

# Daylight and Sunlight

Alpha House, 24-27 Regis Road

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# Sources of Information:

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# 1.0 Executive Summary

- 1.1 GIA have undertaken a technical daylight and sunlight assessment of the Mountford Pigott scheme ("the Proposed Scheme") at Alpha House, 24-27 Regis Road ("the Site"), to understand the potential effect of the Proposed Scheme on the daylight and sunlight amenity of the relevant neighbouring properties.
- 1.2 In considering the potential impact to neighbouring properties, Part D of Policy D6 of the London Plan (March 2021) advises that the design of development should "provide <u>sufficient</u> daylight and sunlight to new and surrounding housing that is appropriate for its context" (our emphasis).
- 1.3 It is clear that the GLA's focus is on sufficient or retained daylight and sunlight to neighbouring properties and highlights that context will be a consideration to determine sufficiency.
- 1.4 Policy A1 of the Camden Local Plan (July 2017) states that new development will be granted permission unless it causes "<u>unacceptable harm</u> to amenity" (our emphasis), the supporting text clarifies that daylight and sunlight are considered part of amenity. The policy recognises that daylight and sunlight condition within neighbouring properties may cause some degree of harm, but it is to be considered whether it is "unacceptable".
- 1.5 The Daylight and Sunlight analysis has been considered by reference to the criteria and methodology within the BRE Guidelines (2022), which when published, recognised that it should not form a mandatory set of criteria, rather it should be used to help and inform design.
- 1.6 Within this report, we have also considered recent decisions from the GLA and Planning Inspectorate in which a flexible approach to the BRE Guidelines is employed and wherein a mid-teen value is considered an "acceptable" level of VSC and a value of 20% VSC or more is considered "reasonably good" for an urban context. We have also considered other material factors which are relevant when determining whether the harm of daylight and sunlight is acceptable, such as the transient use of Mary Brancker House as it is used as accommodation for students.
- 1.7 Overall, there will be a 72.7% VSC compliance rate. In the case of NSL, 60.4% of all rooms assessed will achieve BRE compliance. In terms of sunlight, 100% of windows and rooms assessed will achieve BRE compliance. These overall compliance rates are considered to be reasonably high, given the urban context of the area.
- 1.8 The potential effects of the Proposed Scheme on neighbouring residential receptors is discussed in Section 5.0.
- 1.9 In GIA's opinion, the Proposed Scheme performs well from a daylight and sunlight perspective. Whilst there are impacts to Mary Brancker House and 52 Regis Road, GIA consider that the impacts attributed to the Proposed Scheme sit within the flexible intention of the BRE guide and that it is appropriate in its context. Any harm to daylight and sunlight amenity, upon implementation of the Proposed Scheme, is not considered to be unacceptable.

# 2.0 The Site

- 2.1 The Site is located within the London Borough of Camden along Regis Road. The existing Site comprises a low-rise industrial unit, surrounded by other commercial properties, with the exception of Mary Brancker House (student accommodation) and 52 Regis Road (residential) to the south.
- 2.2 GIA's understanding of the existing site is shown in Figure 01 below and in drawings enclosed within Appendix 03 of this report.



Figure 01 – Existing Site

# 3.0 The Proposed Scheme

- 3.1 The Proposed Scheme includes the *"Redevelopment of the site and the construction of a self-storage facility (Use Class B8) and flexible office space (Use Class E(g)(i)), together with vehicle and cycle parking and landscaping."*
- 3.2 GIA's understanding of the Proposed Scheme is illustrated in Figure 02 below and further drawings are enclosed at Appendix 03 of this report.



Figure 02 – Proposed Scheme

# 4.0 Planning Policy and Guidance

- 4.1 Below we have detailed sections from the following documents as they are, in our opinion, the most pertinent in relation to daylight and sunlight matters and how we have approached both the effects of the Proposed Development on the relevant neighbouring properties and amenity of future occupants:
  - National Planning Policy Framework (NPPF) (July 2021) (Ministry of Housing Communities and Local Government (MHCLG));
  - > National Planning Practice Guidance (NPPG) (July 2021) (MHCLG);
  - > The London Plan (March 2021) (Greater London Authority (GLA));
  - > The Mayor's Housing SPG (March 2016, updated 2017) (GLA);
  - > Camden Local Plan (July 2017) (London Borough of Camden); and
  - > Building Research Establishment Guidelines 2022.

# National Planning Policy Framework (July 2021)

4.3 The NPPF (July 2021) states that local planning authorities should refuse applications which they consider that fail to make efficient use of land. The discussion in relation to daylight and sunlight highlights the Government's recognition that increased flexibility is required in response to the requirement for higher density development.

"When considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards)"

# National Planning Practice Guidance (July 2021)

- 4.4 In light of the update to the Government's Planning Practice Guidance, we have considered the relevant paragraphs on daylight and sunlight.
- 4.5 Paragraph 6 of the NPPG (Ref ID: 66-006-20190722) acknowledges that new development may cause an impact on daylight and sunlight levels enjoyed by neighbouring occupiers. It requires local authorities to assess whether the impact to neighbouring occupiers would be "unreasonable".
- 4.6 Paragraph 7 (Ref ID: 66-007-20190722) outlines the wider planning considerations in assessing appropriate levels of sunlight and daylight. It states that *"all developments should maintain acceptable living standards"* which will depend to some extent on the context. The guidance advocates good design to *"maintain acceptable living standards"*.

London Plan (March 2021)

- 4.7 The London Plan was published in March 2021 and sets out the integrated economic, environmental, transport and social framework for the development of London over the next 20-25 years.
- 4.8 Part D of Policy D6 of the London Plan (March 2021) advises that the design of development should "provide sufficient daylight and sunlight to new and surrounding housing that is appropriate for its context" (our emphasis).
- 4.9 It is clear that the GLA's focus is on sufficient or retained daylight and sunlight to neighbouring properties and highlights that context will be a consideration to determine sufficiency.

Planning Guidance "The Mayor's Housing SPG" (London Plan, March 2016, Updated In 2017)

- 4.10 The Mayor published a Supplementary Planning Guidance on Housing in March 2016. The Supplementary Planning Guidance, "provides guidance on a range of strategic policies including housing supply, residential density, housing standards, build to rent developments, student accommodation and viability appraisals."
- 4.11 The Housing SPG moves away from the rigid application of the BRE Guidelines. Paragraph 1.3.45 states that: "an appropriate degree of flexibility needs to be applied when using BRE Guidelines to assess the daylight and sunlight impacts of new development on surrounding properties, as well as within new developments themselves."
- 4.12 Paragraph 2.3.46 suggests that:

"Where direct sunlight cannot be achieved in line with Standard 32, developers should demonstrate how the daylight standards proposed within a scheme and individual units will achieve good amenity for residents. They should also demonstrate how the design has sought to optimise the amount of daylight and amenity available to residents, for example, through the design, colour and landscaping of surrounding buildings and spaces within a development."

4.13 A more flexible and holistic approach to the national numerical standards should be applied.

4.14 At paragraph 1.3.19, the SPG discusses the definition of a habitable room specifically referencing kitchens:

"There is no statutory definition for kitchens to be counted as a habitable room, nor is there any statutory size threshold. Many boroughs, however, include a figure of between 13 and 15 square meters in LDFs: any kitchen above that minimum is usually counted as a habitable room. Generally, a kitchen with a small table and chairs in one corner, or a kitchen 'bar', would not be counted as a habitable room".

# Camden Local Plan (July 2017)

- 4.15 The Camden Local Plan was adopted by Council on 3 July 2017 and comprises the strategic and development management policies which will be used to inform development in the borough.
- 4.16 Policy A1 of the Camden Local Plan (2017) seeks to ensure that standard of amenity are protected. It states that the "Council will seek to protect the quality of life of occupiers and neighbours. We will grant permission for development unless this causes <u>unacceptable harm</u> to amenity" (our emphasis). There are several factors the Council have identified as contributing to amenity, which includes "daylight and sunlight". The policy recognises that harm to daylight and sunlight condition within neighbouring properties, but it is to be considered whether this is "unacceptable".
- 4.17 A two staged approach should be considered when applying this policy:
  - > Whether there is any "harm" to existing daylight and sunlight levels; and
  - > Whether the level of "harm" is unacceptable.
- 4.18 Supporting text requires applicants to refer to the BRE Guidelines (para 6.5).

Building Research Establishment Guidelines 2022

- 4.19 The BRE Guidelines note that the document is intended to be used in conjunction with the daylight recommendations found within the BS EN 17037 (2019) and UK annex and The Applications Manual on Window Design of the Chartered Institution of Building Services Engineers (CIBSE).
- 4.20 It is important to note, however, that this document is a guide and states that its aim *"is to help rather than constrain the designer"*.
- 4.21 The document provides advice, but also clearly states that it "is not mandatory and the guide should not be seen as an instrument of planning policy." The report acknowledges in its introduction that "in special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings".

- 4.22 The BRE Guidelines provides two methodologies for daylight assessment of neighbouring, namely:
  - > The Vertical Sky Component ("VSC"); and
  - The No Sky Line ("NSL").
- 4.23 Whilst the VSC and NSL metrics are used to assess daylight impacts, the Median Daylight Factor ("MDF") and Illuminance (Lux Levels) criteria should be used in conjunction when assessing the daylight amenity within new developments.
- 4.24 There is one methodology provided by the BRE Guidelines for sunlight assessment, denoted as Annual Probable Sunlight Hours ("APSH").
- 4.25 For daylight impacts to be compliant (in accordance with Figure 20 of the Guide, both the VSC and NSL tests have to be met).
- 4.26 The BRE Guidelines provide alternative assessments to better understand the impact on a neighbouring property in such situations. The relevant assessments for the purpose of this report are detailed within the BRE Guidelines and are summarised below.
- 4.27 The BRE Guidelines provide a calculation for the VSC and APSH analysis to quantify an appropriate alternative value based on the context of an environment. This approach is commonly known as the 'mirror image' analysis.
- 4.28 The BRE Guidelines provide an alternative assessment where there are existing windows with balconies above them. This test determines whether it is the presence of the existing balcony that is the reason for the large relative impact on daylight (VSC).
- 4.29 Appendix 02 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.

Building Research Establishment Guidelines 2022 – Supplementary Tests

4.30 The BRE Guidelines outline that a VSC value is calculated for each window; however -

"If a room has two or more windows of equal size, the mean of their VSC's may be taken"

- 4.31 Although not strictly in accordance with the BRE methodology, where a room is served by two or more windows of the same or different sizes, the VSC value to the room has been calculated by applying an average weighting calculation to understand the VSC value to the room. It is GIA's opinion that this is a reasonable method to follow in that it follows the principles of the Guidelines.
- 4.32 The BRE also provide a methodology to calculate APSH in relation to the room and window.

- 4.33 Evaluating per-room Probable Sunlight Hours is meant to be carried out with diagrams and acetate overlays, which makes accounting for individual spots challenging if not impossible. APSH assessments are now typically done using specialised computer software which allows the assessment of rooms with multiple windows to be completed more accurately than what is suggested in the BRE Guidelines.
- 4.34 Appendix F of the BRE Guidelines allows for supplementary analysis to be undertaken in order to establish alternative target values. This exercise places a theoretical notional massing of the property for which alternative target values are to be created and mirrors the massing onto the site. This exercise is called a "mirror massing" assessment.

"Sections 2.1, 2.2 and 2.3 give numerical target values in assessing how much light from the sky is blocked by obstructing buildings. These values are purely advisory and different targets may be used based on the special requirements of the proposed development or its location. Such alternative targets may be generated from the layout dimensions of existing development, or they may be derived from considering the internal layout and daylighting needs of the proposed development itself."

"... where an existing building has windows that are unusually close to the site boundary and taking more than their fair share of light... To ensure that new development matches the height and proportions of existing buildings, the VSC, daylight distribution and APSH targets for these windows should be set to those for a "mirror image" building of the same height and size and equal distance away from the other side of the boundary"

# 5.0 Daylight and Sunlight Impacts to Neighbouring Properties

- 5.1 This section details the daylight and sunlight impacts in relation to the relevant properties neighbouring the Site.
- 5.2 GIA have created a three-dimensional computer model of the Site and the surrounding properties to allow for a detailed daylight and sunlight assessment. All relevant assumptions made in producing this model can be found in Appendix 01.

# Surrounding Properties

- 5.3 GIA have identified the following properties as relevant for daylight and sunlight assessment, which are listed below:
  - > Mary Brancker House
  - > 52 Regis Road
- 5.4 The daylight and sunlight impacts to the aforementioned properties are fully discussed in the following section and all results can be found in Appendix 04.
- 5.5 To assist the readers understanding of the surrounding properties, window locations and internal layouts, we have produced window maps and contour plots which are enclosed at Appendix 05 and 06 of this report.

# Discussion of Results

- 5.6 As established earlier, when considering the policies and guidance listed in Section 4.0, Policy A1 of Camden's Local Plan (2017) acknowledges that new development can cause some degree of "harm" to neighbouring amenity. The question asked by the policy is whether the harm would be "unacceptable".
- 5.7 Furthermore, in considering the potential impact to neighbouring properties, Part D of Policy D6 of the London Plan (March 2021) advises that the design of development should "provide <u>sufficient</u> daylight and sunlight to new and surrounding housing that is appropriate for its context" (our emphasis). It is clear that the GLA's focus is on sufficient or retained daylight and sunlight to neighbouring properties and highlights that context will be a consideration to determine sufficiency.
- 5.8 Finally, it is industry practice to review changes in light by reference to the Building Research Establishment (BRE) methodology and criteria.

- 5.9 It is an inevitable consequence of the built-up urban environment that daylight and sunlight will be more limited in dense urban areas. It is well acknowledged that in such situations there may be many other conflicting and potentially more important planning and urban design matters to consider other than just the provision of ideal levels of daylight and sunlight.
- 5.10 The BRE notes that while Guidance offers numerical target values in assessing how much light from the sky is blocked by obstructing buildings, "these values are purely advisory and different targets may be used based on the special requirements of the proposed development or its location". It is well-established and accepted that the BRE Guidelines are predicated on a relatively low-rise suburban environment. In essence, the BRE Guidelines offers the opportunity to consider alternative target values in certain circumstances. GIA would suggest that such circumstances extend to urban environments.
- 5.11 This approach reflects the aspirations of the GLA via the Housing SPG (2016) which requires a more flexible and holistic approach to the strict national numerical standards if they are to make their appropriate contribution to meeting spatial needs.
- 5.12 In consideration of the Former Biscuit Factory and Bermondsey Campus masterplan in the London Borough of Southwark in February 2020, the Representation Hearing Report (GLA Ref: GLA/3776a/03) noted that; "the 27% VSC recommended guideline is based on a low-density suburban housing model and in an urban environment it is recognised that VSC values in excess of 20% are considered as reasonably good, and that VSC values in the mid-teens are deemed acceptable."
- 5.13 In a February 2018 Appeal Decision for the Whitechapel Estate scheme, the Inspector noted that "residual Vertical Sky Component ("VSC") values in the mid-teens have been found acceptable in major developments across London. This echoes the Mayor's endorsement in the pre-SPG decision at Monmouth, Islington that VSC values in the mid-teens are acceptable in an inner urban environment... The appeal proposal would therefore appear to be in compliance with the LP as amplified by the SPG and as it is being interpreted by the Mayor. The GLA responses to the planning application did not raise any concern about neighbours' amenity."
- 5.14 In this case, the Inspector has placed significant weight on the GLA's application of the Housing SPG and that a mid-teen VSC value is "acceptable" in an inner urban environment. This alternative target value is also used in other schemes in dense urban environments in London.
- 5.15 GIA have reviewed if the retained values demonstrated within our assessment are in excess of 20% and can be considered to be "reasonably good" or a mid-teen value and can therefore be considered "acceptable". In addition, other material considerations have been investigated to demonstrate that no unacceptable harm and impact has been caused.
- 5.16 Although tested, GIA have considered all kitchens smaller than 13 square metres as non-habitable in line with the Housing SPG (London Plan March 2016, updated in 2017) as they are not large enough to accommodate a dining table and chairs.

5.17 Figure 03 below outlines the uses of the surrounding properties, clarifying which properties are residential or have residential elements and have therefore been included within the analysis:



Figure 03 – Property Use Plan

Mary Brancker House



5.18 Mary Brancker House is located to the south of the Site and contains student accommodation. In the first instance, it must therefore be noted that the habitable use contained within this property is considered to be transitory in nature.

# Vertical Sky Component – VSC

5.19 A total of 100 windows were assessed within this property for VSC, of which 69 (69.0%) will achieve BRE compliance, following the implementation of the Proposed Scheme. A further 11 windows will experience VSC reductions of between 20% to 30%, which we would consider to be only marginally beyond the 20% parameter suggested as acceptable by the BRE guidelines. This leaves 20 windows which will experience VSC reductions ranging from between 30% to 40%, however these 20 windows will retain VSC values of 19.2% up to 25.4% in the proposed condition and we would consider these retained values to be relatively high, given the urban context of the area. We do not consider these VSC impacts to be of an adverse nature, due to the retained VSC value position.

# No Sky Line – NSL

5.20 In the case of NSL, a total of 80 rooms were assessed, of which 45 (56.3%) will achieve BRE compliance, following the implementation of the Proposed Scheme. A further 10 rooms will experience NSL reductions ranging between 20% to 30%, which we would consider to be only marginally beyond the 20% parameter suggested as acceptable by the BRE guidelines. Of the remaining 25 rooms, five will retain NSL values of at least 50%, which we would consider to be good retained values, given the urban context of the area. This leaves 20 rooms, of which 16 serve as student bedrooms. It must be remembered that the BRE guidelines explicitly state that daylight to bedrooms is less important. Furthermore, these student bedrooms are transitory in use. We are therefore of the opinion that the daylight impacts to these student bedrooms will not interfere with how the rooms in question are used and therefore unacceptable harm will not be caused.

5.21 This therefore leaves just four rooms, all of which serve as LKDs within the student accommodation. These rooms all have high levels of NSL in the existing condition, ranging from 99.3% to 99.4%. In terms of percentage reductions, these will range from 57.2% up to 62.4%. The retained NSL values for these rooms will range from 37.2% up to 42.9%. In terms of actual impact to these rooms, given that the residential use of these LKDs is transitory in nature, we do not envisage these daylight impacts affecting the way in which these rooms are used. As such, we are of the opinion that unacceptable harm will not be caused.

# APSH – Annual Probable Sunlight Hours

- 5.22 In terms of sunlight, as this property contains no windows orientated within 90 degrees of due south with a view of the Site, it is not applicable for APSH assessment.
- 5.23 Overall, GIA are of the opinion that the daylight impacts to this student accommodation will be relatively minor for the most part. There will be four LKDs that experience more material daylight impacts when compared with the other rooms, however due to the transitory nature of the student accommodation, we are of the view that these impacts will not interfere with the way in which these LKDs are enjoyed.
- 5.24 It must be remembered that both the London Plan and the Camden Local Plan make reference to considering retained daylight and sunlight values and, in this case, we are of the opinion that sufficient light within this property is retained and that unacceptable harm is not cause. We are therefore of the opinion that the daylight impacts to this property are acceptable.

# 52 Regis Road



5.25 52 Regis Road is located to the south of the Site and contains several newly built residential flats. As can be see from the image above, some rooms serving habitable space are set-back beneath balconies. It should be noted that in instances where rooms are located beneath balconies, they have a restricted amount of sky visibly, which can make them sensitive daylight receptors.

# Vertical Sky Component – VSC

5.26 A total of 21 windows were assessed within this property for VSC, of which 19 (90.5%) will achieve BRE compliance, following the implementation of the Proposed Scheme. The remaining two rooms will experience VSC reductions of 25.5% and 26.8%, which we would consider to be only marginally beyond the 20% parameter suggested as acceptable by the BRE guidelines. As such, we do not consider these VSC impacts to be of a material nature.

# No Sky Line – NSL

5.27 In the case of NSL, a total of 16 rooms were assessed, of which 13 (81.3%) will achieve BRE compliance, following the implementation of the Proposed Scheme. One further room will experience an NSL reduction of 29.0%, which we would consider to be only marginally beyond the 20% parameter suggested as acceptable by the BRE guidelines. Of the remaining two rooms, one will retain an NSL value of 66.3%, which we would consider to be good retained value, given the urban context of the area. This leaves just one room, which serves as a bedroom. This bedroom in question will experience an NSL reduction of43.0% and sky visibility will be reduced from 71.9% down to 41.0% of the room's area. It must be remembered that the BRE guidelines explicitly state that daylight to bedrooms is less important and therefore we are of the opinion that this NSL impact will not be adverse, not will it likely interfere with how the room is enjoyed.

# APSH – Annual Probable Sunlight Hours

- 5.28 In terms of sunlight, a total of four windows and four rooms were assessed. All windows and rooms assessed will achieve BRE compliance, following the implementation of the Proposed Scheme. As such, it can be concluded that the implementation of the Proposed Scheme will have a negligible impact on the sunlight amenity of this property.
- 5.29 Overall, GIA are of the opinion that the daylight impacts to this properly will be minor, which is demonstrated by the high VSC and NSL compliance rates. We are of the view that where daylight impacts occur within this property, they will likely be unnoticeable to occupants and therefore unacceptable harm will not be caused. We are therefore of the opinion that the daylight impacts to this property, as well as the retained values, are acceptable an in-line with both the London Plan and Camden Local Plan.

# 6.0 Conclusion

- 6.1 GIA have undertaken a daylight and sunlight assessment in relation to the Proposed Scheme at the Site. The technical analysis has been undertaken in accordance with the BRE Guidelines.
- 6.2 When constructing buildings in an urban environment, alterations in daylight and sunlight to adjoining properties are often unavoidable. The numerical guidance given in the BRE document should be treated flexibly, especially in dense urban environments and particularly where neighbouring properties have existing architectural features which restrict the availability of daylight and sunlight.
- 6.3 A two-stage process has been followed when assessing the impacts on neighbouring properties. At stage one the question to ask is whether there is harm, and at stage two it is necessary to consider whether any harm is acceptable. In order to answer the stage one question, the BRE Guidelines can be applied. In answering the stage two questions, wider amenity considerations are to be taken into account in arriving at a balanced judgement.
- 6.4 Our technical analysis shows that following implementation of the Proposed Scheme some surrounding properties will experience changes outside of the BRE recommendations.
- 6.5 The potential effects to neighbouring daylight and sunlight amenity do not amount to "unacceptable" harm of daylight and sunlight amenity.
- 6.6 In GIA's opinion, the Proposed Scheme performs well from a daylight and sunlight perspective. Whilst there are impacts to some neighbouring properties beyond the suggested BRE advice, this is not unusual in an urban context such as Kentish Town. GIA consider that the Proposed Scheme sits within the flexible intention of the BRE guide and is appropriate in its context. Any harm to daylight and sunlight, upon implementation of the Proposed Scheme, is not considered to be unacceptable and the retained daylight and sunlight values of both the properties assessed are sufficient, which should therefore satisfy both the London Plan and the Camden Local Plan.

# APPENDIX 01 ASSUMPTIONS

# 01

The context model has been produced using our VU.CITY platform. GIA have extracted the required area, creating a 3D model with an overall building tolerance of up to 150mm. The relevant windows have been added to the VU.CITY model from site photographs, observations and brick counting.

# 02

GIA have sought to create the most accurate 3D model possible based on the data available, however, a degree of tolerance should be applied.

# 03

The scope of buildings assessed has been determined as a reasonable zone which considers both the scale of the proposed scheme and the proximity of those buildings which surround and face the site. There may be properties outside of the considered scope that are affected by the scheme, however, no significant effects are anticipated.

# 04

The property uses have been ascertained by reference to a Valuation Office Agency search carried out in June 2022.

# 05

GIA have obtained full or partial floor plans for the following properties:

- > Mary Brancker House, and
- > 52 Regis Road.

These layouts have been incorporated into our 3D computer model. It is reasonable to assume that these layouts have been implemented, however, GIA would require access to confirm this.

# 06

Where GIA have not been able to source detailed internal floor-plans reasonable assumptions as to the internal layouts of the rooms behind the fenestration have been made. This is normal practice where access to adjoining properties is undesirable in terms of development confidentiality. Unless the building form dictates otherwise, we assume a standard 4.2m deep room (14ft) for residential properties.

# 07

Floor levels have been assumed for adjoining properties as access has not been obtained. This dictates the level of the working plane which is the point at which the No Sky Line assessments are carried out.

# 08

GIA have discounted rooms that appear to be or are confirmed to be bathrooms, hallways, circulation space etc. These rooms are not considered to be habitable and thus do not require assessment in accordance with the BRE Guidelines.

# APPENDIX 02 PRINCIPLES OF DAYLIGHT, SUNLIGHT & OVERSHADOWING

The Building Research Establishment (BRE) have set out in their handbook 'Site Layout Planning for Daylight & Sunlight: A Guide to Good Practice 2nd edition (2011)', guidelines and methodology for the measurement and assessment of daylight and sunlight.

# **BACKGROUND & CONTEXT**

- A 2.1 The quality of amenity and open spaces is often stipulated within planning policy for protection or enhancement and is often a concern for adjoining owners and other interested parties.
- A 2.2 The BRE Guidelines provide advice on site layout planning to determine the quality of Daylight and Sunlight within open spaces between buildings.
- A 2.3 The BRE Guidelines note that the document is intended to be used in conjunction with the interior Daylight recommendations found within the British Standard BS8206-2:2008 and The Applications Manual on Window Design of the Chartered Institution of Building Services Engineers (CIBSE).
- A 2.4 The BRE Guidelines are typically referred to for daylight and sunlight amenity issues, however, they were not intended to be used as an instrument of planning policy, nor were the figures intended to be fixedly applied to all locations.
- A 2.5 In the introduction of 'Site Layout Planning for Daylight and Sunlight (2011)', section 1.6 (page 1), states that:-

"The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and this document 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 because 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 an 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".1

A 2.6 Paragraph 2.2.3 (page 7) of the document states:-

"Note that numerical values given here are purely advisory. Different criteria may be used, based on the requirements for daylighting in an area viewed against other site layout constraints".<sup>2</sup> A 2.7 The numerical criteria suggested by the BRE are therefore designed to provide industry advice/ guidance to plan/design with daylight in mind. Alternative values may be appropriate in certain circumstances such as highly dense urban areas around London. The BRE approach to creating alternative criteria is detailed within Appendix F of the Document.

A 2.8 The BRE Guidelines state that they are;

"intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens and bedrooms. Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed."<sup>3</sup>

- A 2.9 They are therefore primarily designed to be used for residential properties however, the BRE Guidelines continue to state that they may be applied to any existing non-residential buildings where there may be a reasonable expectation of daylight including; schools, hospitals, hostels, small workshop and some offices.
- A 2.10 It is important to note, however, that this document is a guide and states that its aim *"isto help rather than constrain the designer"*<sup>4</sup>.
- A 2.11 The document provides advice, but also clearly states that "it is purely advisory and the numerical target values within it may be varied to meet the needs of the development and its location."<sup>5</sup>
- A 2.12 Many Local Planning Authorities consider daylight and sunlight an important factor for determining planning applications. Policies refer to both the protection of daylight and sunlight amenity within existing properties as well as the creation of proposed dwellings with high levels of daylight and sunlight amenity.
- A 2.13 In terms of considering what is a material deterioration in light, Local Authorities typically refer to the BRE Guide. Although Local Authorities will look to the BRE Guide to understand impacts it is their Planning Policies that will determine whether the changes in light should be a reason for refusal at planning.
- A 2.14 It is an inevitable consequence of the built up urban environment that Daylight and Sunlight will be more limited in dense urban areas. It is well acknowledged

that in such situations there may be many other conflicting and potentially more important planning and urban design matters to consider other than just the provision of ideal levels of Daylight and Sunlight.

A 2.15 The following sections extract relevant sections from the Guide.

# DAYLIGHT

- A 2.16 The BRE Guidelines provide three methodologies for daylight assessment, namely;
  - 1 The Vertical Sky Component (VSC);
  - <sup>2</sup> The No Sky Line (NSL); and
  - з The Average Daylight Factor (ADF).

# Vertical Sky Component (VSC)

A 2.17 The Vertical Sky Component (VSC) method is described in the BRE Guidelines as the;

"Ratio of that part of illuminance, at a point on a given vertical plane, that is received directly from a CIE standard overcast sky, to illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. Usually the 'given vertical plane' is the outside of a window wall. The VSC does not include reflected light, either from the ground or from other buildings"<sup>6</sup>

- A 2.18 Put simply, the VSC provides an assessment of the amount of skylight falling on a vertical plane (generally a window) directly from the sky, in the circumstance of an overcast sky (CIE standard).
- A 2.19 The national numerical value target "ideal" for VSC is 27%. The BRE Guidelines advise that upon implementation of a development, a window should retain a VSC value of 27% or at least 0.8 of its former value (i.e. no more than a 20% change).<sup>7</sup>
- A 2.20 This form of assessment does not take account of window size, room use, room size, window number or dual aspect rooms. The assessment also assumes that all obstructions to the sky are 100% non-reflective.
- A 2.21 The VSC calculation has been undertaken in both the existing and proposed scenarios so as to make a comparison.
- A 2.22 The image in Figure 01 depicts a waldram diagram which is used to calculate the VSC. The existing buildings are solidly pictured with the proposed scheme semi-transparent in the foreground.



Figure 01: Waldram diagram

### No Sky Line (NSL)

- A 2.23 The BRE recommends the No Sky Line (NSL) method where internal layouts are known.
- A 2.24 The No Sky Line (NSL) method is described as "the outline on the working plane of the area from which no sky can be seen."<sup>8</sup>
- A 2.25 In summary, the NSL calculation assesses where the sky can and cannot be seen from inside a room at the working plane, *"in houses the working plane is* assumed to be horizontal and 0.85m high".<sup>9</sup>
- A 2.26 The change in position of the NSL between the existing and proposed scenario is then calculated. This change can be illustrated on a contour plot, an example of which can be found in Figure 02.
- A 2.27 The BRE Guidelines state at paragraph 2.2.9 that;

"If, following construction of a new development, the no sky line moves so that the area of the existing room, which does receive direct skylight, is reduced to less than 0.8 times its former value this will be noticeable to the occupants, and more of the room will appear poorly lit. This is also true if the no sky line encroaches on key areas like kitchen sinks and worktops."<sup>10</sup>

- A2.28 If the NSL experiences more than a 20% change from the existing situation then, in accordance with the strict application of the national numerical values, the change in daylight would be noticeable to the occupants.
- A 2.29 This assessment takes the number and size of windows serving a room into account however, there is no qualitative assessment of the light in the room, only where sky can or cannot be seen.



# Decision Chart (Figure 20 of the BRE Guide)



Figure 03: BRE Decision Chart (Figure 20): diffuse daylight in existing buildings. This does not include an assessment of rights to light issues, which a developer may need to consider separately

# Average Daylight Factor (ADF)

- A 2.31 The Average Daylight Factor (ADF) is defined within the 2011 BRE Guidelines as the 'ratio of total daylight flux incident on the working plane to the area of the working plane, expressed as a percentage of the outdoor illuminance on a horizontal plane due to an unobstructed CIE standard overcast sky. Thus a 1% ADF would mean that the average indoor illuminance would be one hundredth the outdoor unobstructed illuminance'.<sup>11</sup>
- A 2.32 This calculation considers not only the amount of skylight falling on the vertical face of the window, but also the glazing size, transmittance value, average reflectance, room area and room use. It is therefore a more detailed analysis of the daylight levels within a room.
- A 2.33 British Standard 8206-2 quotes a number of recommended ADF levels based on room use. The ADF criteria is the prescribed methodology for evaluating the Daylight within proposed accommodation and the values referenced by the BRE Guidelines can be found in the British Standard document BS8206 Part II. The values for those rooms that are most relevant for our assessments are:
  - Bedrooms 1% ADF
  - Living rooms 1.5% ADF
  - Kitchens 2% ADF<sup>12</sup>
- A 2.34 Where one room serves more than one purpose, the minimum ADF should be that for the room type with the highest value.
- A 2.35 As per the British Standard Lighting for buildings - Part 2: Code of practice for daylighting the ADF value should be 5%+ for a well daylit space:

"It is considered good practice to ensure that rooms in dwellings and in most other buildings have a predominantly daylit appearance. In order to achieve this the average daylight factor should be at least 2%. If the average daylight factor in a space is at least 5% then electric lighting is not normally needed during the daytime, provided the uniformity is satisfactory. If the average daylight factor in a space is between 2% and 5% supplementary electric lighting is usually required."<sup>13</sup>

A 2.36 Appendix F of the BRE guidance states that, though

not being generally recommended, the use of the ADF for loss of light to existing buildings can be appropriate in some situations:

- where the existing building is one of a series of new buildings that are being built one after another;
- where the existing building is proposed (i.e. consented) but not built;
- where the developer of the new building also owns the existing nearby building and proposes to carry out improvements to the existing building;
- where the developer also owns the existing nearby building and the affected rooms are either unoccupied or would be occupied by different people following construction of the new building.<sup>14</sup>

# SUNLIGHT

### Annual Probable Sunlight Hours (APSH)

- A 2.37 The BRE Guidance suggests that to understand sunlight impacts to a property an assessment
- A 2.38 of Annual Probable Sunlight Hours (APSH) is undertaken. The APSH is defined as:

"the long-term average of the total number of hours during a year in which direct sunlight reaches the unobstructed ground (when clouds are taken into account)"<sup>15</sup>

- A 2.39 In interpreting the results, the BRE Guidance states that the Sunlight to a window may be adversely affected if a point at the centre of a window:
  - receives less than 25% 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."<sup>16</sup>
- A 2.40 To understand the potential sunlight impacts therefore, all windows facing within 90 degrees of due south and overlooking the development have been assessed for APSH.

- A 2.41 The image in Figure 04 depicts the APSH sun spots on a waldram diagram. The existing buildings are solidly pictured with the proposed scheme semi-transparent in the foreground. The yellow spots indicate summer sun and the blue spots indicate winter sun.
- A 2.42 The number of sun spots is calculated for both the whole year and during the winter period (21 September to 21 March), prior to an obstruction and after the obstruction is put in place. This provides a percentage of APSH for each of the time periods for each window assessed.
- A 2.43 The BRE Guidelines note that:

"all main living rooms of dwellings...should be checked if they have a window facing within 90° of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun: and

"If the main living room to a dwelling has a main window facing within 90° of due north, but a secondary window facing within 90° of due south, sunlight to the secondary window should be checked."<sup>17</sup>

A 2.44 The BRE Guidelines set out the overall methodology and criteria for the assessment of Sunlight in

Chapter 3. The BRE Guidelines state:

"To assess loss of sunlight to an existing building, it is suggested that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within 90 degrees of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun.

A point at the centre of the window on the outside face of the window wall may be taken.

If this window reference point can receive more than one quarter of Annual Probable Sunlight Hours [25%], including at least 5% of APSH in the winter months between 21 September and 21 March, then the room should still receive enough sunlight.

Any reduction in sunlight access below this level should be kept to a minimum. If the available sunlight hours are both less than the amount above and less than 0.8 times their former value, either over the whole year or just during the winter months (21 September - 21 March), then the occupants of the existing building will notice the loss of sunlight; if the overall annual loss is greater than 4% of APSH, the room may appear colder and less cheerful and pleasant.<sup>\*18</sup>



Figure 04: Waldram diagram

# **OVERSHADOWING**

A 2.45 The BRE guidance in respect of overshadowing of amenity spaces is set out in section 3.3 of the handbook. Here it states as follows:

> "Sunlight in the spaces between buildings has an important impact on the overall appearance and ambiance of a development. It is valuable for a number of reasons:

- To provide attractive sunlit views (all year)
- To make outdoor activities, like sitting out and children's play more pleasant (mainly during the warmer months)
- To encourage plant growth (mainly in spring and summer)
- To dry out the ground, reducing moss and slime (mainly during the colder months)
- To melt frost, ice and snow (in winter)
- To dry clothes (all year)"19
- A 2.46 It must be acknowledged that in urban areas the availability of sunlight on the ground is a factor which is significantly controlled by the existing urban fabric around the site in question and so may have very little to do with the form of the development itself. Likewise, there may be many other urban design, planning and site constraints which determine and run contrary to the best form, siting and location of a proposed development in terms of availability of sun on the ground.

# Sun Hours on Ground & Transient Overshadowing

- A 2.47 The Sun Hours on Ground (SHOG) method of overshadowing assessment uses a simulation software to determine the areas which receive direct Sunlight and those which do not.
- A 2.48 The BRE Guidelines suggest that the Spring Equinox (21 March) is a suitable date for the assessment as this is the midpoint of the sun's position throughout the year. Using specialist software, the path of the sun is tracked to determine where the sun would reach the ground and where it would not.

"It is recommended that for it [an amenity space] to appear adequately sunlit throughout the year at least half of a garden or amenity area should receive at least two 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 two 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."<sup>20</sup>

- A2.49 The Transient Overshadowing study is recommended where large buildings are proposed which may affect a number of gardens or open spaces. For the purpose of this assessment, the shadow is mapped at hourly intervals (from sun rise to sun set) on the following dates:
  - 21 March (Spring equinox)
  - 21 June (Summer solstice)
  - 21 December (Winter solstice)
- A 2.50 The September equinox is not assessed as this would provide the same results as those for 21 March.
- A 2.51 The BRE guidelines do not provide any criteria for Transient Overshadowing.

# BRE GUIDELINES: ADDITIONAL DAYLIGHT AND SUNLIGHT TESTS

# Daylight - VSC and APSH to Rooms

A 2.52 As outlined within the BRE Guidelines the VSC value is calculated for each window; however-

"If a room has two or more windows of equal size, the mean of their VSC's may be taken".<sup>21</sup>

A 2.53 Although not strictly in accordance with the BRE methodology, where a room is served by two or more windows of the same or different sizes, the VSC value to the room can be calculated by applying an average weighting calculation to understand the VSC value to the room. The formula used is as follows;

Σ(Vn\*An) / ΣAn

Where:

- V = window VSC A = window area n = the number of windows
- A 2.54 The BRE provide a methodology to calculate APSH in relation to the room and window.

"If a room has multiple windows on the same walls or adjacent walls, the highest value of ASPH should be taken. If a room has two windows on opposite walls, the ASPH due to each can be added together."<sup>22</sup>

- A 2.55 The above extract of the BRE is in relation to proposed units rather than existing buildings. It does, however, make sense to apply this methodology to existing rooms. A room served by multiple windows could receive the benefit of Sunlight entering from all of them and not justone.
- A 2.56 GIA calculate the APSH room assessment in the following way:
  - <sup>1</sup> The sunlight hours (both winter and annual) are calculated for each window. Instead of simply returning the overall per cent pass rate, i.e. one figure for winter, and one for the whole year, the yes/no result of each of the 100 sun spots is tracked. For this accounting to work, each sun dot needs to be assigned a unique identifier, e.g. from 1 to 100;

- 2 The sets of 100 sun spots are combined for each room using Boolean logic, i.e. conjunctions of yes/ no values. The outcome of this step is a set of 100 yes/no values corresponding to the 100 sun spots, but on a per-room basis. Each per-room dot is counted if it is unobstructed for at least one of its windows; and
- 3 The unobstructed sun dots for the room are summed up and expressed as a percentage of the total number of annual and winter spots. This returns the per-room pass rate consistent with Section 3.1.10 of BR 209.

# **Balconies/Overhangs**

A 2.57 The BRE recognises that existing architectural features on neighbouring buildings such as balconies and overhangs inherently restrict the quantum of skylight to a window. The BRE Guidelines note on page 5, paragraph 2.1.17 and page 8, paragraph 2.2.11:

> "This is a particular problem if there are large obstructions opposite; with the combined effect of the overhang and the obstruction, it may be impossible to see the sky from inside the room, and hence to receive any direct skylight or sunlight at all."

"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 opposite 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 the area receiving direct skylight, for both the existing and proposed situations, without the balcony in place."<sup>23</sup>

A 2.58 As noted by the BRE Guidelines, where there are existing overhanging features larger reductions in skylight and sunlight may be unavoidable and alternative criteria can be used. The guidance suggests that in such situations a calculation is carried out that excludes the balcony or the obstruction.

# DAYLIGHT - MIRROR MASSING & ADJ OINING DEVELOPMENT LAND

### Alternative target Values for Skylight and Sunlight Access "Mirror Massing"

- A 2.59 The BRE Guidelines provide a calculation for the VSC and APSH analysis to quantify an appropriate alternative value based on the context of an environment. This approach is known as the 'mirror image' analysis (see Figure 05).
- A 2.60 The BRE notes:

"where an existing building has windows that are unusually close to the site boundary and taking more than their fair share of light. Figure 3 shows an example where side windows of an existing building are close to the boundary. To ensure that new development matches the height and proportions of existing buildings, the VSC and APSH targets for these windows could be set to those for a 'mirror-image' building of the same height and size, an equal distance away on the other side of the boundary."<sup>24</sup>

- A 2.61 This analysis is used to understand the levels of Daylight (VSC) and Sunlight (APSH) that would be experienced by an extant neighbouring property if there were a building of the same height and extent opposite.
- A 2.62 The mirror image assessment is fairly simplistic and is not, therefore, easily applied to large and complex site footprints which are not all built at equal distances from the site boundary or of the same footprint.

# **Adjoining Development Land**

- A 2.63 The "Adjoining Development Land" analysis provided within the BRE Guidelines is a simple test to ensure that a proposal is a reasonable distance from the boundary so as to "enable future nearby developments to enjoy a similar access to daylight."
- A 2.64 The BRE comments that:

"The diffuse daylight coming over the boundary may be quantified in the following way. As a first check, draw a section in a plane perpendicular to the boundary (Figure 21). If a road separates the two sites then the centre line of the road should



Figure 05: Littlefair, P. (2011). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: HIS BRE Press p 64 Figure F3

be taken. Measure the angle to the horizontal subtended at a point 1.6 m. above the boundary by the proposed new buildings. If this angle is less than 43° then there will normally still be the potential for good daylighting on the adjoining development site (but see Sections 2.3.6 and 2.3.7)."<sup>25</sup>

"The guidelines above should not be applied too rigidly. A particularly important exception occurs when the two sites are very unequal in size and the proposed new building is larger in scale than the likely future development nearby. This is because the numerical values above are derived by assuming the future development will be exactly the same size as the proposed new building (Figure 22). If the adjoining sites for development are a lot smaller, a better approach is to make a rough prediction of where the nearest window wall of the future development may be; then to carry out the 'new building' analysis in Section 2.1 for this window wall."<sup>26</sup>

"The 43° angle should not be used as a form generator, to produce a building which slopes or steps down towards the boundary. Compare Figure 23 with Figure 22 to see how this can result in a higher than anticipated obstruction to daylight. In Figure 23 the proposed building subtends 34° at its mirror image, rather than the maximum of 25° suggested here. In cases of doubt, the best approach is again to carry out a new building analysis for the most likely location of a window wall of a future development."<sup>27</sup>



L Figure 06: Littlefair, P. (2011). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: HIS BRE Press p 11 Figure F21





L Figure 08: Littlefair, P. (2011). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: HIS BRE Press p 12 Figure 23 A 2.65 As is outlined above the Adjoining Development Land analysis is predicated on ensuring that a proposal next to future development land is not negatively impacting the ability to develop in consideration of light matters.

### **Other Amenity Considerations**

- A 2.66 Daylight and sunlight is one factor among many under the heading of residential amenity considerations for any given development design or planning application; others include:
  - outlook;
  - sense of enclosure;
  - privacy;
  - access to outdoor space e.g. balconies or communal garden/courtyard.

# CONTEXT METHODOLOGY

A 2.67 In May 2019 the British Standard (BS8206-2:2008) was superseded by the new European Standard on daylight "BS EN 17037:2018 Daylight in buildings" but this standard is only applicable for assessing the levels of light within proposed developments. Until and unless it is revised, therefore, BR209 remains the basis for assessing impacts to neighbours and the new European Standard is not relevant for this report.

# **ENDNOTES**

- 1 Littlefair, P. (2011). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page 1, paragraph 1.6
- 2 Littlefair, P. (2011). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page 7, paragraph 2.2.3
- 3 Littlefair, P. (2011). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page 7 paragraph 2.2.
- 4 Littlefair, P. (2011). Site layout Planning for Daylightand Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page 1, paragraph 1.6
- Littlefair, P. (2011). Site layout Planning for Daylightand Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page v
- 6 Littlefair, P. (2011). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page viii
- Littlefair, P. (2011). Site layout Planning for Daylightand Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page 7, paragraph 2.2.7
- 8 Littlefair, P. (2011). Site layout Planning for Daylightand Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page viii
- Littlefair, P. (2011). Site layout Planning for Daylightand Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page 7, paragraph 2.2.8
- 10 Littlefair, P. (2011). Site layout Planning for Daylightand Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page 8, paragraph 2.2.9
- Littlefair, P. (2011). Site layout Planning for Daylightand Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page viii
- 12 British Standard 8206-2:2008, page 10, paragraph 5.6
- **13** British Standard 8206-2:2008, page 9-10, paragraph 5.5
- Littlefair, P. (2011). Site layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page 64, paragraph F8
- Littlefair, P. (2011). Site layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page viii
- Littlefair, P. (2011). Site layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page 17, paragraph 3.2.11
- 17 Littlefair, P. (2011). Site layout Planning for Daylightand Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page 16 paragraph 3.2.3 and paragraph 3.2.4

- Littlefair, P. (2011). Site layout Planning for Daylightand Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page 16 paragraph 3.2.3, paragraph 3.2.4 and 3.2.5 and page 17 paragraph 3.2.6
- Littlefair, P. (2011). Site layout Planning for Daylightand Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page 18, paragraph 3.3.1
- 20 Littlefair, P. (2011). Site layout Planning for Daylightand Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page 20, paragraph 3.3.17
- Littlefair, P. (2011). Site layout Planning for Daylightand Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page 7, paragraph 2.2.6
- 22 Littlefair, P. (2011). Site layout Planning for Daylightand Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page 16, paragraph 3.1.12
- 23 Littlefair, P. (2011). Site layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page 5, paragraph 2.1.17 and page 8, paragraph 2.2.11
- 24 Littlefair, P. (2011). Site layout Planning for Daylightand Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page 62, paragraph F5
- 25 Littlefair, P. (2011). Site layout Planning for Daylightand Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page 11, paragraph 2.3.3
- Littlefair, P. (2011). Site layout Planning for Daylightand Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page 11, paragraph 2.3.6
- Littlefair, P. (2011). Site layout Planning for Daylightand Sunlight – A Guide to Good Practice. Hertfordshire: IHS BRE Press, page 11 paragraph 2.3.7



# EXISTING





DWN BY	SCALE	СНК ВҮ	STATUS	DATE
RvdL	1:750@A3	AH	-	JUNE 22
PROJ No.	REL No.	IS No.	DWG No.	REV No.
17974	01	02	01	-

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RvdL	NTS	AH	-	JUNE 22
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# PROPOSED





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						VSC (WINDOW) VSC (ROOM) NSL APSH (WINDOW)							APSH (WI										
FLOOR	ROOM	PROPERTY	ROOM	ROOM	WINDOW	EX.	PR.	LOSS	LOSS	EX.	PR.	LOSS	LOSS	EX.	PR.	LOSS	LOSS		EX.		PR.	LO	SS %
		ТҮРЕ	USE	NOTES		%	%		%	%	%		%	%	%	SQM	%	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
MARY BRA	NCKER HOUS	SE																					
F01	R1	RESIDENTIAL	BEDROOM		W1/F01	30.1	26.1	4	13.3%	30.1	26.1	4	13.3%	65.8	53.1	1.6	19.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	BEDROOM		W2/F01	30.2	25.4	4.8	15.9%	30.2	25.4	4.8	15.9%	78.4	59.2	2.4	24.5%						
	R3	RESIDENTIAL	BEDROOM		W3/F01	29	23.7	5.3	18.3%	29	23.7	5.3	18.3%	77.7	77.5	0.0	0.3%						
	R4 (3)	RESIDENTIAL	LKD		W4/F01	31	24.7	6.3	20.3%	30.5	23.7	6.8	22.3%	99.4	80.9	5.2	18.6%						
			LKD		W5/F01	30.4	23.4	7	23.0%														
	R5 (3)	RESIDENTIAL	LKD		W6/F01	30.8	22.8	8	26.0%	31.1	22.8	8.3	26.7%	99.4	60.5	10.6	39.2%						
			LKD		W7/F01	32	23	9	28.1%														
	R6	RESIDENTIAL	BEDROOM		W8/F01	29.8	20.5	9.3	31.2%	29.8	20.5	9.3	31.2%	97.7	44.1	6.7	54.9%						
	R7	RESIDENTIAL	BEDROOM		W9/F01	32.3	22.4	9.9	30.7%	32.3	22.4	9.9	30.7%	98	40.6	7.1	58.6%						
	R8	RESIDENTIAL	BEDROOM		W10/F01	32.7	22.2	10.5	32.1%	32.7	22.2	10.5	32.1%	98	38.2	7.4	61.0%						
	R9	RESIDENTIAL	BEDROOM		W11/F01	32.9	21.9	11	33.4%	32.9	21.9	11	33.4%	98	36.4	7.6	62.8%						
	R10	RESIDENTIAL	BEDROOM		W12/F01	32.8	21.5	11.3	34.5%	32.8	21.5	11.3	34.5%	98	35	7.8	64.3%						
	R11	RESIDENTIAL	BEDROOM		W13/F01	30.7	19.2	11.5	37.5%	30.7	19.2	11.5	37.5%	97.6	34.1	7.9	65.1%						
	R12 (3)	RESIDENTIAL	LKD		W14/F01	33.1	20.9	12.2	36.9%	32.6	20.4	12.2	37.4%	99.4	37.2	17.7	62.6%						
			LKD		W15/F01	32.4	20.2	12.2	37.7%														
	R13 (3)	RESIDENTIAL	LKD		W16/F01	32.4	20.3	12.1	37.3%	32.6	20.5	12.1	37.1%	99.3	37.3	16.8	62.4%						
			LKD		W17/F01	33.3	21.2	12.1	36.3%														
	R14	RESIDENTIAL	BEDROOM		W18/F01	31.6	20.3	11.3	35.8%	31.6	20.3	11.3	35.8%	97.5	35.3	7.7	63.8%						
	R15	RESIDENTIAL	BEDROOM		W19/F01	33.3	22.4	10.9	32.7%	33.3	22.4	10.9	32.7%	97.9	36.3	7.6	62.9%						
	R16	RESIDENTIAL	BEDROOM		W20/F01	33.6	23.2	10.4	31.0%	33.6	23.2	10.4	31.0%	97.9	37.8	7.6	61.4%						
F02	R1	RESIDENTIAL	BEDROOM		W1/F02	34.1	30.3	3.8	11.1%	34.1	30.3	3.8	11.1%	85.2	85.1	0.0	0.1%						
	R2	RESIDENTIAL	BEDROOM		W2/F02	34.2	29.5	4.7	13.7%	34.2	29.5	4.7	13.7%	93.9	87.1	0.9	7.3%						
	R3	RESIDENTIAL	BEDROOM		W3/F02	32.8	27.6	5.2	15.9%	32.8	27.6	5.2	15.9%	91	91	0.0	0.0%						
	R4 (3)	RESIDENTIAL	LKD		W4/F02	35.2	28.8	6.4	18.2%	34.9	27.7	7.2	20.6%	99.4	90.1	2.6	9.4%						
			LKD		W5/F02	34.8	27.4	7.4	21.3%														
	R5 (3)	RESIDENTIAL	LKD		W6/F02	35.1	26.8	8.3	23.6%	35.3	26.8	8.5	24.1%	99.4	79.7	5.4	19.9%						
			LKD		W7/F02	36	27	9	25.0%														
	R6	RESIDENTIAL	BEDROOM		W8/F02	33.5	24.3	9.2	27.5%	33.5	24.3	9.2	27.5%	97.7	55.5	5.2	43.2%						
	R7	RESIDENTIAL	BEDROOM		W9/F02	36	26.3	9.7	26.9%	36	26.3	9.7	26.9%	98	52.7	5.6	46.3%						
	R8	RESIDENTIAL	BEDROOM		W10/F02	36.4	26.1	10.3	28.3%	36.4	26.1	10.3	28.3%	98	49.8	6.0	49.2%	N/A	N/A	N/A	N/A	N/A	N/A
MARY BRA	NCKER HOUS	SE (CONTINUED)																					1
	R9	RESIDENTIAL	BEDROOM		W11/F02	36.5	25.8	10.7	29.3%	36.5	25.8	10.7	29.3%	98	48.2	6.2	50.8%						
	R10	RESIDENTIAL	BEDROOM		W12/F02	36.4	25.4	11	30.2%	36.4	25.4	11	30.2%	98	47.9	6.2	51.1%						
	R11	RESIDENTIAL	BEDROOM		W13/F02	34.2	23	11.2	32.7%	34.2	23	11.2	32.7%	97.6	47.5	6.2	51.3%						
	R12 (3)	RESIDENTIAL	LKD		W14/F02	37	24.9	12.1	32.7%	36.6	24.3	12.3	33.6%	99.4	42.5	16.2	57.2%						
			LKD		W15/F02	36.5	24.1	12.4	34.0%														
	R13 (3)	RESIDENTIAL	LKD		W16/F02	36.6	24.2	12.4	33.9%	36.7	24.4	12.3	33.5%	99.3	41.9	15.6	57.8%						

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

						VSC (WI	NDOW)			VSC (RO	OM)			NSL				APSH (W	INDOW)				
FLOOR	ROOM	PROPERTY	ROOM	ROOM	WINDOW	EX.	PR.	LOSS	LOSS	EX.	PR.	LOSS	LOSS	EX.	PR.	LOSS	LOSS		EX.		PR.	LOS	S %
		TYPE	USE	NOTES		%	%		%	%	%		%	%	%	SQM	%	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
			LKD		W17/F02	37.2	25.2	12	32.3%														
	R14	RESIDENTIAL	BEDROOM		W18/F02	35.1	24.1	11	31.3%	35.1	24.1	11	31.3%	97.5	47.2	6.2	51.5%						
	R15	RESIDENTIAL	BEDROOM		W19/F02	36.9	26.2	10.7	29.0%	36.9	26.2	10.7	29.0%	97.9	47.7	6.2	51.2%						
	R16	RESIDENTIAL	BEDROOM		W20/F02	37.1	26.9	10.2	27.5%	37.1	26.9	10.2	27.5%	97.9	48.5	6.2	50.5%						
F03	R1	RESIDENTIAL	BEDROOM		W1/F03	36.9	34	2.9	7.9%	36.9	34	2.9	7.9%	97.9	97.9	0.0	0.0%						
	R2	RESIDENTIAL	BEDROOM		W2/F03	36.7	33.3	3.4	9.3%	36.7	33.3	3.4	9.3%	97.8	97.8	0.0	0.0%						
	R3	RESIDENTIAL	BEDROOM		W3/F03	35	31.3	3.7	10.6%	35	31.3	3.7	10.6%	97.5	97.5	0.0	0.0%						
	R4 (3)	RESIDENTIAL	LKD		W4/F03	37.3	32.7	4.6	12.3%	37.1	31.7	5.4	14.6%	99.4	97.4	0.6	2.1%						
			LKD		W5/F03	37.1	31.4	5.7	15.4%														
	R5 (3)	RESIDENTIAL	LKD		W6/F03	37.2	30.9	6.3	16.9%	37.3	31	6.3	16.9%	99.4	90	2.6	9.5%						
			LKD		W7/F03	37.6	31.2	6.4	17.0%														
	R6	RESIDENTIAL	BEDROOM		W8/F03	34.9	28.4	6.5	18.6%	34.9	28.4	6.5	18.6%	97.7	77.2	2.5	20.9%						
	R7	RESIDENTIAL	BEDROOM		W9/F03	37.5	30.5	7	18.7%	37.5	30.5	7	18.7%	98	75.1	2.9	23.4%						
	R8	RESIDENTIAL	BEDROOM		W10/F03	37.8	30.4	7.4	19.6%	37.8	30.4	7.4	19.6%	98	73.4	3.1	25.1%						
	R9	RESIDENTIAL	BEDROOM		W11/F03	37.8	30.1	7.7	20.4%	37.8	30.1	7.7	20.4%	98	73.4	3.1	25.1%						
	R10	RESIDENTIAL	BEDROOM		W12/F03	37.7	29.8	7.9	21.0%	37.7	29.8	7.9	21.0%	98	73.5	3.1	25.1%						
	R11	RESIDENTIAL	BEDROOM		W13/F03	35.4	27.3	8.1	22.9%	35.4	27.3	8.1	22.9%	97.6	73	3.1	25.2%						
	R12 (3)	RESIDENTIAL	LKD		W14/F03	38.2	29.5	8.7	22.8%	38.1	28.8	9.3	24.4%	99.4	58.7	11.6	41.0%						
			LKD		W15/F03	38.1	28.6	9.5	24.9%														
	R13 (3)	RESIDENTIAL	LKD		W16/F03	38.1	28.6	9.5	24.9%	38.1	28.8	9.3	24.4%	99.3	58.5	11.1	41.1%						
			LKD		W17/F03	38.3	29.6	8.7	22.7%														
	R14	RESIDENTIAL	BEDROOM		W18/F03	36.2	28.2	8	22.1%	36.2	28.2	8	22.1%	97.5	72.6	3.1	25.5%						
	R15	RESIDENTIAL	BEDROOM		W19/F03	38	30.3	7.7	20.3%	38	30.3	7.7	20.3%	97.9	73.1	3.1	25.3%						
	R16	RESIDENTIAL	BEDROOM		W20/F03	38.2	30.8	7.4	19.4%	38.2	30.8	7.4	19.4%	97.9	73.3	3.1	25.2%	N/A	N/A	N/A	N/A	N/A	N/A
MARY BRA	NCKER HOUS	SE (CONTINUED)																					
F04	R1	RESIDENTIAL	BEDROOM		W1/F04	38.7	37.1	1.6	4.1%	38.7	37.1	1.6	4.1%	97.9	97.9	0.0	0.0%						
	R2	RESIDENTIAL	BEDROOM		W2/F04	38.5	36.6	1.9	4.9%	38.5	36.6	1.9	4.9%	97.8	97.8	0.0	0.0%						
	R3	RESIDENTIAL	BEDROOM		W3/F04	36.5	34.5	2	5.5%	36.5	34.5	2	5.5%	97.5	97.5	0.0	0.0%						
	R4 (3)	RESIDENTIAL	LKD		W4/F04	38.7	36.2	2.5	6.5%	38.5	35.5	з	7.8%	99.4	99.4	0.0	0.0%						
			LKD		W5/F04	38.5	35.3	3.2	8.3%														
	R5 (3)	RESIDENTIAL	LKD		W6/F04	38.6	34.9	3.7	9.6%	38.6	35	3.6	9.3%	99.4	99.4	0.0	0.0%						
			LKD		W7/F04	38.8	35.3	3.5	9.0%														
	R6	RESIDENTIAL	BEDROOM		W8/F04	36	32.4	3.6	10.0%	36	32.4	3.6	10.0%	97.7	97.7	0.0	0.0%						
	R7	RESIDENTIAL	BEDROOM		W9/F04	38.4	34.7	3.7	9.6%	38.4	34.7	3.7	9.6%	98	98	0.0	0.0%						
	R8	RESIDENTIAL	BEDROOM		W10/F04	38.7	34.7	4	10.3%	38.7	34.7	4	10.3%	98	98	0.0	0.0%						
	R9	RESIDENTIAL	BEDROOM		W11/F04	38.7	34.5	4.2	10.9%	38.7	34.5	4.2	10.9%	98	98	0.0	0.0%						
	R10	RESIDENTIAL	BEDROOM		W12/F04	38.5	34.2	4.3	11.2%	38.5	34.2	4.3	11.2%	98	98	0.0	0.0%						
	R11	RESIDENTIAL	BEDROOM		W13/F04	36.1	31.8	4.3	11.9%	36.1	31.8	4.3	11.9%	97.6	97.6	0.0	0.0%						

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

						VSC (WI	NDOW)			VSC (RO	OM)			NSL				APSH (W	INDOW)				
FLOOR	ROOM	PROPERTY	ROOM	ROOM	WINDOW	EX.	PR.	LOSS	LOSS	EX.	PR.	LOSS	LOSS	EX.	PR.	LOSS	LOSS		EX.		PR.	LO	ISS %
		TYPE	USE	NOTES		%	%		%	%	%		%	%	%	SQM	%	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R12 (3)	RESIDENTIAL	LKD		W14/F04	38.9	34.2	4.7	12.1%	38.8	33.5	5.3	13.7%	99.4	99.4	0.0	0.0%						
			LKD		W15/F04	38.8	33.3	5.5	14.2%														
	R13 (3)	RESIDENTIAL	LKD		W16/F04	38.8	33.3	5.5	14.2%	38.8	33.5	5.3	13.7%	99.3	99.3	0.0	0.0%						
			LKD		W17/F04	38.9	34.2	4.7	12.1%														
	R14	RESIDENTIAL	BEDROOM		W18/F04	36.7	32.4	4.3	11.7%	36.7	32.4	4.3	11.7%	97.5	97.5	0.0	0.0%						
	R15	RESIDENTIAL	BEDROOM		W19/F04	38.6	34.4	4.2	10.9%	38.6	34.4	4.2	10.9%	97.9	97.9	0.0	0.0%						
	R16	RESIDENTIAL	BEDROOM		W20/F04	38.8	34.8	4	10.3%	38.8	34.8	4	10.3%	97.9	97.9	0.0	0.0%						
F05	R1	RESIDENTIAL	BEDROOM		W1/F05	39.2	38.8	0.4	1.0%	39.2	38.8	0.4	1.0%	97.9	97.9	0.0	0.0%						
	R2	RESIDENTIAL	BEDROOM		W2/F05	39.1	38.6	0.5	1.3%	39.1	38.6	0.5	1.3%	97.8	97.8	0.0	0.0%						
	R3	RESIDENTIAL	BEDROOM		W3/F05	37.3	36.7	0.6	1.6%	37.3	36.7	0.6	1.6%	97.5	97.5	0.0	0.0%						
	R4 (3)	RESIDENTIAL	LKD		W4/F05	39.3	38.6	0.7	1.8%	39.2	38.3	0.9	2.3%	99.4	99.4	0.0	0.0%						
			LKD		W5/F05	39.2	38.2	1	2.6%														
	R5 (3)	RESIDENTIAL	LKD		W6/F05	39.2	38.1	11	2.8%	39.2	38.2	1	2.6%	99.4	99.4	0.0	0.0%						
			LKD		W7/F05	39.3	38.4	0.9	2.3%														
	R6	RESIDENTIAL	BEDROOM		W8/F05	36.8	35.8	1	2.7%	36.8	35.8	1	2.7%	97.7	97.7	0.0	0.0%						
	R7	RESIDENTIAL	BEDROOM		W9/F05	39.1	38.1	1	2.6%	39.1	38.1	1	2.6%	98	98	0.0	0.0%						
	R8	RESIDENTIAL	BEDROOM		W10/F05	39.2	38.2	1	2.6%	39.2	38.2	1	2.6%	98	98	0.0	0.0%						
MARY BRA	NCKER HOUS	SE (CONTINUED)																					
	R9	RESIDENTIAL	BEDROOM		W11/F05	39.2	38.1	11	2.8%	39.2	38.1	1.1	2.8%	98	98	0.0	0.0%						
	R10	RESIDENTIAL	BEDROOM		W12/F05	39.1	37.9	1.2	3.1%	39.1	37.9	1.2	3.1%	98	98	0.0	0.0%						
	R11	RESIDENTIAL	BEDROOM		W13/F05	36.8	35.7	11	3.0%	36.8	35.7	1.1	3.0%	97.7	97.7	0.0	0.0%						
	R12 (3)	RESIDENTIAL	LKD		W14/F05	39.3	38	1.3	3.3%	39.2	37.7	1.5	3.8%	99.4	99.4	0.0	0.0%						
			LKD		W15/F05	39.2	37.6	1.6	4.1%														
	R13 (3)	RESIDENTIAL	LKD		W16/F05	39.2	37.6	1.6	4.1%	39.2	37.7	1.5	3.8%	99.3	99.3	0.0	0.0%						
			LKD		W17/F05	39.3	38	1.3	3.3%														
	R14	RESIDENTIAL	BEDROOM		W18/F05	37.3	36.2	11	2.9%	37.3	36.2	1.1	2.9%	97.5	97.5	0.0	0.0%						
	R15	RESIDENTIAL	BEDROOM		W19/F05	39.1	38	11	2.8%	39.1	38	1.1	2.8%	97.9	97.9	0.0	0.0%						
	R16	RESIDENTIAL	BEDROOM		W20/F05	39.2	38.2	1	2.6%	39.2	38.2	1	2.6%	97.9	97.9	0.0	0.0%						
52 REGIS F	ROAD																						
B01	R1 (3)	RESIDENTIAL	UNKNOWN		W1/B01	11	11	0	0.0%	1.1	1.1	0	0.0%	2.8	2.8	0.0	0.0%						
			UNKNOWN		W2/B01	1.1	11	0	0.0%														
F01	R1	RESIDENTIAL	BEDROOM		W1/F01	15.3	11.4	3.9	25.5%	15.3	11.4	3.9	25.5%	71.9	41	4.7	43.0%						
	R2	RESIDENTIAL	BEDROOM		W2/F01	17.7	15.1	2.6	14.7%	17.7	15.1	2.6	14.7%	94.2	85.2	1.1	9.6%						

BEDROOM RЗ RESIDENTIAL W3/F01 33.2 24.3 8.9 26.8% 33.2 24.3 8.9 26.8% 99.9 66.3 6.2 33.6% F02 R1 BEDROOM W1/F02 RESIDENTIAL 21 3.9 21 3.9 15.7% 72.7 3.2 29.0% 24.9 15.7% 24.9 51.6 R2 RESIDENTIAL BEDROOM W2/F02 23.5 20.9 2.6 11.1% 23.5 20.9 2.6 11.1% 96.1 92.6 0.4 3.6% RЗ RESIDENTIAL BEDROOM W3/F02 30 29.8 0.2 0.7% 34.5 28.7 5.8 16.8% 99.6 90.6 1.7 9.0% 33 5 33 5 0.0%

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

0.0%

				VSC (WINDOW)			VSC (ROC	))			NSL				APSH (WINDOW)								
FLOOR	ROOM	PROPERTY	ROOM	ROOM	WINDOW	EX.	PR.	LOSS	LOSS	EX.	PR.	LOSS	LOSS	EX.	PR.	LOSS	LOSS		EX.		PR.	LO	SS %
		TYPE	USE	NOTES		%	%		%	%	%		%	%	%	SQM	%	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
			BEDROOM		W4/F02	36.9	28.1	8.8	23.8%														
F03	R1	RESIDENTIAL	BEDROOM		W1/F03	31.2	28.3	2.9	9.3%	31.2	28.3	2.9	9.3%	72.6	69.2	0.5	4.7%						
	R2	RESIDENTIAL	BEDROOM		W2/F03	24.7	22.8	1.9	7.7%	24.7	22.8	1.9	7.7%	96.2	96.1	0.0	0.1%						
	R3	RESIDENTIAL	BEDROOM		W3/F03	31.9	31.7	0.2	0.6%	36.1	31.6	4.5	12.5%	99.5	95.1	0.8	4.5%	36	6	36	6	0.0%	0.0%
			BEDROOM		W4/F03	38.3	31.5	6.8	17.8%														
F04	R1	RESIDENTIAL	BEDROOM		W1/F04	32.7	31	17	5.2%	32.7	31	1.7	5.2%	72.8	72.7	0.0	0.2%						
	R2	RESIDENTIAL	BEDROOM		W2/F04	25.7	24.6	11	4.3%	25.7	24.6	1.1	4.3%	96.3	96.3	0.0	0.0%						
	R3	RESIDENTIAL	BEDROOM		W3/F04	33.7	33.6	0.1	0.3%	37.1	34.4	2.7	7.3%	99.5	99.4	0.0	0.1%	43	6	43	6	0.0%	0.0%
			BEDROOM		W4/F04	38.9	34.8	4.1	10.5%														
F05	R1	RESIDENTIAL	BEDROOM		W1/F05	36.2	35.6	0.6	1.7%	36.2	35.6	0.6	1.7%	79.9	79.9	0.0	0.0%						
52 REGIS R	OAD (CONTIN	IUED)																					
	R2	RESIDENTIAL	BEDROOM		W2/F05	29.6	29.3	0.3	1.0%	29.6	29.3	0.3	1.0%	97.7	97.7	0.0	0.0%						
	R3	RESIDENTIAL	BEDROOM		W3/F05	36.8	36.8	0	0.0%	38.4	37.5	0.9	2.3%	97.8	97.7	0.0	0.1%	54	14	54	14	0.0%	0.0%
			BEDROOM		W4/F05	39.2	37.9	13	3.3%														

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

![](_page_46_Picture_0.jpeg)

# **52 REGIS ROAD**

![](_page_47_Picture_1.jpeg)

# - + 11111

# 52 REGIS ROAD

![](_page_48_Picture_1.jpeg)

![](_page_48_Picture_2.jpeg)

![](_page_48_Picture_3.jpeg)

![](_page_49_Figure_1.jpeg)

![](_page_49_Figure_4.jpeg)

MARY BRANCKER HOUSE

![](_page_50_Figure_1.jpeg)

W7 W8 F05 R6 F05 W6 W5 R5 F05 F05 R5 R4 W7 W8 F04 R6 F04 R5 W6 W5 F04 F04 R5 R4 W7 W8 F03 R6 F03 R5 W6 W5 F03 F03 R5 R4 W8 F02 R6 W7 F02 R5 W6 W5 F02 F02 R4 R5 W8 F01 R6 W7 F01 R5 W5 W6 F01 F01 R4 R5

W4 F05 W2 F05 R2 W1 F05 R1 WЗ F05 R4 RЗ W4 W2 F04 R2 W3 F04 W1 F04 F04 R4 R3 R1 W4 W2 F03 R2 W1 F03 R1 WЗ F03 F03 R4 RЗ W2 F02 R2 W1 F02 R1 W3 F02 W4 F02 RЗ R4 W2 F01 R2 W3 F01 R3 W1 W4 F01 R1 F01 R4 W1 F00

![](_page_50_Picture_4.jpeg)

# APPENDIX 06 CONTOUR PLOTS

![](_page_52_Figure_0.jpeg)

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FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
MARY B	RANCKE	ER HOUSE						
F01	R1	RESIDENTIAL	BEDROOM	12.6	65.8	54.3	1.4	17.4
F01	R2	RESIDENTIAL	BEDROOM	12.4	78.4	62.2	2.0	20.7
F01	R3	RESIDENTIAL	BEDROOM	12.4	77.7	77.6	0.0	0.1
F01	R4	RESIDENTIAL	LKD	28.3	99.4	81.6	5.0	17.9
F01	R5	RESIDENTIAL	LKD	27.2	99.4	61.3	10.3	38.3
F01	R6	RESIDENTIAL	BEDROOM	12.4	97.7	47.1	6.3	51.8

![](_page_53_Figure_0.jpeg)

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
MARY B	BRANCKE	ER HOUSE						
F01	R7	RESIDENTIAL	BEDROOM	12.4	98	43.7	6.7	55.4
F01	R8	RESIDENTIAL	BEDROOM	12.4	98	41.5	7.0	57.7
F01	R9	RESIDENTIAL	BEDROOM	12.4	98	39.6	7.3	59.6
F01	R10	RESIDENTIAL	BEDROOM	12.4	98	38.5	7.4	60.7
F01	R11	RESIDENTIAL	BEDROOM	12.4	97.6	38	7.4	61.1
F01	R12	RESIDENTIAL	LKD	28.5	99.4	37.2	17.7	62.6

![](_page_54_Figure_0.jpeg)

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
MARY B	BRANCKE	ER HOUSE						
F01	R13	RESIDENTIAL	LKD	27.2	99.3	37.9	16.7	61.9
F01	R14	RESIDENTIAL	BEDROOM	12.4	97.5	38.1	7.4	60.9
F01	R15	RESIDENTIAL	BEDROOM	12.4	97.9	39.1	7.3	60
F01	R16	RESIDENTIAL	BEDROOM	12.6	97.9	39.9	7.3	59.2

![](_page_55_Figure_0.jpeg)

F02
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FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
MARY B	RANCKE	ER HOUSE						
F02	R1	RESIDENTIAL	BEDROOM	12.6	85.2	85.2	0.0	0
F02	R2	RESIDENTIAL	BEDROOM	12.4	93.9	88.7	0.6	5.5
F02	R3	RESIDENTIAL	BEDROOM	12.4	91	91	0.0	0
F02	R4	RESIDENTIAL	LKD	28.3	99.4	90.7	2.5	8.8
F02	R5	RESIDENTIAL	LKD	27.2	99.4	81.3	4.9	18.2
F02	R6	RESIDENTIAL	BEDROOM	12.4	97.7	61.3	4.5	37.3

![](_page_56_Figure_0.jpeg)

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
MARY B	RANCKE	ER HOUSE						
F02	R7	RESIDENTIAL	BEDROOM	12.4	98	58.1	5.0	40.8
F02	R8	RESIDENTIAL	BEDROOM	12.4	98	55.1	5.3	43.8
F02	R9	RESIDENTIAL	BEDROOM	12.4	98	54	5.5	44.9
F02	R10	RESIDENTIAL	BEDROOM	12.4	98	54	5.5	44.9
F02	R11	RESIDENTIAL	BEDROOM	12.4	97.6	53.6	5.5	45.2
F02	R12	RESIDENTIAL	LKD	28.5	99.4	45.5	15.4	54.3

![](_page_57_Figure_0.jpeg)

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
MARY B	BRANCKE	ER HOUSE						
F02	R13	RESIDENTIAL	LKD	27.2	99.3	45.2	14.7	54.5
F02	R14	RESIDENTIAL	BEDROOM	12.4	97.5	53.2	5.5	45.4
F02	R15	RESIDENTIAL	BEDROOM	12.4	97.9	53.6	5.5	45.2
F02	R16	RESIDENTIAL	BEDROOM	12.6	97.9	53.9	5.6	45

![](_page_58_Figure_0.jpeg)

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
MARY B	BRANCKE	ER HOUSE						
F03	R1	RESIDENTIAL	BEDROOM	12.6	97.9	97.9	0.0	0
F03	R2	RESIDENTIAL	BEDROOM	12.4	97.8	97.8	0.0	0
F03	R3	RESIDENTIAL	BEDROOM	12.4	97.5	97.5	0.0	0
F03	R4	RESIDENTIAL	LKD	28.3	99.4	98.7	0.2	0.7
F03	R5	RESIDENTIAL	LKD	27.2	99.4	94.6	1.3	4.8
F03	R6	RESIDENTIAL	BEDROOM	12.4	97.7	86.3	1.4	11.7

![](_page_59_Figure_0.jpeg)

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
MARY B	BRANCKE	ER HOUSE						
F03	R7	RESIDENTIAL	BEDROOM	12.4	98	86.9	1.4	11.4
F03	R8	RESIDENTIAL	BEDROOM	12.4	98	86.3	1.4	11.9
F03	R9	RESIDENTIAL	BEDROOM	12.4	98	86.4	1.4	11.8
F03	R10	RESIDENTIAL	BEDROOM	12.4	98	86.4	1.4	11.9
F03	R11	RESIDENTIAL	BEDROOM	12.4	97.6	86	1.4	11.9
F03	R12	RESIDENTIAL	LKD	28.5	99.4	69.7	8.5	29.9

![](_page_60_Figure_0.jpeg)

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
MARY B	BRANCKE	ER HOUSE						
F03	R13	RESIDENTIAL	LKD	27.2	99.3	69.6	8.1	30
F03	R14	RESIDENTIAL	BEDROOM	12.4	97.5	85.6	1.5	12.2
F03	R15	RESIDENTIAL	BEDROOM	12.4	97.9	86.2	1.4	11.9
F03	R16	RESIDENTIAL	BEDROOM	12.6	97.9	86.3	1.5	11.9

![](_page_61_Figure_0.jpeg)

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FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
MARY B	BRANCKE	ER HOUSE						
F04	R1	RESIDENTIAL	BEDROOM	12.6	97.9	97.9	0.0	0
F04	R2	RESIDENTIAL	BEDROOM	12.4	97.8	97.8	0.0	0
F04	R3	RESIDENTIAL	BEDROOM	12.4	97.5	97.5	0.0	0
F04	R4	RESIDENTIAL	LKD	28.3	99.4	99.4	0.0	0
F04	R5	RESIDENTIAL	LKD	27.2	99.4	99.4	0.0	0
F04	R6	RESIDENTIAL	BEDROOM	12.4	97.7	97.7	0.0	0

![](_page_62_Figure_0.jpeg)

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
MARY E	BRANCKE	ER HOUSE						
F04	R7	RESIDENTIAL	BEDROOM	12.4	98	98	0.0	0
F04	R8	RESIDENTIAL	BEDROOM	12.4	98	98	0.0	0
F04	R9	RESIDENTIAL	BEDROOM	12.4	98	98	0.0	0
F04	R10	RESIDENTIAL	BEDROOM	12.4	98	98	0.0	0
F04	R11	RESIDENTIAL	BEDROOM	12.4	97.6	97.6	0.0	0
F04	R12	RESIDENTIAL	LKD	28.5	99.4	99.4	0.0	0

![](_page_63_Figure_0.jpeg)

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
MARY B	RANCKE	ER HOUSE						
F04	R13	RESIDENTIAL	LKD	27.2	99.3	99.3	0.0	0
F04	R14	RESIDENTIAL	BEDROOM	12.4	97.5	97.5	0.0	0
F04	R15	RESIDENTIAL	BEDROOM	12.4	97.9	97.9	0.0	0
F04	R16	RESIDENTIAL	BEDROOM	12.6	97.9	97.9	0.0	0

![](_page_64_Figure_0.jpeg)

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
MARY B	BRANCKE	ER HOUSE						
F05	R1	RESIDENTIAL	BEDROOM	12.6	97.9	97.9	0.0	0
F05	R2	RESIDENTIAL	BEDROOM	12.4	97.8	97.8	0.0	0
F05	R3	RESIDENTIAL	BEDROOM	12.4	97.5	97.5	0.0	0
F05	R4	RESIDENTIAL	LKD	28.3	99.4	99.4	0.0	0
F05	R5	RESIDENTIAL	LKD	27.2	99.4	99.4	0.0	0
F05	R6	RESIDENTIAL	BEDROOM	12.4	97.7	97.7	0.0	0

![](_page_65_Figure_0.jpeg)

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
MARY E	BRANCKE	ER HOUSE						
F05	R7	RESIDENTIAL	BEDROOM	12.4	98	98	0.0	0
F05	R8	RESIDENTIAL	BEDROOM	12.4	98	98	0.0	0
F05	R9	RESIDENTIAL	BEDROOM	12.4	98	98	0.0	0
F05	R10	RESIDENTIAL	BEDROOM	12.4	98	98	0.0	0
F05	R11	RESIDENTIAL	BEDROOM	12.4	97.7	97.7	0.0	0
F05	R12	RESIDENTIAL	LKD	28.5	99.4	99.4	0.0	0

![](_page_66_Figure_0.jpeg)

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
MARY B	BRANCKE	ER HOUSE						
F05	R13	RESIDENTIAL	LKD	27.2	99.3	99.3	0.0	0
F05	R14	RESIDENTIAL	BEDROOM	12.4	97.5	97.5	0.0	0
F05	R15	RESIDENTIAL	BEDROOM	12.4	97.9	97.9	0.0	0
F05	R16	RESIDENTIAL	BEDROOM	12.6	97.9	97.9	0.0	0

# gia **NSL CONTOURS** PROJECT: 17974 - KENTISH TOWN (BIG YELLOW) KEY: REPORT TITLE: EXISTING VS. PROPOSED GAIN ADDRESS: 52 REGIS ROAD LOSS DATE: 14/06/2022 MAINTAINED LIT AREA SCHEME IR: IR03 DRAWING No.: 17974-REL01-IS02-DD16 1 METRE GRID W2 Wa $W_{I}$ $W_I$ R2 BEDROOM R1 UNKNOWN R1 BEDROOM F01 B01 W2 Wз $W_{I}$ R2 BEDROOM R3 BEDROOM R1 BEDROOM F01 F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
52 REG	IS ROAD							
B01	R1	RESIDENTIAL	UNKNOWN	106.5	2.8	2.8	0.0	0
F01	R1	RESIDENTIAL	BEDROOM	15.3	71.9	43.2	4.4	40
F01	R2	RESIDENTIAL	BEDROOM	11.8	94.2	86.4	0.9	8.4
F01	R3	RESIDENTIAL	BEDROOM	18.6	99.9	67	6.1	33
F02	R1	RESIDENTIAL	BEDROOM	15.3	72.7	57.1	2.4	21.5
F02	R2	RESIDENTIAL	BEDROOM	11.8	96.1	95.7	0.0	0.4

![](_page_68_Figure_0.jpeg)

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
52 REGI	IS ROAD							
F02	R3	RESIDENTIAL	BEDROOM	18.6	99.6	91.4	1.5	8.2
F03	R1	RESIDENTIAL	BEDROOM	15.3	72.6	72.3	0.0	0.4
F03	R2	RESIDENTIAL	BEDROOM	11.8	96.2	96.2	0.0	0.1
F03	R3	RESIDENTIAL	BEDROOM	18.6	99.5	98.5	0.2	1
F04	R1	RESIDENTIAL	BEDROOM	15.3	72.8	72.7	0.0	0.1
F04	R2	RESIDENTIAL	BEDROOM	11.8	96.3	96.3	0.0	0

# gia **NSL CONTOURS** KEY: PROJECT: 17974 - KENTISH TOWN (BIG YELLOW) REPORT TITLE: EXISTING VS. PROPOSED GAIN ADDRESS: 52 REGIS ROAD LOSS DATE: 14/06/2022 MAINTAINED LIT AREA SCHEME IR: IR03 DRAWING No.: 17974-REL01-IS02-DD18 1 METRE GRID W2 W4 $W_I$ £М R2 BEDROOM RЗ BEDROOM R1 BEDROOM F04 F05 $W_4$ (man) RЗ BEDROOM

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
52 REGIS ROAD								
F04	R3	RESIDENTIAL	BEDROOM	18.6	99.5	99.5	0.0	0.1
F05	R1	RESIDENTIAL	BEDROOM	14.8	79.9	79.9	0.0	0
F05	R2	RESIDENTIAL	BEDROOM	9.8	97.7	97.7	0.0	0
F05	R3	RESIDENTIAL	BEDROOM	21.7	97.8	97.8	0.0	0

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