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Daylight and Sunlight Report for the Land at Rear of 159-163, Kings Cross Road London WC1X 9BN

Prepared for **Marek Wojciechowski Architects** Prepared by **Stephen Parker Dip Surv 15 November 2016** Reference 51294/16/SJP/BSC

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Marek Wojciechowski Architects ^Drepared for

Daylight and Sunlight Report for the Proposed Development at Rear of 159-163, Kings Cross Road, London WC1X 9BN



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1. Executive Summary

1.1 Scope

1.1.1 We have been instructed by Marek Wojciechowski Architects to determine the impact upon the daylight and sunlight amenity of the existing surrounding buildings which may arise from the proposed development(s) at Rear of 159-163, Kings Cross Road, London, WC1X 9BN.

1.2 Assessment Criteria

1.2.1 To ensure that this assessment can be appropriately evaluated against Camden Council's planning policy, daylight and sunlight calculations have been undertaken in accordance with the Building Research Establishment Report 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice' 2nd Edition, 2011(the "BRE guide") and also British Standard 8206 – 2: 2008 – 'Lighting for Buildings – Part 2: Code of Practice for Daylighting', to which the BRE guide refers. The standards and tests applied within this assessment are briefly described in Appendix A.

1.3 Significance Criteria

- 1.3.1 In describing the significance criteria for daylighting, it should be noted that they have been developed to protect residential properties, which are the most sensitive receptors.
- 1.3.2 The guidance given by BRE has been used as a basis for the criteria to assess the Development's potential impacts. The BRE guidance specifies:

"...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...".

1.3.3 The report adds:

"...Different criteria may be used, based on the requirements for daylighting in an area viewed against other site layout constraints."

1.3.4 In consideration of the above, it is important to note that the site is located in an urban centre that, in parts, currently experiences daylight levels below the BRE recommendations in most situations. Thus, in these instances the BRE guidance states that the:

"...guidelines should be applied sensibly and flexibly".

- 1.3.5 Under these circumstances, the less stringent, higher BRE target percentage loss values and significance criteria may be justifiable.
- 1.3.6 When assessing significant criteria, the VSC impact is split into the following categories:

•	Minor Impact:	20% - 29.9%
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- Moderate Impact: 30% 39.9%
- Substantial Impact: >40%



1.3.7 Furthermore, additional daylight distribution tests and Average Daylight Factor assessments have been undertaken to the rooms falling short of the VSC criteria to establish the availability of daylight within the surrounding rooms.

1.4 Summary of Effect of Proposed Development on Existing Surrounding Buildings

<u>Daylight</u>

- 1.4.1 Of the 147 windows assessed for Vertical Sky Component (VSC), all but 4 will meet and exceed the BRE criteria for daylight (97% pass rate). Minor transgressions are noted to two properties, being 157 Kings Cross Road and 73-96 Wicklow Street.
- 1.4.2 One window on the first floor of 157 Kings Cross Road falls marginally short of the target values, with a reduction of 25% in VSC (20% BRE recommendation). There are also good levels of residual daylight to this window and as such, this transgression is considered to be minor.
- 1.4.3 Three windows on the ground floor of 73-96 Wicklow Street fall marginally short of the target values, however, there are material mitigating factors to consider. Firstly, two of the affected windows are positioned between projecting wings and are self-obstructing by their very nature of construction, limiting their ability to achieve higher levels of daylight in both the existing and proposed scenarios. The final affected window is positioned on one of the projecting wings, directly facing into the small courtyard-type space created by the inherent design of the building. This creates a tunnelling effect, as described in the BRE guide, and as such it is difficult for these windows to satisfy the numeric criteria for daylight. In such circumstances the BRE recommends that the guide should be applied sensibly and flexibly.
- 1.4.4 Further to this, the results show that the affected windows at 73-96 Wicklow Street have relatively low reductions between the existing and proposed figures for most of the windows assessed in this property. However, due to the "tunnelling" effect of the self-obstructing rear extensions, there are three windows which show a moderate impact which is enhanced by the already low existing levels of light within these rooms. This is demonstrated by the very fact that the actual difference between the existing and proposed VSC figures are relatively low, which will not be materially noticed within the properties in real terms. This is why the guide needs to be applied sensibly and flexibly and alternative target values may need to be considered as the levels of existing light are remarkably low for these windows.
- 1.4.5 The BRE guide states that daylight within rooms may be checked using the Average Daylight Factor (ADF), which is a measure of the overall amount of daylight in a space. This assessment can be used in conjunction with the VSC analysis, and both tests are detailed in the BRE guide. As the VSC assessment identified transgressions to four windows, we have analysed the rooms which these windows serve for ADF in order to fully understand any potential implications.
- 1.4.6 Of the four rooms tested for ADF, three will comfortably meet the BRE's numeric criteria, with one room falling marginally short (75% pass rate). The assumed kitchen at 157 Kings Cross Road meets the ADF targets, along with a kitchen and one living room at 73-96 Wicklow Street.
- 1.4.7 One living room within 73-96 Wicklow Street achieves an ADF of 1.07% (1.5% BRE recommendation), with a reduction in value of 23% (20% BRE recommendation). The results suggest that the transgressions here fall into the minor category.



1.4.8 Taking the above factors into consideration, the proposed development is considered to be broadly compliant with the BRE guide in terms of daylight, with only minor transgressions noted to a small number of windows and rooms.

<u>Sunlight</u>

- 1.4.9 Of the 79 windows tested for Annual Probable Sunlight Hours (APSH), all but 4 will meet and exceed the BRE's numerical criteria for sunlight (95% Pass Rate).
- 1.4.10 2 minor transgressions are noted to 1-24 Britannia Street, however high residual values remain with both windows achieving over 40% APSH (25% BRE recommendation), with between 1-4% of these during the winter months (5% BRE recommendation). As such, the effects here are not considered to be material and the windows will receive adequate levels of sunlight in accordance with the BRE guide.
- 1.4.11 2 minor transgressions are noted to 159-163 Kings Cross Road, however high residual values remain with the windows achieving 25% and 38% APSH, with between 1-4% of these during the winter months. These windows currently benefit from high levels of sunlight, with only minor effects noted with the proposed development in place. The results show that these windows are also within the BRE's recommended 20% reduction in APSH value and as such will receive an acceptable level of sunlight in accordance with the BRE guide. Therefore, results of the sunlight assessment are considered to be compliant to the BRE criteria.

1.5 Overall

- 1.5.1 The results of our assessment show that while some minor effects are noted to a small number of surrounding properties, the overall impact of the proposed development in terms of daylight and sunlight is minimal.
- 1.5.2 The daylight transgressions are considered to be minor, with the affected windows to 157 Kings Cross Road and 73-96 Wicklow Street all displaying high residual levels of VSC. The ADF analysis also showed that the majority of the affected rooms will meet and exceed the BRE targets for daylight, with only one rooms falling marginally short. Considering that the majority of the results are positive and the mitigating factors associated with the affected windows, the proposed development is considered to be compliant with the BRE guide in terms of daylight.
- 1.5.3 The sunlight results suggest that majority of main habitable rooms to the surrounding properties will meet and exceed the BRE's numeric criteria for APSH, with only minor transgressions noted to 1-24 Britannia Street and 159-163 Kings Cross Road. Each of the affected windows will continue to receive above average levels of sunlight, with high residual levels of APSH. It is therefore considered that the rooms which these windows serve will be well sunlit in accordance with the BRE guide.
- 1.5.4 It is apparent that the proposed development at the rear of 159-163, Kings Cross Road, London WC1X 9BN has been well designed in order to respect the daylight and sunlight availability of the existing surrounding buildings. Despite the potential constraints of developing in a dense urban area, the proposals have been carefully planned, as the results of the daylight and sunlight assessments show. It is therefore considered that the proposed development is compliant with the BRE guide in terms of daylight and sunlight.



2. Introduction

2.1 Scope

2.1.1 We have been instructed by Marek Wojciechowski Architects to determine the impact upon the daylight and sunlight amenity that may arise from the proposed development of Rear of 159-163, Kings Cross Road, London, WC1X 9BN in respect of the existing surrounding buildings.

2.2 Planning Policy

- 2.2.1 Camden Council's Local Development Framework, Development Policy, refers to the following documents as those being used to review adequacy of daylight and sunlight. This Report is therefore based on the following publications which contain the accepted standards for assessing daylight and sunlight:
 - Building Research Establishment (BRE) Report "Site Layout Planning for Daylight and Sunlight – a guide to good practice, 2nd Edition, 2011" ("the BRE guide")
- 2.2.2 Camden Council's Local Development Framework, Development Policy contains the following policy guidance under DP26: Managing the impact of development on occupiers and neighbours:

Visual privacy, overlooking, overshadowing, outlook, sunlight and daylight

26.3 A development's impact on visual privacy, overlooking, overshadowing, outlook, access to daylight and sunlight and disturbance from artificial light can be influenced by its design and layout, the distance between properties, the vertical levels of onlookers or occupiers and the angle of views. These issues will also affect the amenity of the new occupiers. We will expect that these elements are considered at the design stage of a scheme to prevent potential negative impacts of the development on occupiers and neighbours. To assess whether acceptable levels of daylight and sunlight are available to habitable spaces, the Council will take into account the standards recommended in the British Research Establishment's Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice (1991).

2.3 Assessment Criteria

2.3.1 To ensure that this assessment can be appropriately evaluated against Islington Council's planning policy, daylight and sunlight calculations have been undertaken in accordance with the `BRE guide' and also on BS8206-2: 2008 to which the BRE guide refers. The standards and tests applied are briefly described in Appendix A.

2.4 Significance Criteria

2.4.1 In describing the significance criteria for daylighting, it should be noted that they have been developed to protect residential properties, which are the most sensitive receptors.



2.4.2 The guidance given by BRE has been used as a basis for the criteria to assess the Development's potential impacts. The BRE guidance specifies:

"...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...".

2.4.3 The report adds:

"...Different criteria may be used, based on the requirements for daylighting in an area viewed against other site layout constraints."

2.4.4 In consideration of the above, it is important to note that the site is located in an urban centre that, in parts, currently experiences daylight levels below the BRE recommendations in most situations. Thus, in these instances the BRE guidance states that the:

"...guidelines should be applied sensibly and flexibly".

- 2.4.5 Under these circumstances, the less stringent, higher BRE target percentage loss values and significance criteria may be justifiable.
- 2.4.6 When assessing significant criteria, the VSC impact is split into the following categories:
 - Minor Impact: 20% 29.9%
 - Moderate Impact: 30% 39.9%
 - Substantial Impact: >40%
- 2.4.7 Furthermore, additional daylight distribution tests and Average Daylight Factor assessments have been undertaken to the rooms falling short of the VSC criteria to establish the availability of daylight within the surrounding rooms.



2.4.8 The existing buildings adjacent to the proposed development site are shown on the Site Plan (see below) and comprise:

Name/Address of Building	Assumed Use	Position in Relation to the Development
1 To 24 Britannia Street	Residential	West
5 Britannia Street	Residential	North
3 Britannia Street	Residential	North
1 Britannia Street	Residential	North
159 To 163 Kings Cross Road	Residential	North East
157 Kings Cross Road	Residential	East
155 Kings Cross Road	Residential	East
153 Kings Cross Road	Residential	East
151 Kings Cross Road	Residential	East
149 Kings Cross Road	Residential	South East
49 To 72 Wicklow Street	Residential	South East
73 To 96 Wicklow Street	Residential	South
97 To 120 Wicklow Street	Residential	South West





2.5 Limitations

2.5.1 Our assessment is based on the scheme drawings provided by MWA Architects as listed below:

Drawing Number/Title	Date
P_01 Proposed Ground Floor Plan	28 September 2016
P_02 Proposed Basement Floor Plan	28 September 2016
P_03 Proposed First Floor Plan	28 September 2016
P_04 Proposed Second Floor Plan	28 September 2016
P_11 Proposed Front Elevation	28 September 2016
P_12 Proposed Southeast Elevation	28 September 2016
P_13 Proposed Southwest Elevation	28 September 2016
P_21 Proposed Section A-A	28 September 2016
P_22 Proposed Section B-B	28 September 2016
P_23 Proposed Section C-C	28 September 2016
P_24 Proposed Section D-D	28 September 2016
P_25 Proposed Section E-E	28 September 2016
As Proposed_with context.skp	11 October 2016

- 2.5.2 A site inspection was also undertaken to record the location of windows within the surrounding buildings. Where no elevation survey data has been provided to us, we have estimated approximate window heights and positions in the surrounding existing properties from data gathered at our site inspection.
- 2.5.3 A topographical survey has not been undertaken and all levels and elevation details are approximate, having been obtained from the site inspection, OS data and elevation drawings. However, it is noted that there were no significant changes in ground level between the proposed development and the existing surrounding buildings.



3. Assessment & Results - Impact of New Development on Existing, Surrounding Buildings

3.1 Daylight

- 3.1.1 In accordance with the BRE guide (see also Appendix A) and our site inspection the following buildings required assessment:
 - 1 To 24 Britannia Street
 - 5 Britannia Street
 - 3 Britannia Street
 - 1 Britannia Street
 - 159 To 163 Kings Cross Road
 - 157 Kings Cross Road
 - 155 Kings Cross Road
 - 153 Kings Cross Road
 - 151 Kings Cross Road
 - 149 Kings Cross Road
 - 49 To 72 Wicklow Street
 - 73 To 96 Wicklow Street
 - 97 To 120 Wicklow Street
- 3.1.2 Windows to other adjacent buildings, such as those to 126 and 128 Kings Cross Road, and 24-36 Britannia Street are at such a distance from the proposed development as to pass the `Three times height' and `<u>25 degree' tests</u> (see Appendix A) and therefore, pursuant to the BRE guide, do not require testing for daylight or sunlight availability. See Appendix D for images.
- 3.1.3 The results of our <u>VSC analysis</u> are shown in full in Appendix D. The following table is a summary of our findings:

	No. of	BRE Co VS	mpliant SC	Total
Building Address	Analysed	Yes	No	Compliant
1 To 24 Britannia Street	33	33	0	100
5 Britannia Street	4	4	0	100
3 Britannia Street	3	3	0	100
1 Britannia Street	4	4	0	100
159 To 163 Kings Cross Road	12	12	0	100
157 Kings Cross Road	4	3	1	75
155 Kings Cross Road	4	4	0	100
153 Kings Cross Road	4	4	0	100
151 Kings Cross Road	4	4	0	100
149 Kings Cross Road	4	4	0	100
49 To 72 Wicklow Street	24	24	0	100
73 To 96 Wicklow Street	35	32	3	91
97 To 120 Wicklow Street	12	12	0	100
Totals	147	143	4	97



- 3.1.4 Of the 147 windows assessed for Vertical Sky Component (VSC), all but 4 will meet and exceed the BRE criteria for daylight (97% Pass Rate). Minor transgressions are noted to two properties, being 157 Kings Cross Road and 73-96 Wicklow Street.
- 3.1.5 One window on the first floor of 157 Kings Cross Road falls marginally short of the target values, with a reduction of 25% in VSC (20% BRE recommendation). There are also good levels of residual VSC experienced at this window and as such, this transgression is considered to be minor.
- 3.1.6 Three windows on the ground floor of 73-96 Wicklow Street fall marginally short of the target values, however, there are material mitigating factors to consider. Firstly, two of the windows are positioned between projecting wings, limiting their ability to achieve higher levels of daylight in both the existing and proposed scenarios. The third window is positioned on one of the projecting wings, directly facing into the small courtyard-type space created by the inherent design of the building. This creates a tunnelling effect, as described in the BRE guide, and as such it is difficult for the windows to satisfy the numeric criteria for daylight.
- 3.1.7 Further to this, the results show that the affected windows at 73-96 Wicklow Street have good levels of residual daylight and relatively low reductions in VSC (between 29-37%). The VSC results are therefore considered to be broadly compliant with the BRE guide.
- 3.1.8 In order to investigate these transgressions further, we have undertaken an Average Daylight Factor (ADF) assessment to establish the internal luminance within those rooms. The results of that assessment are as follows:

	No. of	BRE Com	oliant ADF	Total Percentage BRE	
Building Address	Rooms Analysed	Yes	No	Compliant	
157 Kings Cross Road	1	1	0	100	
73 To 96 Wicklow Street	3	2	1	67	
Totals	4	3	1	75	

- 3.1.9 Of the 4 rooms tested for Average Daylight Factor (ADF), all but 1 will continue to meet the target values as set out in the BRE guidelines.
- 3.1.10 Three rooms will comfortably meet the BRE's numeric criteria, with one room falling marginally short. The assumed kitchen at 157 Kings Cross Road meets the ADF targets, along with the kitchen and one living room at 73-96 Wicklow Street.
- 3.1.11 One living room within 73-96 Wicklow Street achieves an ADF of 1.07% (1.5% BRE recommendation), with a reduction in value of 23% (20% BRE recommendation). Some local authorities have taken a pragmatic and flexible approach to the reduction in former value of ADF, accepting between 30-40% reductions in dense urban areas such as this.
- 3.1.12 Taking the above factors into consideration, the proposed development is broadly compliant with the BRE guide in terms of daylight, with only minor transgressions noted to a small number of windows/rooms.



3.2 Sunlight

- 3.2.1 The BRE sunlight criteria do not apply as the only elevations with windows overlooking the development and within 90 degrees of due south contain only windows serving circulation areas, bathrooms, toilets, store rooms and garages.
- 3.2.2 In accordance with the BRE Guide, our analysis of the plans provided and our observations on site, a number of the surrounding buildings require <u>Annual Probable</u> <u>Sunlight Hours (APSH) testing</u> (see Appendix A):
 - 159-163, Kings Cross Road, London WC1X 9BN
 - 1 To 24 Britannia Street
 - 5 Britannia Street
 - 3 Britannia Street
 - 1 Britannia Street
 - 159 To 163 Kings Cross Road
 - 157 Kings Cross Road
 - 155 Kings Cross Road
 - 153 Kings Cross Road
 - 151 Kings Cross Road
 - 149 Kings Cross Road
 - 49 To 72 Wicklow Street
 - 73 To 96 Wicklow Street
- 3.2.3 The table below shows a summary of the results of the APSH testing. Full test results are contained in Appendix E.

Building Address	No. of Windows	BRE Co AP	mpliant SH	Total Percentage
	Analysed	Yes	No	BRE Compliant
1 To 24 Britannia Street	24	22	2	92
5 Britannia Street	4	4	0	100
3 Britannia Street	3	3	0	100
1 Britannia Street	4	4	0	100
159 To 163 Kings Cross Road	12	10	2	83
157 Kings Cross Road	4	4	0	100
155 Kings Cross Road	4	4	0	100
153 Kings Cross Road	4	4	0	100
151 Kings Cross Road	4	4	0	100
149 Kings Cross Road	4	4	0	100
49 To 72 Wicklow Street	3	3	0	100
73 To 96 Wicklow Street	9	9	0	100
Totals	79	75	4	95

3.2.4 Of the 79 windows tested, all but 4 will continue to meet the target values as set out in the BRE guidelines (95% Pass Rate).



- 3.2.5 2 minor transgressions are noted to 1-24 Britannia Street, however high residual values remain with both windows achieving over 40% APSH (25% BRE recommendation), with between 1-4% of these during the winter months (5% BRE recommendation). As such, the effects here are not considered to be material and the windows will receive adequate levels of sunlight in accordance with the BRE guide.
- 3.2.6 2 minor transgressions are noted to 159-163 Kings Cross Road, however high residual values remain with the windows achieving 25% and 38% APSH, with between 1-4% of these during the winter months. These windows currently benefit from high levels of sunlight, with only minor effects noted with the proposed development in place. The results show that these windows are also within the BRE's recommended 20% reduction in APSH value and as such will receive an acceptable level of sunlight in accordance with the BRE guide. Therefore, results of the assessment are considered to be compliant to the BRE criteria.

3.3 Overshadowing

- 3.3.1 In accordance with the BRE guide we have undertaken overshadowing assessments to the following areas:
 - Amenity area to the rear of 3 Britannia Street
 - Amenity area to the rear of 5 Britannia Street
- 3.3.2 A reference plan and the results of the overshadowing analysis are shown in full in Appendix F. The table below summarises the results:

Property	Area Reference	Proportion receiving at least 2hrs of sun on 21 March	BRE Compliant
5 Britannia Street	A1	9%	No
3 Britannia Street	A1	52%	Yes

- 3.3.3 Our results demonstrate that the amenity area to the rear of 3 Britannia Street meets the BRE target criteria for sunlight because at least 50% of its area receives at least two hours of direct sunlight on 21 March.
- 3.3.4 The amenity space to the rear of 5 Britannia Street does not meet the BRE criteria for permanent overshadowing, with 9% of its area achieving two hours of direct sunlight on March 21.
- 3.3.5 It is conceivable that most amenity spaces are mainly used during the summer months. As such, we have also tested these two amenity areas based on the summer values of June 21. The table below summarises the results:

Property	Area Reference	Proportion receiving at least 2hrs of sun on 21 March	BRE Compliant
5 Britannia Street	A1	64%	Yes
3 Britannia Street	Al	97%	Yes



- 3.3.6 The results here show that both of the amenity areas tested will surpass the BRE's recommendations for overshadowing. It is also apparent from the results of the assessment that the amenity space to the rear of 3 Britannia Street will receive a higher proportion of direct sunlight in the proposed scenario, increasing from 90% in the existing scenario to 97%.
- 3.3.7 The results of the permanent overshadowing assessment demonstrate that both amenity areas will receive good amounts of direct sunlight during the summer months, with increases noted to 3 Britannia Street. While the amenity space to the rear of 5 Britannia Street falls short of the target criteria for March 21, it exceeds the June 21 values, proving that the space will be well sunlit during the summer months.





Appendix A

Tests to be Applied





Introduction

The main purpose of the guidelines in the Building Research Establishment Report "Site Layout Planning for Daylight and Sunlight – a guide to good practice 2011, 2nd Edition" ("the BRE guide") is to assist in the consideration of the relationship of new and existing buildings to ensure that each retains a potential to achieve good daylighting and sunlighting levels. That is, by following and satisfying the tests contained in the guidelines, new and existing buildings should be sufficiently spaced apart in relation to their relative heights so that both have the potential to achieve good levels of daylight and sunlight. The guidelines have been drafted primarily for use with low density suburban developments and should therefore be used flexibly when dealing with dense urban sites and extensions to existing buildings, a fact recognised by the BRE Report's author in the Introduction where Dr Paul Littlefair says:

'The Guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and the guide should not been seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design..... In special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre, or in an area with modern high rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings.....'

In many cases in low-rise housing, meeting the criteria for daylight and sunlight may mean that the BRE criteria for other amenity considerations such as *privacy* and *sense of enclosure* are also satisfied.

The BRE guide states that recommended minimum privacy distances (in cases where windows of habitable rooms face each other in low-rise residential property), as defined by each individual Local Authority's policies, vary widely, from 18-35m¹. For two-storey properties a spacing within this range would almost certainly also satisfy the BRE guide's daylighting requirements as it complies with the 25⁰ rule and will almost certainly satisfy the 'Three times height' test too (as discussed more fully below). However, the specific context of each development will be taken into account and Local Authorities may relax the stated minimum, for instance, in built-up areas where this would lead to an inefficient use of land. Conversely, greater distances may be required between higher buildings, in order to satisfy daylighting and sunlighting requirements. It is important to recognize also that privacy can also be achieved by other means: design, orientation and screening can all play a key role and may also contribute towards reducing the theoretical 'minimum' distance.

A sense of enclosure is also important as the perceived quality of an outdoor space may be reduced if it is too large in the context of the surrounding buildings. In urban settings the BRE guide suggests a spacing-to-height ratio of 2.5:1 would provide a comfortable environment, whilst not obstructing too much natural light: this ratio also approximates the 25^o rule.







Daylight

The criteria for protecting daylight to existing buildings are contained in Section 2.2 and Appendix C of the BRE guide. There are various methods of measuring and assessing daylight and the choice of test depends on the circumstances of each particular window. For example, greater protection should be afforded to windows which serve habitable dwellings and, in particular, those serving living rooms and family kitchens, with a lower requirement required for bedrooms. The BRE guide states that circulation spaces and bathrooms need not be tested as they are not considered to require good levels of daylight. In addition, for rooms with more than one window, secondary windows do not require assessment if it is established that the room is already sufficiently lit through the principal window.

The tests should also be applied to non-domestic uses such as offices and workplaces where such uses will ordinarily have a reasonable expectation of daylight and where the areas may be considered a principal workplace.

The BRE has developed a series of tests to determine whether daylighting levels within new developments and rooms within existing buildings surrounding new developments will satisfy or continue to satisfy a range of daylighting criteria

Note: Not every single window is assessed separately, only a representative sample, from which conclusions may be drawn regarding other nearby dwellings.

Daylighting Tests

<u>`Three times height' test</u> - If the distance of each part of the new development from the existing windows is three or more times its height above the centre of the existing window then loss of light to the existing windows need not be analysed. If the proposed development is taller or closer than this then the 25⁰ test will need to be carried out.

<u>25⁰ test</u> – a very simple test that should only be used where the proposed development is of a reasonably uniform profile and is directly opposite the existing building. Its use is most appropriate for low density well-spaced developments such as new sub-urban housing schemes and often it is not a particularly useful tool for assessing urban and in-fill sites. In brief, where the new development subtends to an angle of less than 25⁰ to the centre of the lowest window of an existing neighbouring building, it is unlikely to have a substantial effect on the diffuse skylight enjoyed by the existing building. Equally, the new development itself is also likely to have the potential for good daylighting. If the angle is more than 25⁰ then more detailed tests are required, as outlined below.

<u>VSC Test</u> - the VSC is a unit of measurement that represents the amount of available daylight from the sky, received at a particular window. It is measured on the outside face of the window. The `unit' is expressed as a percentage as it is the ratio between the amount of sky visible at the given reference point compared to the amount of light that would be available from a totally unobstructed hemisphere of sky. To put this unit of measurement into perspective, the maximum percentage value for a window with a completely unobstructed outlook (i.e. with a totally unobstructed view through 90° in every direction) is 40%.

The target figure for VSC recommended by the BRE is 27%. A VSC of 27% is a relatively good level of daylight and the level we would expect to find for habitable rooms with windows on principal elevations. However, this level is often difficult to achieve on secondary elevations and in built-up urban environments. For comparison, a window receiving 27% VSC is approximately equivalent to a window that would have a continuous obstruction opposite it which subtends an angle of 25° (i.e. the same results as would be found utilising the 25° Test).



Where tests show that the new development itself meets the 27% VSC target this is a good indication that the development will enjoy good daylighting and further tests can then be carried out to corroborate this (see under).

Through research the BRE have determined that in existing buildings daylight (and sunlight levels) can be reduced by approximately 20% of their original value before the loss is materially noticeable. It is for this reason that they consider that a 20% reduction is permissible in circumstances where the existing VSC value is below the 27% threshold. For existing buildings once this has been established it is then necessary to determine whether the distribution of daylight inside each room meets the required standards (see under).

<u>Daylight Distribution (DD) Test</u> – This test looks at the position of the "No-Sky Line" (NSL) – that is, the line that divides the points on the working plane (0.7m from floor level in offices and 0.85m in dwellings and industrial spaces) which can and cannot see the sky. The BRE guide suggests that areas beyond the NSL may look dark and gloomy compared with the rest of the room and BS8206 states that electric lighting is likely to be needed if a significant part of the working plane (normally no more than 20%) lies beyond it.

In new developments no more than 20% of a room's area should be beyond the NSL. For existing buildings the BRE guide states that if, following the construction of a new development, the NSL moves so that the area beyond the NSL increases by more than 20%, then daylighting is likely to be seriously affected.

The guide suggests that in houses, living rooms, dining rooms and kitchens should be tested: bedrooms are deemed less important, although should nevertheless be analysed. In other buildings each main room where daylight is expected should be investigated.

<u>ADF Test</u> -The ADF (Average Daylight Factor) test takes account of the interior dimensions and surface reflectance within the room being tested as well as the amount of sky visible from the window. For this reason it is considered a more detailed and representative measure of the adequacy of light. The minimum ADF values recommended in BS8206 Part 2 are: 2% for family kitchens (and rooms containing kitchens); 1.5% for living rooms; and 1% for bedrooms. This is a test used in assessing new developments, although, in certain circumstances, it may be used as a supplementary test in the assessment of daylighting in existing buildings, particularly where more than one window serves a room.

<u>Room depth ratio test</u> - This is a test for new developments looking at the relative dimensions of each room (principally its depth) and its window(s) to ensure that the rear half of a room will receive sufficient daylight so as not to appear gloomy.



Sunlight

Sunlight is an important `amenity' in both domestic and non-domestic settings. The way in which a building's windows are orientated and the overall position of a building on a site will have an impact on the sunlight it receives but, importantly, will also have an effect on the sunlight neighbouring buildings receive. Unlike daylight, which is non-directional and assumes that light from the sky is uniform, the availability of sunlight is dependent on direction. That is, as the United Kingdom is in the northern hemisphere, we receive virtually all of our sunlight from the south. The availability of sunlight is therefore dependent on the orientation of the window or area of ground being assessed relative to the position of due south.

In <u>new developments</u> the BRE guide suggests that dwellings should aim to have at least one main living room which faces the southern or western parts of the sky so as to ensure that it receives a reasonable amount of sunlight. Where groups of dwellings are planned the Guide states that site layout design should aim to maximise the number of dwellings with a main living room that meet sunlight criteria. Where a window wall faces within 90° of due south and no obstruction subtends to angle of more than 25° to the horizontal or where the window wall faces within 20° of due south and the reference point has a VSC of at least 27% then sunlighting will meet the required standards: failing that the Annual Probable Sunlight Hours (APSH) need to be analysed. APSH means the total number of hours in the year that the sun is expected to shine on unobstructed ground, allowing for average levels of cloud for the location in question. If the APSH tests reveal that the new development will receive at least one quarter of the available APSH, including at least 5% of APSH during the winter months (from 21 September to 21 March), then the requirements are satisfied. It should be noted that if a room has two windows on opposite walls, the APSH due to each can be added together.

The availability of sunlight is also an important factor when looking at the impact of a proposed development on the <u>existing surrounding buildings</u>. APSH tests will be required where one or more of the following are true:

- The 'Three times height' test is failed (see 'Daylight' above);
- The proposed development is situated within 90° of due south of an existing building's main window wall and the new building subtends to angle of more thaⁿ 25° to the horizontal;
- The window wall faces within 20° of due south and a point at the centre of the window on the outside face of the window wall (the reference point) has a VSC of less than 27%.

Where APSH testing is required it is similar to the test for the proposed development. That is to say that compliance will be demonstrated where a room receives:

- At least 25% of the APSH (including at least 5% in the winter months), or
- At least 0.8 times its former sunlight hours during either period, or
- A reduction of no more than 4% APSH over the year.

The Guide stresses that the target values it gives are purely advisory, especially in circumstances such as: the presence of balconies (which can overhang windows, obstructing light); when an existing building stands unusually close to the common boundary with the new development and; where the new development needs to match the height and proportion of existing nearby buildings. In circumstances like these a larger reduction in sunlight may be necessary.

The sunlight criteria in the BRE guide primarily apply to windows serving living rooms of an existing dwelling. This is in contrast to the daylight criteria which apply to kitchens and bedrooms as well as living rooms. Having said that, the guide goes on to say that care should be taken not to block too much sun from kitchens and bedrooms. Non-domestic buildings which are deemed to have a requirement for sunlight should also be checked.



Sunlight - Gardens and Open Spaces

As well as ensuring buildings receive a good level of sunlight to their interior spaces, it is also important to ensure that the open spaces between buildings are suitably lit. The recommendations as set out in the BRE guide are meant to ensure that spaces between buildings are not permanently in shade for a large part of the year. Trees and fences over 1.5m tall are also factored into the calculations.

The BRE guidelines state that:

- For a garden or amenity area to appear adequately sunlit throughout the year, at least 50% of the area should receive at least two hours of sunlight on 21 March;
- In addition, if, as result of new development, an existing garden or amenity area does not reach the area target above and the area which can receive two hours of direct sunlight on 21 March is reduced by more than 20% this loss is likely to be noticeable.

Appendix G of the BRE guidelines describes a methodology for calculating sunlight availability for amenity spaces.





Appendix **B**

Context Drawings







3D Context View - View from North East (Existing)



3D Context View - View from South (Existing)

5	sou	RC	ES	OF	INFORM	ATION:

- P_01 Proposed Gro P 02 Proposed Bas Proposed First Floor

- P_23 Proposed Section C-0 P_24 Proposed Section D-D P_25 Proposed Section F-E

As Proposed_with contex

Received 09 November 2016

ALL HEIGHTS IN METERS AOD



TITLE

3D Views **Existing Site**

CLIENT

Marek Wojclechowski Architects

PROJECT

Rear of 159 - 163 Kings Cross Road, London,

WC1X 9BN

DRAWN BY	CHECKED
SM	SL
SCALE	DATE
NTS@A3	November 2016

malcolm holis

80-82 Silverthorne Road London SW8 3HE

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- W malcolmhollis.com



RELEASE NO. 5





3D Context View - View from North East (Proposed)



3D Context View - View from South (Proposed)

5	sou	RC	ES	OF	INFORM	ATION:

- MWA ARCHITECTS
- P_01 Proposed Grou P_02 Proposed Base
- 3 Proposed First floor F 4 Proposed Second Fig 1 Proposed Front Eleva

- P_23 Proposed Section C-C P_24 Proposed Section D-D P_25 Proposed Section F-F

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51294_CTXT_04



Appendix C

Window/Room Reference Drawings









3D Context View - South

3D Context View - South West

PROJECT Rear of 159 - 163 Kings Cross Road, London, WC1X 9BN DRAWN B

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1 to 24 Britannia Street







3D Context View - South



Marek Wojclechowski Architects

PROJECT

Rear of	159 - 1	163 K	ings C	ross	Road,
London,					

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3D Context View - South

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3D Context View - South

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3D Context View - South West



3D Context View - South

London, WC1X 9BN

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3D Context View -North West



3D Context View - North East

Rear of 159 - 163 Kings Cross Road, London, WC1X 9BN DRAWN BY CHECKED SL SM

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3D Context View -North West



3D Context View - North East

PROJECT Rear of 159 - 163 Kings Cross Road, London, WC1X 9BN DRAWN BY CHECKED

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SCALE	DATE	
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Appendix D

Daylight Study





VERTICAL SKY COMPONENT ANALYSIS

Floor Ref.	Window Ref.	Existing VSC	Proposed VSC	Times Former Value	BRE Compliant
		1 To 24 E	Britannia Street		
Ground	W1	8.26	7.52	0.91	Yes
Ground	W2	10.95	9.58	0.88	Yes
Ground	W3	12.66	10.48	0.83	Yes
Ground	W4	18.81	15.82	0.84	Yes
Ground	W5	19.18	16.98	0.89	Yes
Ground	W6	4.66	4.66	1	Yes
Ground	W7	7.71	7.71	1	Yes
Ground	W8	7.88	7.88	1	Yes
Ground	W9	5.82	5.31	0.91	Yes
Ground	W10	19.29	18.5	0.96	Yes
Ground	W11	19.29	18.7	0.97	Yes
First	W1	15.46	13.41	0.87	Yes
First	W2	21.65	19	0.88	Yes
First	W3	25.18	20.96	0.83	Yes
First	W4	22.9	20.14	0.88	Yes
First	W5	22.72	21.1	0.93	Yes
First	W6	5.49	5.49	1	Yes
First	W7	9.17	9.17	1	Yes
First	W8	9.35	9.35	1	Yes
First	W9	6.68	6.42	0.96	Yes
First	W10	22.37	21.85	0.98	Yes
First	W11	22.31	21.92	0.98	Yes
Second	W1	17.16	16.84	0.98	Yes
Second	W2	24.88	24.24	0.97	Yes
Second	W3	29.32	27.94	0.95	Yes
Second	W4	26.19	25.39	0.97	Yes
Second	W5	26	25.52	0.98	Yes
Second	W6	6.5	6.5	1	Yes
Second	W7	10.86	10.86	1	Yes
Second	W8	11.01	11.01	1	Yes
Second	W9	7.56	7.48	0.99	Yes
Second	W10	25.67	25.53	0.99	Yes
Second	W11	25.59	25.5	1	Yes
		5 Brito	annia Street		
First	W1	21.55	19.85	0.92	Yes
First	W2	18.34	16.13	0.88	Yes
Second	W1	24.05	23.9	0.99	Yes
Second	W2	20.44	20.05	0.98	Yes
		3 Brito	annia Street		
First	W1	23.64	21.97	0.93	Yes
First	W2	23.07	20.56	0.89	Yes
Second	W1	26	25.83	0.99	Yes
Second	W2	26.59	26.56		Yes
		I Brito	annia Street	0.04	
First	W1	21.52	20.23	0.94	Yes
First	W2	23.23	21.//	0.94	Yes
First	W3	23.98	22.55	0.94	Yes
Second	WI	24.32	24.32		Yes
second	W2	27.53 159 To 163	27.53 Kings Cross Road		Yes



VERTICAL SKY COMPONENT ANALYSIS

	TT			1	
First	W1	20.57	17.63	0.86	Yes
First	W2	23.71	20.61	0.87	Yes
First	W3	23.74	21	0.88	Yes
First	W4	21.54	18.71	0.87	Yes
First	W5	21.45	19.66	0.92	Yes
First	W6	19.87	18.07	0.91	Yes
Second	W1	27.68	27.2	0.98	Yes
Second	W2	27.67	27.22	0.98	Yes
Second	W3	27.18	27.11	1	Yes
Second	W4	25.01	24.72	0.99	Yes
Second	W5	26.06	26.06	1	Yes
Second	W6	24.16	24.16	1	Yes
		157 King	gs Cross Road		
First	W1	9.6	9.6	1	Yes
First	W2	21.11	15.7	0.74	No
Second	W1	26.76	26.39	0.99	Yes
Second	W2	24.04	21.21	0.88	Yes
		155 King	gs Cross Road		
First	W1	7.54	7.54	1	Yes
First	W2	18.92	16.54	0.87	Yes
Second	W1	25.16	25.04	1	Yes
Second	W2	21.65	20.73	0.96	Yes
		153 King	s Cross Road		
First	W1	10.16	10.16	1	Yes
First	W2	19.49	19.22	0.99	Yes
First	W3	20.29	19.95	0.98	Yes
Second	W1	22.81	22.79	1	Yes
		151 King	gs Cross Road		
First	W1	17.97	17.8	0.99	Yes
First	W2	16.41	15.94	0.97	Yes
Second	W1	21.25	21.25	1	Yes
Second	W2	20.39	20.33	1	Yes
	•	149 King	ys Cross Road	• •	
First	W1	18.18	18.17	1	Yes
First	W2	16.91	16.81	0.99	Yes
Second	W1	21.21	21.21	1	Yes
Second	W2	19.75	19.75	1	Yes
	•	49 To 72 \	Wicklow Street	• •	
Ground	W1	16.36	16.32	1	Yes
Ground	W2	15.16	15.16	1	Yes
Ground	W3	15.97	15.97	1	Yes
Ground	W4	14.84	14.84	1	Yes
Ground	W5	11.15	10.25	0.92	Yes
Ground	W6	14.24	12.46	0.87	Yes
Ground	W7	15.85	13.59	0.86	Yes
Ground	W8	18.43	15.86	0.86	Yes
First	W1	22.44	22.44	1	Yes
First	W2	19.59	19.59	1	Yes
First	W3	20.81	20.81	1	Yes
First	W4	19.48	19.48	1	Yes
First	W5	12.94	12.64	0.98	Yes
First	W6	16.04	15.6	0.97	Yes
First	W7	17.82	17.24	0.97	Yes
First	W8	21.03	20.13	0.96	Yes
Second	W1	27.85	27.85	1	Yes

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VERTICAL SKY COMPONENT ANALYSIS

Second	\\//2	24.04	24.04	1	Vas
Second	VVZ \\/3	24.04	24.04	1	Voc
Second	VV3	23.27	23.27	1	Voc
Second	VV4 \\\/5	23.07	14.82	1	Vos
Second	VV5	17.75	14.02	1	Voc
Second	VV0	10.26	10.2	1	Vos
Second	\\/\/8	22.0	22.86	1	Vas
360010	VV0	73 To 06 \	Nicklow Street		163
Ground	\\/1	15.01		0.86	Voc
Ground		0.72	0.11	0.00	Vos
Ground	VVZ \\/3	9.72	9.11	0.94	Vos
Ground	W6	5 15	/ 83	0.07	Vos
Ground	\\/7	11.00	7.00	0.74	No
Ground	\\/\/8	12.58	8.25	0.72	No
Ground	\//Q	6.68	10	0.00	No
Ground	W/12	7 31	7 31	0.75	Ves
Ground	W/12	7.01	7.01	1	Vas
First	W/10	17.08	16 31	0.06	Ves
First	W/2	11.00	11.32	0.70	Ves
First	W/2	1/ 72	11.02	0.77	Ves
Firet	\\//	20.7	2/ 0	0.70	Vas
Firet	W/5	27.7	24.7	0.83	Vas
First	W6	5.0/	5 70	0.00	Ves
First	W/7	12 37	10.89	0.97	Ves
First	W/8	13.05	11.8	0.85	Ves
First	\//Q	7 57	6 78	0.00	Ves
First	W10	28.61	24.11	0.7	Ves
First	W10	27.68	24.11	0.88	Ves
First	W12	8 / 1	8 /1	1	Ves
First	W12	9.72	9.61	0.99	Ves
Second	W10	18.36	18.36	1	Yes
Second	W2	13.06	13.06	1	Yes
Second	W3	16.81	16.81	1	Yes
Second	W4	32.22	32.02	0.99	Yes
Second	W5	31.92	31.69	0.99	Yes
Second	W6	6.81	6.8	1	Yes
Second	W7	13.3	13.27	1	Yes
Second	W8	14.63	14.58	1	Yes
Second	W9	8.16	8.15	1	Yes
Second	W10	30.87	30.7	0.99	Yes
Second	W11	30.45	30.3	1	Yes
Second	W12	9.84	9.84	1	Yes
Second	W13	11.01	11.01	1	Yes
	•	97 To 120	Wicklow Street	•	
Ground	W1	9.19	8.65	0.94	Yes
Ground	W2	8.34	7.2	0.86	Yes
Ground	W3	21.18	20.49	0.97	Yes
Ground	W4	21.2	20.76	0.98	Yes
First	W1	10.98	10.54	0.96	Yes
First	W2	10.03	9.32	0.93	Yes
First	W3	25.8	24.97	0.97	Yes
First	W4	25.52	24.84	0.97	Yes
Second	W1	12.04	12	1	Yes
Second	W2	11.01	10.99	1	Yes
Second	W3	28.82	28.76	1	Yes



Second W4 28.38 28.36 1 Yes	
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Appendix E

Sunlight Study





			Exis	ting	g Proposed				
Floor Ref.	Room Ref.	Window Ref.	Winter %	Annual %	Winter %	Annual %	Annual Times Former	Winter Times Former	BRE Compliant
				1 To 24 Bri	tannia Str		Value	Value	
Ground	No Room	W1	2	1.3	1	11	0.85	0.5	VES
Ground		W/A	1	53	1	.38	0.72	1	VES
Ground	No Room	W5	2	54	1	42	0.78	0.5	NO
Ground	No Room	W6	1	18	1	18]	1	YES
Ground	No Room	W7	0	16	0	16	1	0	YES
Ground	No Room	W8	0	14	0	14	1	0	YES
Ground	No Room	W10	2	55	1	51	0.93	0.5	YES
Ground	No Room	W11	2	55	2	52	0.95	1	YES
First	No Room	W1	7	37	4	34	0.92	0.57	YES
First	No Room	W4	7	63	4	49	0.78	0.57	NO
First	No Room	W5	8	64	6	57	0.89	0.75	YES
First	No Room	W6	4	21	4	21	1	1	YES
First	No Room	W7	4	20	4	20	1	1	YES
First	No Room	W8	3	17	3	17	1	1	YES
First	No Room	W10	4	61	3	58	0.95	0.75	YES
First	No Room	W11	5	62	5	61	0.98	1	YES
Second	No Room	W1	12	42	10	40	0.95	0.83	YES
Second	No Room	W4	14	/0	12	66	0.94	0.86	YES
Second	No Room	W5	14	/0	13	69	0.99	0.93	YES
Second	NO ROOM	W6	/	24	/	24	1	1	YES
Second		VV /	/	23	/	23	1	1	YES
Second	No Room	\\/10	11	68	11	19	1	1	YES
Second		W10	12	60	12	60	1	1	VES
0000110			12	5 Britar	nia Street	-	I		T LO
First	No Room	W1	10	46	9	45	0.98	0.9	YES
First	No Room	W2	8	41	6	39	0.95	0.75	YES
Second	No Room	W1	15	53	14	52	0.98	0.93	YES
Second	No Room	W2	13	48	12	47	0.98	0.92	YES
				3 Britar	nnia Street	ł			
First	No Room	W1	11	47	9	45	0.96	0.82	YES
First	No Room	W2	11	49	7	45	0.92	0.64	YES
Second	No Room	W1	13	54	13	54	1	1	YES
Second	No Room	W2	16	58 1 Britor	16 Inia Strad	58	1	1	YES
Firet		\\/1	1/	1 01101	12	16	0.06	0.86	VES
First		\\/2	14	40	12	40	0.90	0.00	VES
First		W/3	14	40 40	12	40	0.90	0.00	VES
Second	No Room	W1	15	52	15	52	1	1	YES
Second	No Room	W2	15	58	15	58	1	1	YES
			15	9 To 163 Ki	ngs Cross	Road		•	
First	No Room	W1	3	31	1	25	0.81	0.33	NO
First	No Room	W2	6	43	4	38	0.88	0.67	NO
First	No Room	W3	11	48	8	44	0.92	0.73	YES
First	No Room	W4	9	44	6	40	0.91	0.67	YES
First	No Room	W5	12	46	8	42	0.91	0.67	YES
First	No Room	W6	12	45	8	41	0.91	0.67	YES
Second	No Room	W1	14	55	14	55	1	1	YES

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Second	No Room	W2	14	55	13	54	0.98	0.93	YES
Second	No Room	W3	16	55	16	55	1	1	YES
Second	No Room	W4	14	50	14	50	1	1	YES
Second	No Room	W5	16	52	16	52	1	1	YES
Second	No Room	W6	15	52	15	52	1	1	YES
				157 Kings	s Cross Ro	ad			
First	No Room	W1	1	17	1	17	1	1	YES
First	No Room	W2	2	39	2	28	0.72	1	YES
Second	No Room	W1	10	52	10	52	1	1	YES
Second	No Room	W2	3	44	3	40	0.91	1	YES
				155 Kings	S Cross Ro	ad			
First	No Room	W1	0	15	0	15	1	0	YES
First	No Room	W2	2	35	2	31	0.89	1	YES
Second	No Room	W1	7	51	7	51	1	1	YES
Second	No Room	W2	2	44	2	42	0.95	1	YES
				153 Kings	Cross Ro	ad	-		
First	No Room	W1	7	28	7	28	1	1	YES
First	No Room	W2	5	40	5	39	0.98	1	YES
First	No Room	W3	4	41	4	40	0.98	1	YES
Second	No Room	W1	7	47	7	47	1	1	YES
				151 Kings	Cross Ro	ad			
First	No Room	W1	11	38	11	38	1	1	YES
First	No Room	W2	10	37	10	35	0.95	1	YES
Second	No Room	W1	11	45	11	45	1	1	YES
Second	No Room	W2	10	43	10	43	1	1	YES
				149 Kings	Cross Ro	ad	-		
First	No Room	W1	13	39	13	39	1	1	YES
First	No Room	W2	12	36	12	36	1	1	YES
Second	No Room	W1	16	47	16	47	1	1	YES
Second	No Room	W2	14	42	14	42	1	1	YES
				49 To 72 W	/icklow Str	reet	-		
Ground	No Room	W5	0	1	0	1	1	0	YES
First	No Room	W5	0	1	0	1	1	0	YES
Second	No Room	W5	0	1	0	1	1	0	YES
	<u> </u>			73 To 96 W	/icklow Str	reet	-		
Ground	No Room	W6	0	0	0	0	0	0	YES
Ground	No Room	W9	0	0	0	0	0	0	YES
Ground	No Room	W12	0	0	0	0	0	0	YES
First	No Room	W6	0	0	0	0	0	0	YES
First	No Room	W9	0	0	0	0	0	0	YES
First	No Room	W12	0	1	0	1	1	0	YES
Second	No Room	W6	0	0	0	0	0	0	YES
Second	No Room	W9	0	0	0	0	0	0	YES
Second	No Room	W12	0	1	0	1	1	0	YES



Appendix F

Overshadowing Study





Area of loss/gain

Amenity area



SOURCES OF INFORMATION

- 24 Proposed Section D-D 25 Proposed Section D-D 25 Proposed Section E-E

Received 09 November 201

Rev. Initial MALCOLM HOLLIS SHALL BE INFORMED IN V DISCREPANCIES. ALL DIMENSIONS ARE IN MILLIMETERS ONLY RMED IN WRIT

TITLE

Existing & Proposed 2hr Sun Contours March 21st

CLIENT

Marek Wojclechowski Architects

PROJECT

Rear of 159 - 163 Kings Cross Road, London,

WC1X 9BN

DRAWN BY	CHECKED
SM	SL
SCALE	DATE
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Proposed area receiving over 2 hours of Sun

Area of loss/gain

Amenity area

A1

SOURCES OF INFORMATION:
MWA ARCHITECTS
P_01 Proposed Ground Roor Pla

Received 09 November 20

Rev. nitiai MALCOLM HOLLIS SHALL BE INFORMED IN V DISCREPANCIES. ALL DIMENSIONS ARE IN MILLIMETERS ONLY MED IN WR

TITLE

Existing & Proposed 2hr Sun Contours June 21st

CLIENT

Marek Wojclechowski Architects

PROJECT

Rear of 159 - 163 Kings Cross Road, London,

WC1X 9BN

DRAWN BY	CHECKED
SM	SL
SCALE	DATE
NTS@A3	November 2016
NIJEAJ	November 2010

malcolm holits

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Floor Ref.	Amenity Ref.		Amenity Area	Lit Area Existing	Lit Area Proposed	Pr/Ex	Meets BRE Criteria		
5 Britannia Street									
First	A1	Area m2 Percentage	25.92	12.45 48%	2.42 9%	0.19	NO		
3 Britannia Street									
First	A1	Area m2 Percentage	14.5	10.91 75%	7.5 52%	0.69	YES		



Floor Ref.	Amenity Ref.		Amenity Area	Lit Area Existing	Lit Area Proposed	Pr/Ex	Meets BRE Criteria		
5 Britannia Street									
First	A1	Area m2	25.92	19.31	16.68	0.86	YES		
		Percentage		74%	64%				
3 Britannia Street									
First	Δ1	Area m2	14.5	12.99	14.08	1 08	YES		
		Percentage		90%	97%	1.00			

