Daylight and Sunlight

Centric Close

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1.0 Executive Summary

GIA have undertaken a Daylight/Sunlight technical assessment for the proposed development at Centric Close (the *'Proposed Development'*) in accordance with the BRE Guidelines - *Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice (2011 - the 'BRE Guidelines').*

Analysis has been undertaken in order to assess the potential impact that the Proposed Development may have upon 18 sensitive properties neighbouring the Site.

A review of the resultant technical analysis indicates that there will be a negligible alteration in light to the following 10 properties, as they will retain sufficient levels of VSC, NSL (Daylight) and APSH (Sunlight), and thus will remain in compliance with the 2011 BRE Daylight and Sunlight criteria:

- 1-45 Darwin Court
- 36 Gloucester Avenue
- 21 Oval Road
- 17 Oval Road
- 15 Oval Road
- 85 Jamestown Road
- 18 Oval Road
- 16 Oval Road
- 14 Oval Road
- 2-10 Oval Road

Whilst the remaining eight properties experience alterations in Daylight beyond the recommended BRE criteria, the majority of the alterations can be attributed to existing architectural features such as projecting wings that restrict the view of the sky in the existing scenario, meaning the lower levels of light are not exclusively attributable to the Proposed Development. In addition, a number of windows retain levels of VSC that could be considered commensurate with an urban environment such as this and the rooms retain good levels of daylight distribution which should ensure that they remain sufficiently lit.

Five of these properties experience alterations in Sunlight beyond the recommended BRE Guidelines. However, the windows are orientated west and thus there is a restriction in the amount of sunlight received. Furthermore, where alterations occur they are heavily influenced by the primary western aspect and the existing architectural design near windows with projecting wings limiting the available sunspots, particularly in winter.

The conclusion of our technical assessment is that within the context of the Site and the nature of the Proposed Development, despite alterations in Daylight/Sunlight beyond the recommended BRE Guidelines, which is based upon a low rise suburban environment, where these occur they are not unusual in development sites such as this.

2.0 Instructions

This Daylight/Sunlight report has been commissioned by the applicant Fairview Estates Ltd, to support their planning application for the Proposed Development at Centric Close.

The results and advice contained in this report are based upon technical analysis undertaken using the Proposed Scheme produced by AHMM and issued to GIA on the 24th November 2016.

This has enabled an evaluation of the effects that the Proposed Development may have upon neighbouring residential properties, and their Daylight/Sunlight amenity in accordance with the 2011 BRE Guidelines.

3.0 Introduction

Daylight and Sunlight

The technical analysis that forms the basis of this report has been predicated against the methodologies set out within the Building Research Establishment Guidelines entitled 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice (2011)'. The guidelines in question are precisely that; guidelines which provide a recommendation to inform site layout and design. They are not mandatory nor do they form planning policy and their interpretation may be treated flexibly depending on the specifics of each site.

The BRE Guidelines provide two main methodologies for daylight assessment;

1) The Vertical Sky Component (VSC); and
2) The No Sky Line (NSL)

In addition, we have used one methodology as provided by the BRE Guidelines for sunlight assessment, denoted as Annual Probable Sunlight Hours (APSH).

Appendix 01 of this report elaborates on the mechanics of each of the above assessment criteria, explains the appropriateness of their use and the parameters of each specific recommendation.

VSC

The BRE guidelines provide two main methods of calculation for daylight. The primary method is known as the Vertical Sky Component (VSC), which considers the potential for daylight by calculating the angle of vertical sky at the centre of each of a window. The guidelines themselves are predicated upon a suburban development model and the values that they set out are based upon a suburban situation i.e. two 2 storey dwellings facing one another across a reasonable width road and the level of light that one would expect in that context. The BRE recommends that a target value of 27% should be obtained in order to achieve reasonable levels of daylight, which equates to an obstruction angle of circa 25°, as illustrated in Figure 01 below.

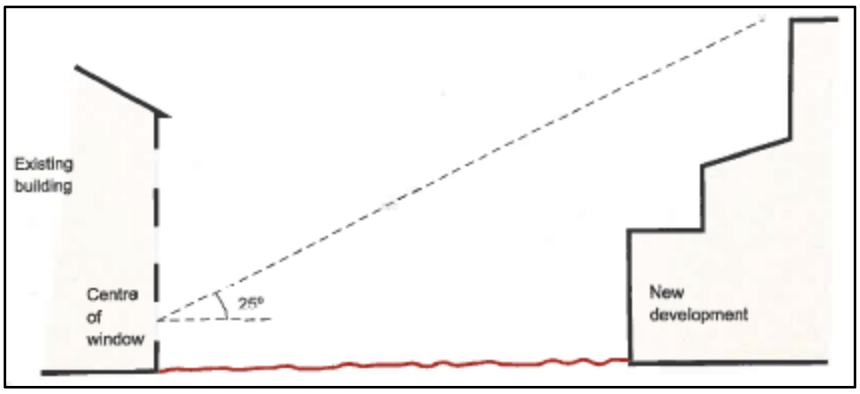


Figure 01 – BRE Target Values

It is clear that this is not a realistic target value for a dense urban environment, such as the one the Site is located in.

Interpretation of the BRE Guidelines 2011

GIA have considered the 2011 Building Research Establishment (BRE) guidelines 'Site Layout Planning for Daylight and Sunlight' when assessing the impact of the Proposed Development on neighbouring residential properties.

In essence, the BRE Guidelines must be interpreted flexibly. The Guidelines recognise that they should not form a mandatory set of criteria to which a development must adhere as that would be too restrictive for site development purposes and should be viewed in the context of other site constraints; rather they provide guidance as to what would be a noticeable alteration in the neighbour's amenity and what would be a satisfactory level of daylight and sunlight.

As previously mentioned the BRE Guidelines are predicated on a suburban type environment, when one seeks to apply the guidelines in a more urban context, where neighbouring buildings are taller or the scale of massing is generally higher, or where the existing levels of light are low, there is a disjunction between crudely adhering to the recommended criteria and the flexibility that guidelines themselves recommend. In this area, a degree of interpretation is necessary.

In view of the above, the interpretation of the daylight and sunlight results should be considered in terms of the quantum of light lost and retained, not purely upon the percentage change. The percentage value may well be misleading, particularly where the baseline values are small.

In these situations, a small change in the quantum of light could represent a high percentage change in the overall figure, implying that there would be a significant change in daylight and sunlight whereas in reality the difference may be unperceivable. In addition, the BRE criterion does not specifically relate to city locations, thus a degree of flexibility needs to be applied when assessing the significance of daylight and sunlight impacts in urban locations such as Camden.

Where neighbouring properties have architectural features such as balconies or projections which inhibit light penetration and distort their reliance upon light across the development site, we have considered their influence in accordance with the 2011 BRE guidance. Such features can restrict the sky visibility in the existing scenario making the windows and rooms within, sensitive to any new alterations in massing, which should be considered when assessing the alteration in light. Paragraphs 2.2.11 and 2.2.12 of the BRE Guidelines, acknowledges the demonstrable constraint that existing buildings with unsympathetic design can have upon the potential of a redevelopment site to satisfy the BRE criteria.

Paragraph 2.2.11 states;

> *"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 sunlight…"*

Paragraph 2.2.12 goes on to state;

> *"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."*

4.0 Sources of Information

In compiling this report we have used the following information:

GIA

Site Visit and Photographs 03.03.2015

3D Model of the Scheme

F!ND

F!ND OS Map 12.03.2015

F!ND Map 26.02.2015

Vertex Modelling

IR02-040315-VERTEX (Photogrammetry Model)

AHMM

IR24-241116-Revised latest scheme

Valuation Office Agency search

Search of residential and commercial property uses

Aerial/Street View Photography

Google Maps/Google Earth

Camden Local Authority Online Planning Portal

Planning records and floorplans for neighbouring properties

5.0 Assumptions

1) An indicative 3D contextual model of the Site and its surrounds has been produced using a Vertex photogrammetry model and site photography, which forms the basis of the technical analysis. Therefore there may be a degree of tolerance (of circa 150-250mm). The location and size of the windows in the neighbouring properties are based on floorplans where obtained, site observations, site photographs and brick counting.

2) Where we have used a base photogrammetric model we will have endeavoured to verify the base level via the use of GPS and altometer equipment.

3) Best estimates have been made as to the uses which are carried out legally within the adjoining properties in terms of commercial and residential. We have estimated these from external observation and Valuation Office Agency (VOA) searches.

4) We have undertaken a search of public records for accurate room layouts and updated the 3D computer model prior to undertaking the technical analysis. Full or partial floorplans have been obtained for the following properties:

   - The Lockhouse (East and West Blocks)
   - 29 Oval Road
   - 27 Oval Road
   - 25 Oval Road
   - 23 Oval Road
   - 23 Oval Road – The Coach House
   - 21 Oval Road
   - 19 Oval Road
   - 18 Oval Road
   - 2-10 Oval Road

   These layouts have been incorporated into our computer model, however, please note that access has not been sought to the adjoining properties and therefore we cannot confirm these layouts have been implemented. Where we have not acquired floorplans reasonable assumptions have been made as to the internal layouts of the rooms behind the fenestration based upon the building form and architecture. This is normal practice where access to adjoining properties is not available. Unless the building form dictates otherwise, we assume a standard 4.2m deep room (14ft) for residential properties.

5) Where neighbouring elevations are not visible (but where it is likely that apertures may be present) we have inserted 'test' windows or estimated the position of apertures. The actual position may differ if closer access becomes possible and therefore the technical analysis may differ from that confirmed herein.

6) Floor levels have been assumed for the adjoining properties. This dictates the level of the working plane which is relevant for the No Sky Line assessment.

6.0 The Site

The Proposed Development site (the *'Site'*) is located in the London Borough of Camden and is bordered by Oval Road to the east, a railway to the west and a mixed use primarily residential development (33-35 Oval Road – The Lockhouse) to the north. The Site is indicatively outlined in red on Figure 02 below.

A VOA (Valuation Office Agency) search has indicated that the Site is surrounded by residential, commercial and mixed use properties which are highlighted on Figure 02 below.

Figure 02 – Site Location and Neighbouring Buildings – Residential/Commercial uses

Our understanding of the existing Site is shown in Figure 03 below and is also illustrated in GIA drawings 9333/01-03, located in Appendix 02.

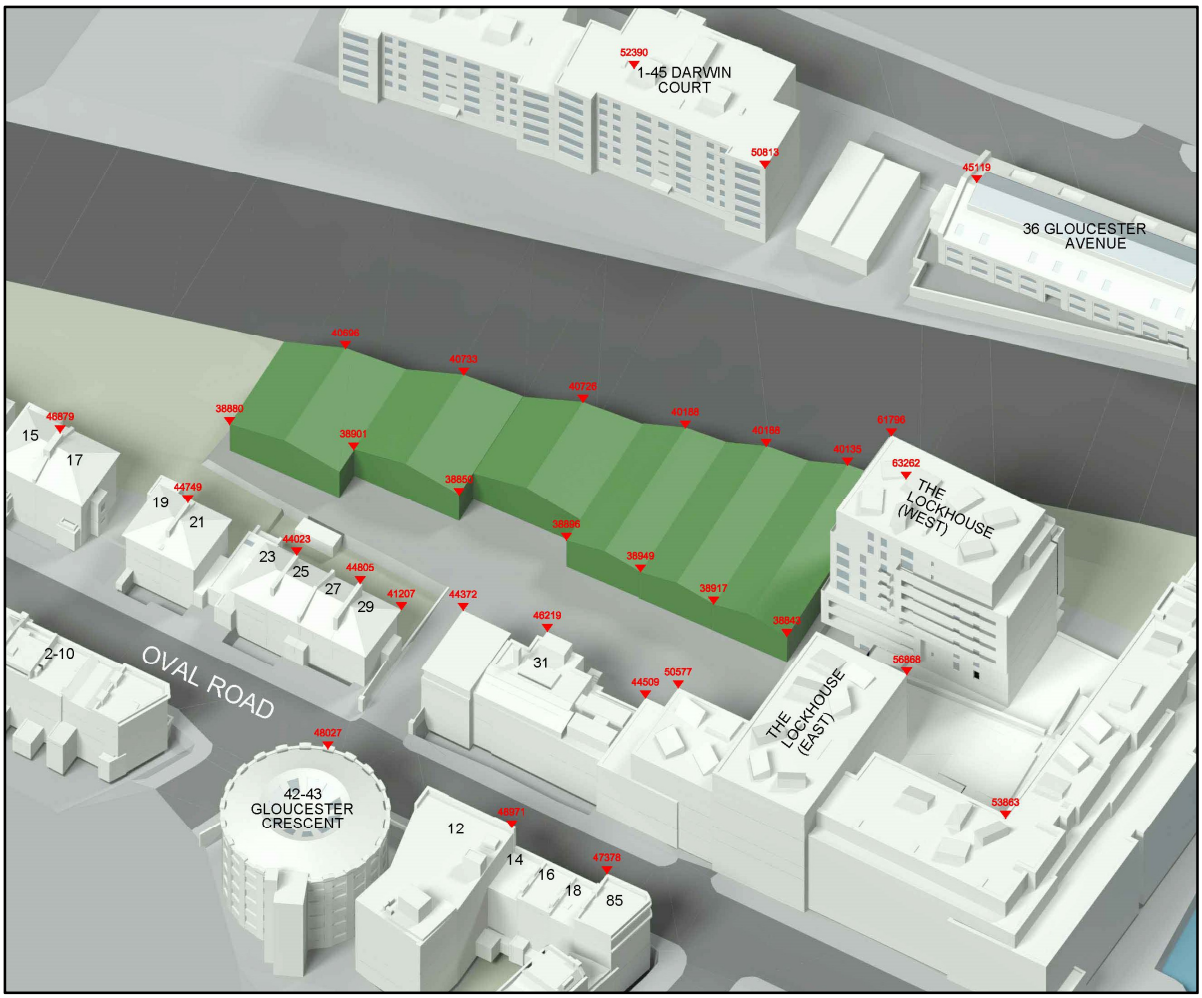


Figure 03 – The Existing Site

7.0 The Proposal

It is our understanding that the Proposed Development consists of the demolition of the existing building on the Site and the construction of a proposed scheme across the Site which increases in height towards the north, see Figure 04 below.

Our understanding of the Proposed Development is shown in Figure 04 below and is also illustrated in GIA drawings 9333/04-06, which are located in Appendix 02.

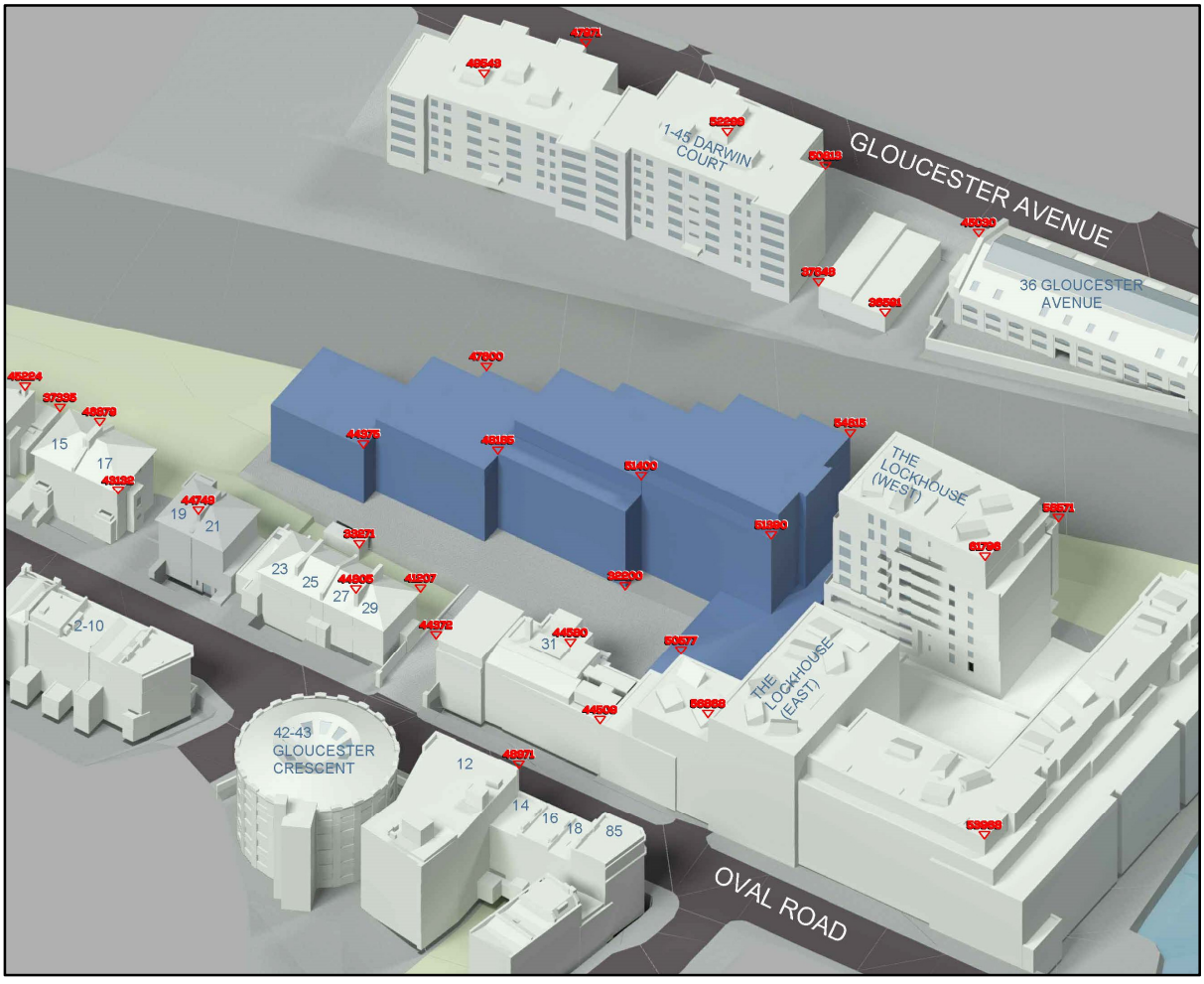


Figure 04 – The Proposed Development

8.0 Surrounding Properties

GIA have created a three-dimensional computer model of the Site and surrounding properties using photogrammetry modelling and site photography. Sensitive windows and rooms situated within these properties have been modelled and analysed in both the existing and proposed scenarios. The resultant technical information forms the basis of this report.

Only neighbouring residential properties have been considered as they are recognised by the Building Research Establishment (BRE 2011) as having a greater requirement for natural light when compared to other uses – such as commercial. The BRE Guidelines state:

> *'The guidelines given here are intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens and bedrooms.'* (BRE Guidelines 2011 – Site Layout Planning for Daylight and Sunlight – A guide to good practice: paragraph 2.2.2, page 7)

The following three commercial properties have therefore been discounted from further consideration:

- 31 Oval Road
- 12 Oval Road
- 42-43 Gloucester Crescent

Non-habitable rooms such as circulation spaces were not considered, as recommended by the 2011 BRE Guidelines. The BRE Guidelines state:

> *'Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed.'* (BRE Guidelines 2011 – Site Layout Planning for Daylight and Sunlight – A guide to good practice: paragraph 2.2.2, page 7)

In relation to Sunlight analysis, only windows which are oriented within 90 degrees of due south have been considered as per the BRE Guidelines.

Full results of the Daylight and Sunlight technical analysis are included in Appendix 03.

Properties Experiencing No Material Loss

Technical analysis indicates that there will be no material Daylight (VSC and NSL) or Sunlight (APSH) loss to the following 10 residential and mixed use properties as a result of the Proposed Development, as they will retain sufficient levels of VSC, NSL and APSH and thus remain fully in accordance with the 2011 BRE guidance.

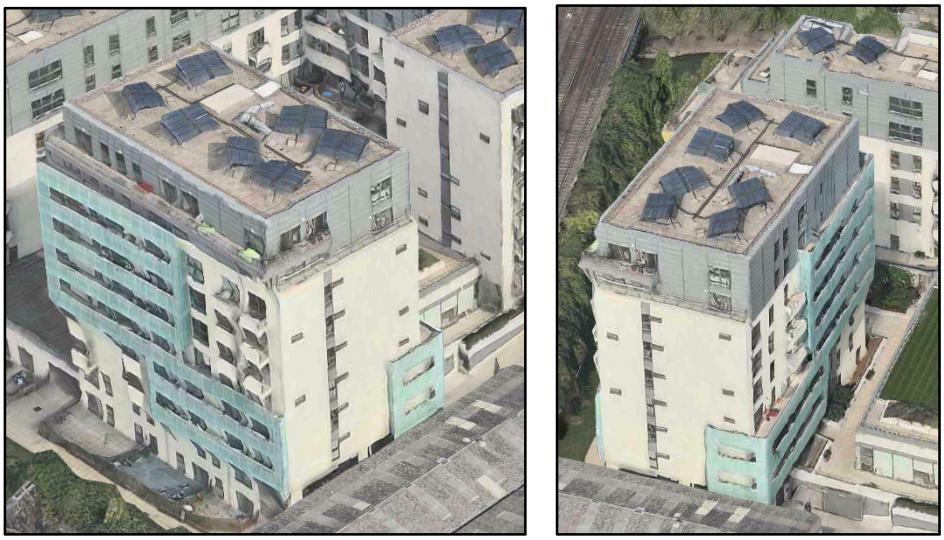
Therefore there will be a negligible Daylight or Sunlight impact to:

- 1-45 Darwin Court
- 36 Gloucester Avenue
- 21 Oval Road
- 17 Oval Road
- 15 Oval Road
- 85 Jamestown Road
- 18 Oval Road
- 16 Oval Road
- 14 Oval Road
- 2-10 Oval Road

Impacted Properties

The following properties will experience a technical breach of VSC, NSL and/or APSH to at least one or more windows and/or rooms when assessed against the 2011 BRE criteria:

The Lockhouse - West Block



The Lockhouse is a mixed use primarily residential development at 33-35 Oval Road, which is located to the north of the Site (*see site map – Figure 02*); the West Block is pictured above. Floorplans were obtained from public records and the 3D model was updated prior to the analysis.

Daylight – VSC & NSL

VSC and NSL daylight analysis has been undertaken against 49 habitable rooms served by 75 windows located between the basement and eight floors, in both the existing and proposed scenario.

Technical analysis found that 64 of the 75 windows assessed will meet the VSC daylight criteria, meaning there will be a negligible alteration in light to these windows.

Of the 11 windows that fall below the recommended BRE criteria for daylight, nine windows (*W2/301, W3/301, W2/302, W3/302, W2/303, W3/303, W2/304, W3/304 and W2/305 - see window map 9333/01 in Appendix 04*) serve five living rooms located between the first and fifth floors (*R7/301, R7/302, R7/303, R7/304 and R7/305*). The two remaining windows (*W4/303 and W4/304 - see window map 9333/01 in Appendix 04*) serve bedrooms on the third and fourth floors (*R6/303 and R6/304*).

All 11 windows serve rooms that have the benefit of at least one further mitigating window that fully adheres to the BRE Guidelines for VSC. Therefore, despite the loss of sky visibility to these 11 windows, the mitigating windows should ensure that a sufficient quantum of daylight is retained. This is backed up by the fact that all seven rooms fully comply with the BRE Criteria for daylight distribution (NSL) retaining over 95% of daylight across each room area.

Sunlight - APSH

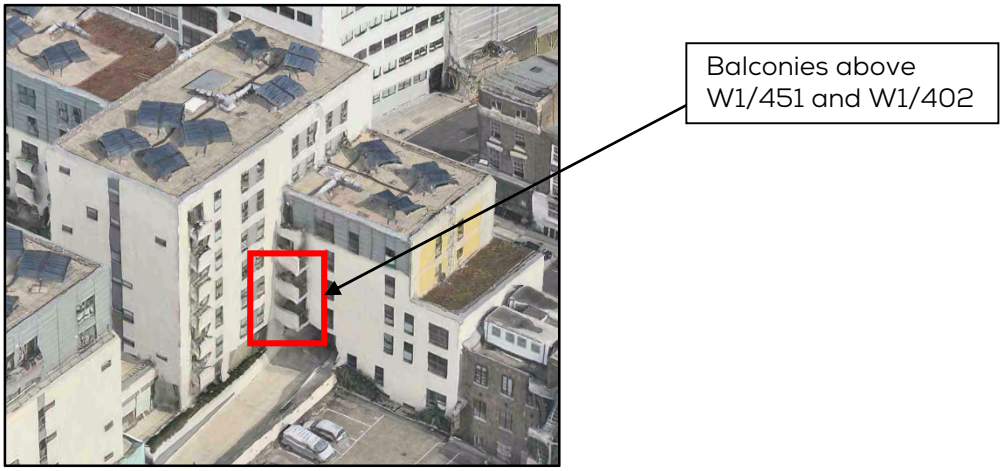
In total, 39 windows serving 14 habitable rooms are relevant for APSH analysis as they are oriented within 90 degrees of due south and thus have been assessed against the BRE criteria.

Technical analysis found that 37 of the 39 windows will retain sufficient levels of both annual and winter sunlight. As a result there will be a negligible alteration in sunlight to these windows.

Two windows (*W5/303 and W5/304 - see window map 9333/01 in Appendix 04*) serving two bedrooms on the third and fourth floors (*R6/303 and R6/304*) fall below the recommended BRE criteria. However, the two rooms each benefit from one further mitigating window that meets the BRE guidelines for both annual and winter APSH and thus the rooms as a whole adhere to the BRE Guidelines.

In consideration of the above, the sunlight impact to this property is considered to be negligible.

The Lockhouse - East Block



The Lockhouse is a mixed use primarily residential development at 33-35 Oval Road, which is located to the north of the Site (*see site map – Figure 02*); the East Block is pictured above. Floorplans were obtained from public records and the 3D model was updated prior to the analysis.

Daylight – VSC & NSL

VSC and NSL daylight analysis has been undertaken against 61 habitable rooms served by 72 windows located between the ground and sixth floors, in both the existing and proposed scenario.

Technical analysis found that 63 of the 72 windows assessed will meet the VSC daylight criteria, meaning there will be a negligible alteration in light to these windows.

Of the nine windows that fall below the recommended BRE criteria for daylight, four windows (*W1/400, W2/400, W3/400 and W4/451*) serve (three) bedrooms on the ground and first floors (*R1/400, R3/400 and R10/451*). Windows W1/400, W2/400 and W4/451 (*see window map 9333/02 in Appendix 04*) experience alterations in VSC of between 20-23% of their former value, which is just above the 20% allowed for within the BRE guidelines; while window W3/400 (*see window map 9333/02 in Appendix 04*) experiences a 25% alteration. Such alterations are not unusual in urban developments such as this.

Furthermore, the BRE guidelines state that bedrooms have a lower expectation of light than primary habitable spaces such as living rooms or kitchens (*see – BRE Guidelines 2011 – Site Layout Planning for Daylight and Sunlight – A guide to good practice, paragraph 2.2.8*). In any case, the three bedrooms served by these four windows retain a daylight distribution to over 74% of the room area which should ensure that these rooms remain adequately lit.

Three windows (*W4/401, W5/451 and W2/451 – see window map 9333/02 in Appendix 04*) serve two living/dining rooms and a kitchen on the first floor (*R3/401, R12/451* and *R11/451)*. These three windows experience alterations in VSC of between 20-22% of their former value, which is just above the 20% allowed for within the BRE guidelines and may not be perceptible. It is also worth noting that windows W5/451 and W2/451 retain a VSC above 22%, which is more typical of urban London that the 27% recommended by the BRE (*see Section 3, pages 3-5*) and could be considered commensurate with an urban environment such as this.

Furthermore, the three rooms served by these three windows fully comply with the BRE Criteria for daylight distribution (NSL), retaining over 77% of daylight across each room area.

The remaining two windows (*W1/451 and W1/402 - see window map 9333/02 in Appendix 04*) serve two living/dining rooms on the first and second floors (*R7/451* and *R7/402).* Window W1/402 will experience an alteration in VSC of 20.5%, which is just above the 20% allowed for within the BRE guidelines and may not be perceptible. Window W1/451 will experience an alteration of 26%. Furthermore, both windows have low existing VSC below 15% (recommended BRE guideline of 27%), and are located beneath overhanging balconies (*as outlined in red on the image above and see window map 9333/02 in Appendix 04*) which restricts the view of the sky and makes the windows inherently sensitive to even modest alterations in massing. Paragraph 2.2.11 of the BRE 2011 Guidelines acknowledges that:

> *"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 sunlight…"*

Sunlight - APSH

In total, 72 windows serving 61 habitable rooms are relevant for APSH analysis as they are oriented within 90 degrees of due south and thus have been assessed against the BRE criteria.

Technical analysis found that all of the rooms and windows fully accord with the BRE Guidelines and will retain sufficient levels of both annual and winter sunlight. As a result there will be a negligible alteration in sunlight to these windows and rooms.

29 Oval Road

This three storey residential property is located to the east of the Proposed Development on Oval Road (*see site map – Figure 02*). Floorplans were obtained from public records and the 3D model was updated prior to the analysis.

Daylight – VSC & NSL

VSC and NSL daylight analysis has been undertaken against five habitable rooms served by six windows located between the basement and second floors, in both the existing and proposed scenario.

These six windows fall below the recommended BRE criteria for daylight. However, four of the windows (*W2/599, W2/600, W1/601 and W1/602 - see window map 9333/03 in Appendix 04)* serving four rooms located between the basement and second floors (*R1/599, R2/600, R1/601 and R1/602*) retain a VSC above 19%, which is a common level of VSC in urban London and could be considered commensurate with other urban environments such as this.

Furthermore, three of these rooms (*R2/600, R1/601 and R1/602*) retain reasonable levels of daylight distribution (NSL) to over 68% of the room areas. In addition it should be noted that two of these rooms are bedrooms which can be considered less sensitive.

The remaining two windows (*W1/599 and W3/600 - see window map 9333/03 in Appendix 04*) serving two rooms (*R1/599 and R1/600*) on the basement and ground floors experience alterations in VSC of 28% and 32% of their former value. However, W3/600 is located next to a projecting wing on one side (*see window map 9333/03 in Appendix 04*) which reduces the view of the sky dome and therefore the level of daylight entering the room. Furthermore, room R1/600 served by window W3/600 does not experience any alteration in NSL and retains a daylight distribution to over 84% of the room area, which should ensure that the room remains adequately lit.

Sunlight - APSH

In total, six windows serving five habitable rooms are relevant for APSH analysis as they are oriented within 90 degrees of due south and thus have been assessed against the BRE criteria.

Technical analysis found that five of the six windows will retain sufficient levels of both annual and winter sunlight. As a result there will be a negligible alteration in sunlight to these windows.

One window (*W3/600 - see window map 9333/03 in Appendix 04*) serving a single aspect room (*R1/600*) on the ground floor falls below the recommended BRE criteria for winter and annual sunlight. The annual APSH falls from 28% in the existing context to 14% in the proposed context. This window currently achieves a winter APSH of 4% which is already below the BRE guidelines (recommended 5%) and this falls to 0% in the proposed context.

This window faces west and due to its orientation and the low trajectory of the sun in winter opposite, this results in limited available sunlight hours. Furthermore, the existing architectural design of the building with the projecting wing also plays a big role. The APSH Waldram diagram (*see Appendix 05*) illustrates the annual and winter APSH sunspots in the existing context (massing shown in green) and proposed context (massing shown in blue). Each sunspot represents 1% of the total annual probable sunlight hours in London which total 1,486. The yellow spots depicts the annual sun hours, while the blue spots illustrate the winter sun hours. The Waldram diagram clearly illustrates that it is the projecting wing (*as seen on the left of the Waldram diagram – see Appendix 05*) that blocks the available annual and winter sunspots in the existing context, thus making this window inherently sensitive to even modest alterations in massing opposite.

Whilst there are large percentage alterations in APSH, the orientation and location of the window, in addition to the small patch of sky that provides the sunspots, are key factors that should be considered. It is clear that if the projecting wing was not in place, this window would meet the BRE Guidelines for annual and winter APSH.

27 Oval Road

This three storey residential property is located to the east of the Proposed Development on Oval Road (*see site map – Figure 02*). Floorplans were obtained from public records and the 3D model was updated prior to the analysis.

Daylight – VSC & NSL

VSC and NSL daylight analysis has been undertaken against seven habitable rooms served by seven windows located between the basement and second floors, in both the existing and proposed scenario.

Technical analysis found that one of the seven windows assessed will meet the VSC daylight criteria, meaning there will be a negligible alteration in light to this window.

The remaining six windows fall below the recommended BRE criteria for daylight. However, four of these windows (*W1/700, W1/701, W1/702 and W1/710 - see window map 9333/03 in Appendix 04)* serving four single aspect rooms located between the ground and second floors (*R1/700, R1/701, R1/702 and R1/710*) retain a VSC above 23%, which is more typical of urban London than the 27% recommended by the BRE (*see Section 3, pages 3-5*) and could be considered commensurate with an urban environment such as this.

The remaining two windows (*W2/699 and W1/709 - see window map 9333/03 in Appendix 04*) serving two single aspect rooms (*R2/699 and R1/709*) located on the basement and ground floors experience alterations in VSC of 30% and 28% which may be noticeable. However, both windows are located next to projecting wings (*see window map 9333/03 in Appendix 04*) which reduces the quantum of sky visibility available to these windows; thus the levels of daylight entering the rooms served by these windows is significantly reduced. In addition, the retained levels of sky component (VSC) will be commensurate with windows located at basement and ground floor level across much of historic London.

Sunlight - APSH

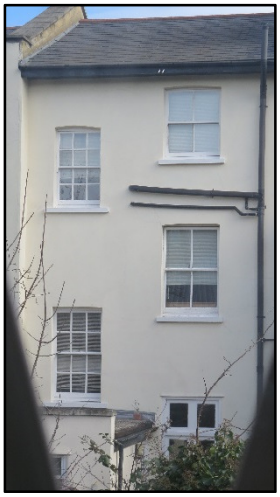
In total, seven windows serving seven habitable rooms are relevant for APSH analysis as they are oriented within 90 degrees of due south and thus have been assessed against the BRE criteria.

Technical analysis found that five of the seven windows will retain sufficient levels of both annual and winter sunlight. As a result there will be a negligible alteration in sunlight to these windows.

Two windows (*W2/699 and W1/709 - see window map 9333/03 in Appendix 04*) serving two single aspect rooms (*R2/699 and R1/709*) on the basement and ground floors fall below the recommended BRE criteria for annual sunlight. Window W2/699 achieves an annual APSH of 18% in the existing context which is already below the BRE guideline (recommended 25%), and retains an annual APSH of 8% in the proposed context. Window W1/709 has an annual APSH of 27% in the existing context which falls to 16% in the proposed context.

Alterations in sunlight to these windows are heavily influenced by the existing architectural design. The APSH Waldram diagrams illustrate that the projecting wing (*seen on the left of the Waldram diagrams - see Appendix 05*) blocks a number of sunspots in the existing context and leaves a small patch of sky providing annual sunlight. Therefore, in consideration of the location of these windows next to a projecting wing and their westerly orientation restricting the amount of sunlight received; it is not surprising that the annual APSH experiences alterations that breach the BRE Guidelines to two of the seven windows assessed.

25 Oval Road



This three storey residential property is located to the east of the Proposed Development on Oval Road (*see site map – Figure 02*). Floorplans were obtained from public records and the 3D model was updated prior to the analysis.

Daylight – VSC & NSL

VSC and NSL daylight analysis has been undertaken against seven habitable rooms served by eight windows located between the basement and second floors, in both the existing and proposed scenario.

Technical analysis found that four of the eights windows assessed will meet the VSC daylight criteria, meaning there will be a negligible alteration in light to these windows.

The remaining four windows fall below the recommended BRE criteria for daylight. Window *W1/811 (see window map 9333/03 in Appendix 04*) serving a single aspect room on the first floor (*R1/811*) retains a VSC of 26% which is just below the recommended BRE guideline of 27%, and window W2/800 (*see window map 9333/03 in Appendix 04*) serving room R1/800 on the ground floor retains a VSC of 21%, which is a common level of VSC in urban London and could be considered commensurate with other urban environments such as this.

The remaining two windows (*W2/799 and W1/800 - see window map 9333/03 in Appendix 04*) serving two single aspect rooms (R*1/799 and R2/800*) located on the basement and ground floors experience alterations in VSC of 33% and 25%, falling to 10% and 17% in the proposed context. Both windows are located with projecting wings on either side (*see window map 9333/03 in Appendix 04*) which restricts the view of the sky and the levels of daylight entering the rooms served by these windows.

Sunlight - APSH

In total, eight windows serving seven habitable rooms are relevant for APSH analysis as they are oriented within 90 degrees of due south and thus have been assessed against the BRE criteria.

Technical analysis found that six of the eight windows will retain sufficient levels of both annual and winter sunlight. As a result there will be a negligible alteration in sunlight to these windows.

Two windows (*W2/799 and W1/800 - see window map 9333/03 in Appendix 04*) serving two single aspect rooms (*R1/799 and R2/800*) on the basement and ground floors fall below the recommended BRE criteria for annual and winter sunlight. Window W2/799 achieves an annual APSH of 18% and a winter APSH of 2% in the existing context, which is already below the BRE guidelines (recommended 25% for annual APSH and 5% for winter APSH), and retains an annual APSH of 11% and the winter APSH falls to 0% in the proposed context. Window W1/800 retains an annual APSH of 24%, which is just below the recommended BRE guideline of 25%, and the winter APSH falls from 6% in the existing context to 2% in the proposed context.

Both windows are located with projecting wings on either side which reduces the available annual and winter APSH sunspots in the existing context (*as illustrated in the Waldram diagrams - located in Appendix 05*). The remaining annual and winter sunspots are concentrated into a very small patch of the sky and thus even a modest increase in massing is likely to cause alterations in breach of the BRE criteria.

Furthermore, both windows face west and due to their orientation and the trajectory of the sun, there is a restriction in the amount of sunlight received. In consideration of the above, it can be concluded that the alterations in sunlight to two of the six windows assessed are heavily influenced by the existing architectural design.

23 Oval Road

This three storey residential property is located to the east of the Proposed Development on Oval Road (*see site map – Figure 02*). Floorplans were obtained from public records and the 3D model was updated prior to the analysis.

Daylight – VSC & NSL

VSC and NSL daylight analysis has been undertaken against six habitable rooms served by seven windows located between the basement and second floors, in both the existing and proposed scenario.

Technical analysis found that three of the seven windows assessed will meet the VSC daylight criteria, meaning there will be a negligible alteration in light to these windows.

The remaining four windows fall below the recommended BRE criteria for daylight. Two windows (*W2/900 and W1/900 - see window map 9333/03 in Appendix 04*) serving two single aspect rooms (*R1/900 and R2/900*) located on the ground floor experience alterations in VSC of 29% of their former value. However, both windows retain a VSC above 20% which is common in urban London. Furthermore, window W2/900 is located next to a projecting wing on one side (*see window map 9333/03 in Appendix 04*) which restricts the view of the sky dome.

Two windows (*W1/899 and W2/899 - see window map 9333/03 in Appendix 04*) serving room R1/899 located on the basement floor experience alterations in VSC of 32% and 34% of their former value. A review of the existing massing illustrates that a projecting wing to one side of these windows (*see window map 9333/03 in Appendix 04*) reduces the quantum of sky visibility and thus the levels of daylight entering the rooms served by these windows. In addition, Window W1/899 will retain a VSC of 14% and W2/899 will retain a VSC of 17% in the proposed context, which are not unusual for basement/lower ground floor rooms in urban London.

Sunlight - APSH

In total, seven windows serving six habitable rooms are relevant for APSH analysis as they are oriented within 90 degrees of due south and thus have been assessed against the BRE criteria.

Technical analysis found that four of the seven windows will retain sufficient levels of both annual and winter sunlight. As a result there will be a negligible alteration in sunlight to these windows.

Two windows (*W1/899 and W2/899 - see window map 9333/03 in Appendix 04*) serving room R1/899 on the basement floor fall below the recommended BRE criteria for annual sunlight. Window W1/899 achieves an annual APSH of 23% in the existing context, which is already below the BRE guideline of 25%, and retains an annual APSH of 12%. Window W2/899 retains an annual APSH of 23%, which is just below the recommended BRE guideline of 25%.

The remaining window (*W2/900 - see window map 9333/03 in Appendix 04*) serves a single aspect room (*R1/900*) on the ground floor and falls below the recommended BRE criteria for annual and winter sunlight. However, window W2/900 retains an annual APSH of 24%, which is just below the recommended BRE guideline of 25%. Window W2/900 achieves a winter APSH of 4% in the existing context, which falls to 0% in the proposed context.

All three windows face west and due to their orientation and the trajectory of the sun, there is a restriction in the amount of sunlight received. Furthermore, all three windows are located next to a projecting wing (*which can be seen on the left of the Waldram diagrams - see Appendix 05*) which blocks a number of available sunspots and leaves a small patch of annual and winter sunspots visible.

23 Oval Road – Coach House

This single storey residential property is located to the east of the Proposed Development on Oval Road (*see site map – Figure 02*). Floorplans were obtained from public records and the 3D model was updated prior to the analysis.

Daylight – VSC & NSL

VSC and NSL daylight analysis has been undertaken against two habitable rooms served by five windows on the basement and ground floors, in both the existing and proposed scenario.

Technical analysis found that two of the five windows assessed will meet the VSC daylight criteria, meaning there will be a negligible alteration in light to these windows.

The remaining three windows fall below the recommended BRE criteria for daylight. Window W1/899 (*see window map 9333/03 in Appendix 04*) serves a bedroom *(R1/899)* on the basement floor which experiences an alteration in VSC of 31% and falls to 18% in the proposed context. However, bedrooms are considered less sensitive than primary habitable spaces such as living rooms or kitchens (*see – BRE Guidelines 2011 – Site Layout Planning for Daylight and Sunlight – A guide to good practice, paragraph 2.2.8*).

Two windows (*W3/910 and W4/910 - see window map 9333/03 in Appendix 04*) serving room R1/910 on the ground floor fall below the recommended BRE criteria for daylight and experience alterations in VSC of 26% and 28% of their former value. However, both windows retain a VSC of 24% which is just below the recommended BRE guideline of 27% and is considered a good level of sky visibility in urban London. Furthermore, room R1/910 benefits from a further two mitigating windows (*W2/910 and W1/910*) that fully adhere to the BRE Guidelines for VSC and ensure that a sufficient quantum of daylight is retained. This room also fully complies with the BRE Criteria for daylight distribution (NSL) retaining over 92% of daylight across the room area.

Sunlight - APSH

In total, five windows serving two habitable rooms are relevant for APSH analysis as they are oriented within 90 degrees of due south and thus have been assessed against the BRE criteria.

Technical analysis found that all of the rooms and windows fully accord with the BRE Guidelines and will retain sufficient levels of both annual and winter sunlight. As a result there will be a negligible alteration in sunlight to these windows and rooms.

19 Oval Road

This three storey residential property is located to the east of the Proposed Development on Oval Road (*see site map – Figure 02)*. Floorplans were obtained from public records and the 3D model was updated prior to the analysis.

Daylight – VSC & NSL

VSC and NSL daylight analysis has been undertaken against six habitable rooms served by six windows between the basement and second floors, in both the existing and proposed scenario.

Technical analysis found that all of the six windows assessed will meet the VSC daylight criteria, meaning there will be a negligible alteration in light to these windows.

In relation to daylight distribution (NSL), five of the six rooms assessed will meet the NSL daylight criteria, meaning there will be a negligible alteration in NSL to these rooms.

One single aspect room (*R1/1109*) located on the basement floor and served by one window (*W1/1109*) will experience an alteration of daylight distribution in breach of the recommended criteria. However, the window serving this room (*W1/1109 - see window map 9333/04 in Appendix 04*) fully adheres to the BRE criteria for VSC. Therefore there will be a negligible daylight impact to this room.

Sunlight - APSH

In total, five windows serving five habitable rooms are relevant for APSH analysis as they are oriented within 90 degrees of due south and thus have been assessed against the BRE criteria.

Technical analysis found that two of the five windows will retain sufficient levels of both annual and winter sunlight. As a result there will be a negligible alteration in sunlight to these windows.

Windows W1/1100 and W1/1101 (*see window map 9333/04 in Appendix 04*) which serve single aspect rooms (*R1/1100 and R1/1101*) on the ground floor fall below the recommended BRE criteria and experience alterations in annual and winter sunlight beyond the BRE criteria. However, both windows achieve a winter APSH of 4% in the existing context which falls to 3% in the proposed context and is unlikely to be perceptible. The annual APSH for window W1/1100 falls from 26% in the existing context to 19% in the proposed context and from 27% to 22% for window W1/1101. Furthermore, room R1/1101 is a bedroom which can be considered less sensitive.

Window W1/1099 (*see window map 9333/04 in Appendix 04*) serving a single aspect room (*R1/1099*) on the basement floor falls below the recommended BRE criteria for annual sunlight. This window achieves an annual APSH of 20% in the existing context which is below the recommended BRE guideline of 25%, and falls to 15% in the proposed context. However, this window doesn't experience any alteration in winter sunlight and complies the BRE guidelines for winter APSH.

All three windows face west and due to their orientation and the trajectory of the sun, there is a restriction in the amount of sunlight received. Furthermore, all three windows are located next to a projecting wing on one side which reduces the available annual and winter APSH sunspots in the existing context (*as illustrated in the Waldram diagrams - located in Appendix 05*) and leaves the remaining sunspots concentrated into a small patch of the sky. In light of the above and as the windows look directly onto the Proposed Development, it can be concluded that the alterations in sunlight to this window are heavily influenced by the existing architectural design.

9.0 Conclusions

GIA have undertaken a Daylight/Sunlight technical assessment of 18 sensitive properties neighbouring the Site. These properties have been analysed using the methodology and criteria recommended by the 2011 BRE Guidelines, to ascertain the alteration in Daylight and Sunlight that may occur should the Proposed Development, as illustrated in GIA drawings 9333/04-06, be implemented.

Technical analysis indicates that there will be a negligible alteration in light to the following 10 properties, as they will retain sufficient levels of VSC, NSL (Daylight) and APSH (Sunlight), and thus will remain in compliance with the 2011 BRE Daylight and Sunlight criteria:

- 1-45 Darwin Court
- 36 Gloucester Avenue
- 21 Oval Road
- 17 Oval Road
- 15 Oval Road
- 85 Jamestown Road
- 18 Oval Road
- 16 Oval Road
- 14 Oval Road
- 2-10 Oval Road

Whilst The Lockhouse – West Block experiences alterations in daylight/sunlight, a series of mitigating windows ensure that the rooms remain sufficiently lit.

Windows within The Lockhouse – East Block experience alterations in daylight beyond the BRE criteria, however the retained levels of VSC could be considered commensurate with other urban environments such as this. In addition, balconies restrict the view of the sky and make windows inherently sensitive to alterations in massing. Furthermore, a number of rooms retain a sufficient quantum of daylight distribution which should ensure they remain adequately lit and bedrooms can be considered less sensitive. This property experiences a negligible alteration in sunlight.

19 Oval Road experiences a negligible alteration in daylight. Whilst three windows experience alterations in sunlight beyond the recommended criteria, these windows are located next to a projecting wing which makes them inherently sensitive to even modest alterations in massing. Furthermore, the windows are orientated west and thus there is a restriction in the amount of sunlight received.

Whilst windows serving two rooms within 23 Oval Road – The Coach House fall below the BRE criteria for daylight; one room fully complies with the BRE criteria for daylight distribution and the other is a bedroom which can be considered less sensitive. This property experiences a negligible alteration in sunlight.

Properties located at numbers 29 to 23 Oval Road experience alterations in daylight/sunlight beyond the BRE Guidelines. However, the BRE Guidelines state that they must be interpreted flexibly and should be viewed in the context of the specific site constraints. In light of the above the following factors should be considered in relation to these alterations:

1. Existing projecting wings reduce the view of the sky and make windows inherently sensitive to even modest alterations in massing (*BRE Guidelines, 2011 – Site Layout Planning for Daylight and Sunlight - A guide to good practice paragraph 2.2.12*);
2. The retained levels of VSC could be considered commensurate with other urban environments such as this;
3. A number of rooms retain good levels of daylight distribution indicating that they should remain sufficiently lit;
4. Windows with low existing levels of light experience greater percentage alterations which are often unavoidable even where modest changes in massing are proposed;
5. Windows are orientated west and thus there is a restriction in the amount of sunlight received.

Fairview Estates Ltd have worked closely with GIA over a number of months to develop a design proposal that aims to mitigate Daylight and Sunlight impacts to the neighbouring context. In response to this, the Proposed Development steps down to the south of the site opposite sensitive neighbouring properties and the height of the massing has reduced to increase sky visibility whilst ensuring that the scheme remains viable.

Despite some alterations in Daylight/Sunlight beyond the recommended BRE Guidelines, the conclusion of our technical assessment is that where alterations occur they are heavily influenced by existing architectural features which restrict the access of sky visibility. Furthermore, where changes in light occur which fall below the recommendations set out in the BRE Guidelines, the alterations are common.