surrounding area. The site currently contains a Homebase store with the northern part of the site vacant. The site is situated in a predominately residential area adjacent to railway lines to the west and south. The GLA planning report GLA/4795/01 paragraph 38 considers whether the site is considered suburban or urban in nature stating that *whilst the wider context is predominately 'suburban', the site and its immediate surrounds could be considered 'urban' in character.* When reviewing the daylight, sunlight and overshadowing effects of the scheme, we have taken a view as to whether the losses of amenity is appropriate based on the perceived context of the site and surrounding area.



Proposed Amended Scheme

The image below shows the Amended Proposed Development, which has been altered following further consultation with the GLA. The scheme was submitted in August 2020. The principal aim of the scheme amendments was to increase the provision of affordable housing. As a result, Block E has been removed and the scheme will now provide 453 residential units (of which 173 will be affordable), flexible retail, community and office spaces. The height of some of the other blocks has increased.

Assael Architecture: July 2020 scheme

6.0 Scope of Assessment

The image below shows the neighbouring residential properties that have been considered for assessment, the addresses of which are listed below. The report has considered a reasonable amount of neighbouring properties and all other properties are either commercial or situated too far away from the development site. The neighbouring properties the categorisation for the neighbouring properties is explained below:

- **Red:** Properties have areas that fail to comply with the BRE recommendations and alternative target values.
- **Orange:** Properties have areas that fail to comply with the BRE recommendations but overall, all areas fully comply with the alternative target values.
- **Green:** Properties fully comply with the BRE recommendations.

- **No 1:** 36-58 St Georges Road
- **No 2:** Falstaff House and St Georges House
- **No 3:** 5-11 Manor Grove
- **No 4:** 1-4 Manor Grove
- **No 5:** 1-5 Marylebone Gardens
- **No 6 & 7:** 69A–81 Manor Road

- **No 8:** 80 Manor Road
- **No 9:** 2–8 Manor Park
- **No 10:** 10-16 Manor Park
- **No 11:** 18-24 Manor Park
- **No 12:** 1-21 Manor Park
- **No 13:** 1-53 Calvert Court
- **No 14:** 1-39 Robinson Court
- **No 15:** 50-52 St Mary's Grove
- **No 16:** Clarence Court
- **No 17:** 33-39 Crown terrace
- **No 18:** 1-8 Victoria Villas
- **No 19:** 19-22 Victoria Villas
- **No 20:** 2-6 Bardolph Road
- **No 21:** 13-15 Trinity Cottages
- **No 22:** 12-24 Trinity Road
- **No 23:** 7-15 Trinity Road
- **No 24:** 3–11 St Georges Road

7.0 Assessment Results

Based on the findings documented in the report, the following properties have the potential to experience a noticeable reduction in light as a result of the scheme proposals. Point 2 have considered the VSC, NSL and APSH methods of assessment when considering the potential impacts to the neighbouring residential buildings, which are the appropriate methods to use.

No 2: Falstaff House and St Georges House

Falstaff House is located to the west of the site across the railway line, with St Georges House located to the north on the corner of Bardolph Road and St Georges Road.

The VSC results indicate that several windows will exceed the BRE target values with 5 windows experiencing a major reduction in sky visibility. This is not surprising given that these properties currently overlook the vacant part of the site and have recessed balconies, which obstruct a windows ability to view sky over neighbouring buildings. Notwithstanding, all but 6 of the windows considered will remain with a VSC above the 15% that is generally considered adequate for a regeneration area.

The NSL results indicate that these properties will remain with good levels of daylight in the proposed condition and will generally comply with the BRE guidelines.

When compared against the July 2019 scheme massing, the removal of Block E has resulted in a lesser impact in daylight and sunlight terms to these properties.

Sunlight

The APSH results indicate that there will be some rooms which fail to maintain an adequate level of sunlight in the proposed condition. Still, overall these properties will remain with acceptable levels of sunlight in the proposed condition.

No 18: 1-8 Victoria Villas

This is the five-storey residential property located on the corner of Dee Road and Victoria Villas.

The VSC results indicate that 22 windows will fail to comply with the BRE target values, with only 4 windows experiencing a reduction in sky visibility of more than 30% in the proposed condition. All windows will either remain within 20% of the existing baseline condition or have a VSC of at least 15% in the proposed condition.

The NSL results indicate that all rooms will remain with at least 60% NSL coverage in the proposed condition, which is considered good for an urban or regeneration area. The analysis appears to have been based on using sourced floor plans.

The amended scheme massing will not materially alter the daylight and sunlight impacts to this property when compared against the July 2019 scheme massing.

Sunlight

The APSH results indicate that this property will fully comply with the BRE target values.

No 19: 19-22 Victoria Villas

This is the two-storey residential property located to the west of the development site, directly adjacent to the railway line.

The VSC results indicate that all but 9 of the windows considered will comply with the BRE target values, 2 of which have the potential to experience a major reduction greater than 40% in the proposed condition. All but 3 of the windows considered will remain with a VSC of at least 15% in the proposed condition.

The NSL results indicate that all rooms will remain with at least 57% NSL coverage in the proposed condition, which is considered good for an urban or regeneration area. The analysis appears to have been based on using sourced floor plans.

The amended scheme will marginally increase the impact to this property when compared against the July 2019 scheme massing.

Sunlight

The APSH results indicate that this property will generally be left with sufficient levels of sunlight in the proposed condition.

No 20: 2-6 Bardolph Road

This is the three-storey residential property located directly to the west of the development site across the railway line.

The VSC results indicate 48 of the 51 windows considered for assessment will experience a major loss of light greater than 40% in the proposed condition. This property currently benefits from very good VSC levels over the site, so it is not unexpected for such a large reduction to occur as a result of developing the site. In this situation, it is appropriate to consider the retained VSC levels, which all are over 15% and can be considered adequate for a regeneration area.

The NSL analysis appears to have been based on sourced floor plans and indicates that although several rooms will experience a major reduction in sky visibility, all rooms will remain with at least 50% NSL coverage in the proposed condition.

The amended scheme massing will not materially alter the daylight and sunlight impacts to this property when compared against the July 2019 scheme massing.

Sunlight

The APSH results indicates that this property will fully comply with the BRE target values.

Overshadowing

The overshadowing assessment indicates that the proposed scheme will not cause excessive overshadowing to the neighbouring residential areas and therefore will generally comply with the BRE target values.

When considering the amenity spaces within the proposed development, the results indicate that all but 2 areas will meet the BRE guidelines on 21 March. The area in the centre of Block A will experience a low level of direct sunlight in March but will be reasonably lit in June. Overall, we would suggest that the amenity areas within in the proposed scheme are generally acceptable in overshadowing terms.

Daylight, Sunlight and Overshadowing Summary

From reviewing the information provided, only 4 neighbouring properties have the potential to experience a significant loss of light as a result of the development proposals. Although, the majority of neighbouring properties will be left with acceptable levels of light in the proposed condition for an urban or regeneration area.

When developing a low-level existing site such as this, it is inevitable that a significant reduction in daylight, sunlight and increased overshadowing will occur. Therefore, the daylight, sunlight and overshadowing implications of the proposed scheme should be considered in conjunction with the following:

- Both the NPPF and SPG both state that a flexible approach should be applied when using the BRE guidelines to assess the daylight, sunlight and overshadowing impacts to new developments in regeneration areas and urban locations. This was further evidenced in the Whitechapel Estate case where it was concluded that where a neighbour has taken more than its fair share of light is the significant reduction in light is unavoidable and one site is not to be prejudiced by how another is developed.

- As with the NPPF and SPG, when considering the daylight, sunlight and overshadowing implications of developing sites where the neighbours benefit from greater than expected levels of light over vacant or low-level sites, the BRE suggests that alternative target values should be used.

- The main areas of concern from a daylight and sunlight perspective are the impacts to the properties directly to the west of the development site across the railway line. As these properties currently enjoy an open outlook across the development site, they will experience a significant loss of light as a result of the proposed massing. However, only on the condition that the site is considered an urban or regeneration area, we would suggest that the neighbouring residential properties will generally be left with adequate to good levels of light in the proposed condition.

Internal Daylight Adequacy Assessment

The ADF method of assessment has been used to consider whether the new habitable rooms within the proposed development will receive an adequate level of daylight. As indicated in the methodology section of this report, the report does not mention several factors used to calculate the ADF results, which are crucial to understanding the accuracy of the results provided. The report shows the room layouts considered for the assessment and their location within the proposed development but has not overlaid this onto the architects' floor plans, which would enable to understand whether the room layouts used for the study accurately reflect the proposed room layouts.

The report has only considered 19 rooms across the whole the developments, stating that 13 (69%) will comply with the BRE target values. With the exception of the removal of Block E, the remaining blocks appear to be very similar to the scheme previously considered.

TFT previously concluded in the January 2020 report, that the daylight results are generally acceptable for a scheme of this density, although there are some areas of concern. Blocks A2 and A3 have some poorly lit rooms on the lower floors facing the courtyard. There is always a compromise to be had when considering the relationship between providing private amenity areas and good levels of daylight and in courtyard situations with balconies, it is often unavoidable to have isolated areas of concern in daylight terms. The benefits of providing the private amenity areas will need to be considered against the need to provide good levels of daylight on the lower floors.

Overall, we do not expect the findings to be materially different from the advice previously given, but we would require more rooms to be assessed on the lower floors of Blocks A2 and A3 to clarify this.

8.0 Conclusions

TFT Consultants have been appointed by the Greater London Authority to undertake a review of the daylight, sunlight and overshadowing impact the proposed scheme at the Homebase Site, Richmond will have on the relevant neighbouring properties.

Point 2 Surveyors have been appointed by the developer to provide a daylight, sunlight and overshadowing assessment to support the planning application and the findings documented in our report have been based on the revised Point 2 report dated November 2019. The assessment has been undertaken in accordance with the methodology outlined in The Building Research Establishment Report “Site Layout for Daylight and Sunlight 2011” (BRE 209) and refers to the appropriate planning guidance.

The BRE states that it is often considered appropriate in regeneration areas to consider alternative target values, especially when a low-level site is being developed. We have established how many windows will have a VSC below 15% in the existing and are either below 15% VSC or experience more than a 20% reduction in the proposed condition. We have also only considered rooms that do not maintain an NSL of at least 50% or experience more than a 20% reduction in the proposed condition.

The report considers the daylight and sunlight levels to all relevant neighbouring properties marked 1 to 20 on the location plan with Falstaff House, St Georges House, 1-8 Victoria Villas, 19-22 Victoria Villas and 2-6 Bardolph Road experiencing a noticeable reduction in light as a result of the scheme proposals. The neighbours currently benefit from very good levels of light over the low-level store and vacant car park, in this situation it is unavoidable for the neighbouring properties to experience reduction in light that exceeds the BRE target values and it is appropriate to consider how much light will remain in the proposed condition. From reviewing the information provided, the neighbouring properties are expected to remain with acceptable levels of light for an urban or regeneration area. If the immediate surrounding area is considered suburban, some of the retained light levels could be considered low but generally still acceptable.

When compared against the July 2019 scheme massing, removing Block E improves the daylight and sunlight situation to the properties adjacent to this part of the development site. There is a marginal increase in the daylight and sunlight implications to the properties located to the west across the railway line, as a result of the additional height, although this does not not materially alter the overall results.

The overshadowing assessment indicates that the proposed scheme will not cause excessive overshadowing to the neighbouring residential areas and therefore will generally comply with the BRE target values.

The NPPF and SPG suggest that a greater degree of flexibility should be adopted when considering the daylight and sunlight implications of developing sites in dense urban locations or regeneration areas. With recent cases for large developments in regeneration areas in London concluding that when developing close to several neighbouring properties that are directly facing a low-level site a significant reduction in daylight and sunlight is often unavoidable.

Overall the ADF results indicate that the daylight results for the scheme are generally acceptable for a scheme of this density. However, Blocks A2 and A3 will have some poorly lit spaces on the lower floors facing the courtyard. There is always a compromise to be had when considering the relationship between providing private amenity areas and good levels of daylight and in courtyard situations it is often unavoidable for there to be a few isolated areas under balconies or in the corners that will be poorly lit in the proposed condition. We would recommend that more rooms are assessed on the lower floor of Blocks A2 and A3 to provide a greater understanding of the daylight and sunlight levels within these blocks.

We trust this report is sufficient for current purposes, but if you have any queries or questions, please do not hesitate to contact Chris Harris, Technical Partner in our London office.

TFT

Development Built Assets Sustainability

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