125 Shaftesbury Avenue, London

Daylight, Sunlight and Overshadowing

Review of submitted information (2024/5408/P)

London Borough of Camden

25 March 2025

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Executive Summary

Analysis of the neighbouring residential properties has been undertaken by the GIA with reference to the guidance given in the Building Research Establishment document "*Site Layout Planning for Daylight and Sunlight - a guide to good practice*." Analysis was undertaken using Vertical Sky Component (VSC), No-Sky Line (NSL), Annual Probable Sunlight Hours (APSH), Sun Hours on Ground (SHoG) and transient overshadowing testing. We have not reviewed the analysis model used but assume that the correct testing techniques have been employed for each of these tests.

Eighteen neighbouring properties have been identified as requiring testing and on the whole, we would agree that no further properties would need to be tested. Study of the information submitted indicates the modelling of these properties, the proposed development and the surrounding context is suitable for the analysis undertaken.

Review of the results tables appended to GIA report 19832 (18 March 2025) shows:

- 81.1% of windows tested comply fully with the BRE Report VSC guidance.
- 85.5% of rooms tested meet the BRE Report NSL/DD guidance.
- 79.4% of the windows tested meet the BRE Report APSH guidance.

Whilst there are some discrepancies between the reported compliance and our review they are on the whole immaterial and the GIA Report findings are supported.

Overshadowing analysis has been undertaken using SHoG analysis. Overall, the assessments show limited effects due to the proposed development. Additional analysis has been provided following discussions which details cumulative effects on the Phoenix Gardens space. Whilst impacts are noted they are very limited and on the whole are considered acceptable given the urban nature of the site.

Historically, the site benefited from consent for a similar scheme to the proposed development. Comparative analysis between the previous and current schemes has been provided. Whilst the current scheme needs to be reviewed in isolation the discussions are useful when considering the need for a flexible approach to the targets given in the BRE report.

Overall, the analysis provided is robust. However, as there are neighbouring developments (i.e., 135 Shaftesbury Avenue) that are also currently within the planning process, we have suggested that the report would benefit from cumulative daylight and sunlight testing discussions.

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1.0 Introduction

1.1 A planning application has been received by the London Borough of Camden for the "*Remodelling, refurbishment and extension of the existing building to provide Use Class E commercial and retail space, amenity terraces, a new public route, relocated entrances, cycle parking, servicing and rooftop plant along with associated highway, landscaping and public realm improvements and other associated works.*" (2024/5408/P). As part of the application a Daylight, Sunlight and Overshadowing report was received by the Council.

1.2 A Daylight and Sunlight Assessment report authored by GIA (Dated November 2024) along with additional overshadowing assessments have been provided.

1.3 Lichfields have been commissioned to review the daylight and sunlight information and provide commentary.

2.0 Methodology

2.1 The GIA report references the British Research Establishment document "Site Layout Planning for Daylight and Sunlight – A Gide to Good Practice (2022) (BRE Report) when discussing the daylight, sunlight and overshadowing methodologies applied to testing of the neighbouring residential properties. It should be noted that the current BRE Report (2022) is a revision to the 2011 guidance and contains some differences. These differences are concentrated on the testing of proposed accommodation. The changes within the BRE Report relate to the testing methodologies to be used when assessing accommodation within proposed buildings only. The methods to be applied for assessments of neighbouring residential properties remains unchanged.

2.2 As a first measure the BRE Report states that:

"If any part of a new building or extension, measured in a vertical section perpendicular to a main window wall of an existing building from the centre of the lowest window, subtends an angle of more than 25 degrees to the horizontal, then the diffuse daylighting of the existing building may be adversely affected." (page 18 paragraph 2.2.23)

2.3 The BRE Report discusses two tests that should be applied where the 25°-line test suggests natural light of neighbouring existing buildings may be affected. The first of these tests is the Vertical Sky Component (VSC) method of assessment. VSC calculates the amount of skylight available on a vertical wall or at the centre of a window.

- The VSC analysis provides the ratio of the skylight available on a horizontal plane to that available on a vertical plane.
- Both planes are placed about the centre of the test point.
- Neighbouring buildings and other obstructions hinder skylight.
- Comparison between the available daylight before and after a building is created can be calculated.
- The CIE 'standard overcast sky' is used
- The ratio between the before and after tests is provided as a percentage.
- The maximum VSC value for a vertical window is slightly below 40% for an unobstructed vertical test point.

2.4 VSC assesses skylight amenity striking the exterior of a property and assumes that good daylight will be achieved given good skylight access, conventional window design and standard room depths.

2.5 The BRE Report suggests an additional test is applied where the interior layouts of the test property are known. The effect of a development on the distribution of daylight, No Sky Line/Daylight Distribution (NSL/DD) within a property can be found by plotting the no sky lines in both the current and proposed conditions.

- The no-sky line test measures the distribution of daylight over a working plane (0.85m above floor level) within the test room.

- The test determines the area of the working plane where there is no direct access to skylight.

2.6 The BRE Report states that diffuse daylighting of an existing building may be adversely affected if either:

- *"the vertical sky component ['VSC'] measured at the centre of an existing main window is less than 27%, and less than 0.8 times its former value; or*
- *the area of the working plane (0.85m above floor level in residential properties) in a room which can receive direct skylight is reduced to less than 0.8 times it former value."*

2.7 The BRE Report provides guidance in relation to existing windows with balconies or protrusions/overhangs where daylight could be affected:

"Existing windows with balconies above them typically receive less daylight. Because the balcony cuts out light from the top part of the sky, even a modest obstruction may result in a large relative impact on the VSC, and on the area receiving direct skylight. One way to demonstrate this would be to carry out an additional calculation of the VSC and area receiving direct skylight, for both the existing and proposed situations, without the balcony in place. For example, if the proposed VSC with the balcony was under 0.8 times the existing value with the balcony, but the same ratio for the values without the balcony was well over 0.8, this would show that the presence of the balcony, rather than the size of the new obstruction, was the main factor in the relative loss of light." (paragraph 2.2.13)

"A larger relative reduction in VSC may also be unavoidable if the existing window has projecting wings on one or both sides of it, or is recessed into the building so that it is obstructed on both sides as well as above." (paragraph 2.2.14)

2.8 Regarding sunlight the BRE Report discusses sunlight expectations being restricted to windows that face within 90 degrees of due south, windows facing principally north will see sunlight access restricted to the very early morning and late afternoon/evening when the sun is close to the horizon. In summary:

'If a living room of an existing dwelling has a main window facing within 90 degrees of due south, and any part of a new development subtends an angle of more than 25 degrees to the horizontal measured from the centre of the window in a vertical section perpendicular to the window, then the sunlighting of the existing dwelling may be adversely affected. This will be the case if the centre of the window:

- *receives less than 25% of annual probable sunlight hours and less than 0.80 times its former annual value; or less than 5% of annual probable sunlight hours between 21 September and 21 March and*
- *and also has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours."*

2.9 Additionally, the BRE Report states:

'…It is suggested that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within ninety-degrees of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun. In non-domestic buildings any spaces which are deemed to have a special requirement for sunlight should be checked; they will normally face within ninety-degrees of due south anyway.' (Paragraph 3.2.3)

2.10 Balconies and overhangs can affect natural light amenity. The BRE Report provides the following guidance:

'Balconies and overhangs above an existing window tend to block sunlight, especially in summer. Even a modest obstruction may result in a large relative impact on the sunlight received. One way to demonstrate this would be to carry out an additional calculation of the APSH, for both the existing and proposed situations, without the balcony in place. For example, if the proposed APSH with the balcony was under 0.8 times the existing value with the balcony, but the same ratio for the values without the balcony was well over 0.8, this would show that the presence of the balcony, rather than the size of the new obstruction, was the main factor in the relative loss of sunlight.' (Paragraph 3.2.11)

2.11 Section 3.3 of the BRE Report gives the following guidelines for protecting sunlight within open spaces where a requirement has been identified:

- *"gardens, such as the main back garden of a house or communal gardens including courtyards and roof terraces*
- *parks and playing fields*
- *children's playgrounds*
- *outdoor swimming pools and paddling pools, and other areas of recreational water such as marinas and boating lakes (the daylight and sunlight effects on permanent residential moorings may be assessed using the methods in sections 2.2 and 3.2)*
- *sitting out areas such as those between nondomestic buildings and in public squares nature reserves (which may have special requirements for sunlight if rare plants are growing there)."*

2.12 In summary:

'*It is recommended that for it to appear adequately sunlit throughout the year, at least half of a garden or amenity area should receive at least 2 hours of sunlight on 21 March. If as a result of new development an existing garden or amenity area does not meet the above, and the area which can receive 2 hours of sun on 21 March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable. If a detailed calculation cannot be carried out, it is recommended that the centre of the area should receive at least 2 hours of sunlight on 21 March*.'

2.13 The BRE Report also recommends:

'*Where there are existing buildings as well as the proposed one, 'before' and 'after' shadow plots showing the difference that the proposed building makes may be helpful. In interpreting the impact of such differences, it must be borne in mind that nearly all structures will create areas of new shadow, and some degree of transient overshadowing of a space is to be expected*.' (Paragraph 3.3.13)

'*As an additional option, plots for summertime (e.g., 21 June) may be helpful as they will show the reduced overshadowing then, although it should be borne in mind that 21 June represents the best case of minimum shadow, and that shadows for the rest of the year will be longer. Conversely, if winter shadows (e.g., 21 December) are plotted, even low buildings will cast long shadows. In a built-up area, it is common for large areas of the ground to be in shadow in December*.' (Paragraph 3.3.15)

'*If a particular space is only used at certain times of day or year (e.g., a café, outdoor performance area or school playground) it is instructive to plot shadows for those specific times*.' (Paragraph 3.3.16)

3.0 Review of Daylight, Sunlight and Overshadowing assessments

3.1 GIA have highlighted eighteen neighbouring properties where daylight and sunlight impacts on residential occupants may be noted. We have undertaken a review of the site and its context and agree that the properties identified are the key residential properties where assessments are justified.

3.2 GIA have used the VSC, NSL and APSH tests discussed in the BRE Report to undertake assessments of the neighbouring residential properties. Appendix 03 of the GIA Report details where internal arrangement details have been used for neighbouring properties and the properties where no information was gathered. Our review of the NSL contour information suggests that the information used and where applicable the assumptions made are reasonable and supportable.

3.3 Further tests have been provided for the sunlight amenity of neighbouring amenity spaces along with additional analysis, outside of the report, for the Phoenix Gardens area.

3.4 The VSC, NSL and APSH tests applied show the daylight and sunlight amenity with the proposed development site in its current state and the amenity that would remain for each of the identified study windows, rooms and open areas with the proposed development in place. Historically the site benefited from a consent for a similar scheme. GIA have provided assessments comparing the effects of the previous consented scheme with the current proposed scheme. Whilst the comparisons are useful our commentary on impacts are limited to the effects of the current proposed scheme.

3.5 Of the eighteen properties tested the GIA analysis shows that eleven (listed below) will remain fully compliant with the BRE Report. Our review of the assessment information provided supports this conclusion.

3.6 Properties retaining BRE Report daylight and sunlight compliance:

- 99a Charing Cross Road/1-35 Old Compton Street,
- 97-99 Charing Cross Road,
- 93 Charing Cross Road,
- 95 Charing Cross Road,
- 2 Old Compton Street,
- 107-109 Charing Cross Road,
- 152-156 Charing Cross Road,
- 138 Charing Cross Road,
- 140 Charing Cross Road,
- 142 Charing Cross Road, and
- 2-8 Earlham Street.

Daylight and Sunlight

3.7 Of the eighteen properties tested and discussed in the GIA report seven see noted natural light impacts. The impacts range in significance.

3-5 Earlham Street and 148-150 Shaftesbury Avenue

3.8 Both properties retain compliance with the VSC tests but see some rooms marginally transgress the NSL tests. The transgressions occur within rooms that are currently restricted in sky access such that whilst the quantum of loss is modest the percentage modification manifests as a transgression of the BRE Report guidance.

3.9 For both properties, GIA were unable to gather internal arrangement details and have used assumed room layouts for the testing. Whilst the assumptions as to room sizes made are fair, room uses have not been determined. External observation indicates that the rooms seeing transgressions are not the main living spaces of the properties, as such, the significance of the effects is lessened.

3.10 Overall, whilst effects are noted they are not considered to be significant.

1-8 The Alcazar and Phoenix Theatre

3.11 The GIA analysis shows that some of the windows tested will see both VSC and APSH transgressions.

3.12 For 1-8 the Alcazar, the rooms uses and arrangements used by GIA are not based on detailed internal information. However, external observation indicates that the windows seeing effects are either secondary windows to the living spaces, where the main windows remain unaffected, or are windows serving bedrooms. Whilst there are transgressions noted, both the levels of retained VSC and APSH and the potential lessening of significance due to room use suggest the transgressions are not significant.

3.13 For the Phoenix Theatre, room uses and arrangements are based on plan information. The property sees transgressions in VSC to 4 windows and an APSH transgression to 1 window. The transgressions occur to secondary windows with the main windows retaining compliance and all rooms retaining NSL compliance. As such, the effects are not considered to be significant.

1a Phoenix Street

3.14 The analysis presented shows that there are numerous transgressions of the BRE Report guidance with windows and rooms seeing notable percentage reductions in their current daylight and sunlight values.

3.15 The VSC analysis results show that none of the 43 windows will see VSC values of 27% or above in the baseline conditions, i.e., compliance with the absolute target given in the BRE Report. With the proposed development in place 4 windows would see BRE Report compliance, retaining 0.8 times their former values.

3.16 NSL analysis shows that in the current conditions only 4 rooms meet the 80% distribution criteria discussed in the BRE Report. With the development in place 18 of the 33 rooms see compliance with the 0.8 times former value target.

3.17 APSH tests of the south facing windows show 5 of the 43 windows will meet the sunlight criteria currently. With the proposed development in place 16 windows retain 0.8 times their former values.

3.18 The property is in very close proximity to the proposed development and is currently heavily reliant on the natural light amenity that is present due to the undeveloped nature of the north eastern portion of the site adjacent to Stacey Street. Additionally, many of the windows and rooms are beneath balconied amenity space. The BRE Report provides discussion and guidance on the setting of alternative targets in situations such as this. Whilst these alternative tests have not been undertaken or discussed in depth in the GIA report it is clear that alternative targets should be applied.

3.19 Overall, the noted effects are significant and will lead to noticeable reduction in daylight and sunlight within the property. However, the significance is lessened by the current low values, proximity to the site and the over reliance on open areas of the current site configuration.

Trentishoe Mansions

3.20 The assessments presented show daylight impacts to windows and rooms within the property. The impacts lead to transgressions of the BRE Report guidance. GIA have obtained internal arrangement information, this has been used to inform the analysis.

3.21 VSC analysis shows that 99 of the 165 windows tested will retain BRE Report compliance.

3.22 NSL analysis shows that 42 of the 58 rooms tested will also retain compliance with the BRE Report recommendation.

3.23 All tested windows for sunlight amenity retain compliance.

3.24 As with 1A Phoenix Street, this property is in very close proximity to the proposed development and review of the current daylight values shows that there are currently limitations. Again, whilst the effects on daylight will be noticeable in some instances the significance is reduced by the current low values (VSC) and the proximity of the building to the proposed development site.

1-2 St Giles Passage (Pendrell House)

3.25 The presented results show some daylight and sunlight effects due to the proposed development. Arrangement details have not been obtained but the room sizes assumed by GIA are fair.

3.26 VSC analysis shows that 56 of the 64 windows tested will retain BRE Report compliance.

3.27 NSL analysis shows that 22 of the 38 rooms tested will also retain compliance with the BRE Report recommendation.

3.28 APSH analysis shows 53 of the 61 windows tested will retain BRE Report compliance.

3.29 Whilst the analysis shows that notable impacts on daylight and sunlight will be present their significance is reduced. External observation indicates that the windows and rooms where effects are present are either those below balconies, where the balcony is a clear element in reducing current natural light access, or the effected rooms are likely to be

bedrooms, a room use considered to have a lesser daylight and sunlight need in the BRE Report. The retained natural light amenity with the proposed development in place is considered to be appropriate.

Overshadowing

3.30 The methodology used for assessing the overshadowing impacts of the proposed development follows the BRE Report guidance. The analysis undertaken does show that any overshadowing due to the proposed development will be limited and would not lead to any significant loss of direct sunlight access on the 21 March.

3.31 The one area noted as transgressing the guidance, 1a Phoenix Street, is a balcony space at high level. Whilst the effect noted is a transgression, the space tested is not highlighted as an area typically requiring analysis under BRE Report guidance.

Potential Cumulative Daylight and Sunlight Effects

3.32 The proposed development neighbours 135 Shaftesbury Avenue. We are aware of a proposal to extend the current building. Whilst it is unlikely that the combined effects due to the proposed development and the development at 135 Shaftesbury Avenue would alter the findings for the majority of the tested neighbouring properties, we have noted the below properties where effects would likely lead to a more significant impact when both schemes are considered cumulatively.

- 1-2 St Giles Passage,
- 1A Phoenix Street,
- 1-8 The Alcazar, and
- 148-150 Shaftesbury Avenue.

3.33 Additionally, we note that whilst the proposed development in isolation does not introduce BRE Report transgressions to 152-156 Shaftesbury Avenue, impacts would be likely if the proposed 135 Shaftesbury Avenue development were in place. We suggest that cumulative studies are considered.

Potential Cumulative Overshadowing Effects

3.34 As with daylight and sunlight, the proposed scheme at 135 Shaftesbury Avenue will have a cumulative impact on the overshadowing to Phoenix Gardens. This has been discussed with GIA who have undertaken and provided supplementary analysis.

3.35 The assessments provided by GIA show that the proposed development in isolation would not introduce a transgression of the BRE Report overshadowing guidance. The assessments also show that, considered in isolation, the 135 Shaftesbury Avenue scheme leaves the area compliant with the BRWE Report guidance. However, with both schemes in place there would be a transgression to the south west element of Phoenix Gardens.

3.36 The test is undertaken for the 21 March as guided by the BRE Report. An additional testing date is discussed in the BRE Report for the 21 June and the assessments provided show that the area would achieve full compliance on this date even in the cumulative scenario.

3.37 Whilst the test for the 21 March date shows the area transgresses the guidance, tests provided for whole year sunlight amenity show that the space achieves compliance with the target for at least 50% of the area to see 2hrs of direct sunlight access on the 30 March and that the sunlight amenity rises significantly throughout April.

3.38 As such, the cumulative transgression noted is not considered to be significant.

4.0 Conclusions

4.1 The quantitative assessments provided by GIA reference the guidelines set out in the Building Research Establishment (BRE) report "*Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice"* (June 2022). The BRE Report is intended to be advisory and does not contain mandatory standards. The introduction of the BRE Report states:

"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; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design (see Section 5). 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 may be unavoidable if new developments are to match the height and proportions of existing buildings. Alternatively, where natural light is of special importance, less obstruction and hence more sunlight and daylight may be deemed necessary. The calculation methods in Appendices A and B are entirely flexible in this respect. Appendix F gives advice on how to develop a consistent set of target values for skylight under such circumstances."

4.2 The methodologies used to undertake the daylight and sunlight tests discussed in the GIA texts are supported by the BRE Report. The proposed development is within an urban environment and as such neighbouring properties are more likely to see restrictions to their daylight and sunlight amenity before a proposed development is built. Greater percentage modifications to current/baseline values are typical where restrictions currently exist. These factors are noted in the analysis of the effects the proposed development has on the neighbouring residential properties.

4.3 Appendix F of the BRE Report provides guidance on the setting of alternative target values for skylight and sunlight access. The appendix discusses a number of situations where adherence to the guidance would be inappropriate, one example discussed derives an alternative VSC target based on the proximity of neighbouring properties, i.e., in a historic city mews where VSC values should be determined by the typical obstruction angle from the ground floor windows. Typically leading to a VSC target of 18%. The use of this guidance allows development to match the height and footprint of neighbouring property. Alternatively, daylight and sunlight targets may be generated from values deemed acceptable for a previous planning consent on the proposed site.

4.4 GIA have made reference to an urban VSC target level derived from Inspectors comments at appeal and have noted a VSC target of 15% as indicating adherence to the 'mid-teen' range quoted. Whilst the application of an alternative range target for urban developments is a widely used and documented methodology it is for the Local Planning Authority to determine if the alternative values used are appropriate for the site. Part of this determination would involve the application of the guidance given in Appendix F of the BRE Report. As such, whilst we would support discussions relating to the use of alternative targets in this case, we would recommend that further justification as to the values used is sought.

4.5 Overall, the proposed development will impact negatively on some neighbouring properties but there does need to be an appreciation of the urban nature of the site and the limitation placed by the façade treatments of the neighbouring buildings when assessing the appropriateness of the retained daylight and sunlight values.

4.6 Overshadowing analysis shows that most of the assessed spaces are likely to comply with the BRE Report guidance.

4.7 The proposed development is neighboured by 135 Shaftesbury Avenue. There is a proposal to undertake a development at this site. Both the proposed development and this neighbouring proposal are likely to affect a number of neighbouring properties and open spaces cumulatively. A cumulative overshadowing assessment has been provided. We suggest that a similar exercise is undertaken for daylight and sunlight to neighbouring properties.

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