

DAYLIGHT & SUNLIGHT

6-8 Market Place, Reading

Produced by XCO₂ for Market Place Reading Limited

June 2020



XCO2
56 Kingsway Place, Sans Walk
London EC1R 0LU

+44 (0)20 7700 1000
mail@xco2.com
xco2.com



CONTENTS

EXECUTIVE SUMMARY 5

INTRODUCTION7

METHODOLOGY10

DAYLIGHT ASSESSMENT12

SUNLIGHT ASSESSMENT14

CONCLUSION.....15

APPENDIX A – WINDOWS AND ROOMS REFERENCE A

APPENDIX B - DETAILED DAYLIGHT RESULTS..... B

Remarks	Draft	Issue	Rev A				
Prepared by	GL	GL	GL				
Checked by	KM	KM	KM				
Authorised by	RM	RM	RM				
Date	12/06/2020	16/06/2020	25/06/2020				
Project reference	9.553	9.553	9.553				

EXECUTIVE SUMMARY

The daylight and sunlight analysis indicate that there will not be a significant impact on surrounding properties arising from the proposed development at 6-8 Market Place, Reading.

Daylight and Sunlight analysis was carried out for the proposed development at 6-8 Market Place, Reading, located in Reading town centre. This report outlines the results of the analysis for the planning application, assessing the daylight and sunlight impacts upon the relevant surrounding properties.

The methodology set out in this report is in accordance with BRE's "Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice" by PJ Littlefair (2011) which is accepted as good practice by Planning Authorities.

The following assessments were carried out:

- Daylight: Vertical Sky Component
- Daylight: No Sky Line
- Daylight: Average Daylight Factor

Computer modelling software was used to carry out the assessments. The model used was based on drawings and a 3D model provided by the design team together with desktop research on neighbouring properties.

The vast majority of the surrounding properties are of commercial use and not sensitive for daylight and sunlight impacts assessment. The recently consented 1-9 King's Rd development (Jackson's Corner residential scheme) is the only neighbouring building considered relevant for this analysis. The sensitive residential windows serving flats within 7-8 Market Place meet the 25 degree plane criteria and therefore are unlikely to be affected by the proposed development.

Table 1: Daylight results summary for 1-9 King's Rd development

Number of windows tested	35
Number of windows with a VSC of at least 0.8 of existing value	18
Number of windows that belong to rooms meeting the NSL test	32

DAYLIGHT ASSESSMENT

A total of 35 windows serving 18 rooms were highlighted as being in close proximity to, and facing the proposed development.

18 of these 35 windows will retain levels of VSC of at least 0.8 of its former value and thus the effects of the proposal are considered acceptable. A further 14 windows serve rooms with a sky visibility (NSL) of at least 0.8 its existing value. Table 2 below summarises these findings. Detailed results are presented in the Appendix A.

As recommended by BRE, an Average Daylight Factor (ADF) assessment has been undertaken given the new-build nature of the consented 1-9 King's RD scheme. The results show that only 6 out of the 18 tested rooms will experience a reduction on the levels of internal daylight. However, all but one of these rooms will still have acceptable levels of sky visibility (NSL) and the retain ADF levels which are in line with those observed within rooms located in other areas of this residential building.

The results are summarised in Table 1 below and are provided in detail in the next sections of this report.

Overall, the proposed development is anticipated to have a minor impact on the daylight levels to be experienced by this neighbouring property.

DAYLIGHT & SUNLIGHT

Number of rooms tested	18
Number of rooms with a NSL of at least 0.8 of existing value	15
Number of rooms with an ADF that meet BRE criteria in the proposed scenario	12
Number of rooms that do not meet any of the above criteria	1

SUNLIGHT ASSESSMENT

This assessment has not been carried out as the proposal is located to the north of the 1-9 King's Rd development and therefore no relevant south facing windows have been identified.

OVERSHADOWING ASSESSMENT

This assessment has not been carried out as there are no open areas of communal amenity in close proximity to the development site likely to be affected by the additional proposed massing.

INTRODUCTION

The site is located in urban environment and the interpretation of the results requires careful consideration of the BRE guidance.

This report assesses the daylight and sunlight impacts the proposed new build commercial development may have on the existing properties surrounding the site.

The approach is based on the BRE's "*Site Layout Planning for daylight and sunlight, a Guide to good practice*" PJ Littlefair 2011, which is generally accepted as good practice by Town and Country Planning authorities.

It should be noted that although the numerical values stated by the BRE provide useful guidance to designers, consultants and planning officials, these are purely advisory and may vary depending on context. Dense urban areas, for example, may often experience greater site constraints when compared to low-rise suburban areas, and thus a high degree of obstruction is often unavoidable. Appendix F of the BRE document is dedicated to the use of alternative values and it also demonstrates the manner in which the criteria for skylight was determined for the summary given above, i.e. the need for 27% vertical sky component for adequate daylighting.

This figure of 27% was achieved using the following methodology: a theoretical road was created with two storey terraced houses upon either side, approximately twelve metres apart. The houses have windows at ground and first floor level, and a pitched roof with a central ridge. Thereafter, a reference point was taken at the centre of a ground floor window of one of the properties and a line was drawn from this point to the central ridge of the property on the other side of the road.

The angle of this line equated to 25 degrees (the 25 degrees referred to in the summaries given with reference to the criteria for skylight). This 25-degree line obstructs 13% of the totally unobstructed sky available, leaving a resultant figure of 27% which is deemed to give adequate daylighting. This figure of 27% is the recommended criteria referred to in this report. It will be readily appreciated that in an urban

area, this kind of urban form and setting is unlikely and impractical.

Furthermore, the BRE guidance also focuses on 'relative change' which is likely to be exaggerated given the low rise nature of the existing structures on site. Where there is more than a 20% reduction in VSC, this does not mean that the level of daylight will be unacceptable but, rather, that there may be a noticeable change in daylight levels to the occupants.

Therefore, given the location of the proposed development, with the immediate neighbouring buildings, it is important to take into account that daylight and sunlight losses are inevitable and that many other planning matters should be considered when balancing the effects of the proposed scheme.

SITE

The site is located between Market Place and Abbey Square (See Figure 4 below) in Reading town centre and is allocated for office development in the recent adopted local Plan (Policy CR14e).

The proposal consists of internal and external refurbishment works to existing retained office building, including alterations to building frontage on Market Place and Abbey Square. Erection of side wing and 2 storey extension to increase B1(a) office provision (totalling 10,921 sqm GEA) with associated works, including infilling at ground floor, and servicing arrangements from Abbey Square. Retention of existing ground floor retail units on Market Place.

Site analysis was carried out to identify any potential daylight and sunlight impacts on the surrounding

properties. The relevant residential properties tested in this report are annotated in the figure below.

The vast majority of the surrounding properties are of commercial use and not sensitive for daylight and sunlight impacts assessment. The recently consented 1-9 King's Rd development (Jackson's Corner residential scheme) is the only neighbouring building considered relevant for this assessment. The sensitive residential windows serving flats within 7-8 Market Place meet the BRE 25 degree plane criteria and therefore are unlikely to be affected by the proposed development.

The existing and proposed contexts are presented in Figures 2 and 3.



Figure 1: Site location and neighbouring buildings assessed

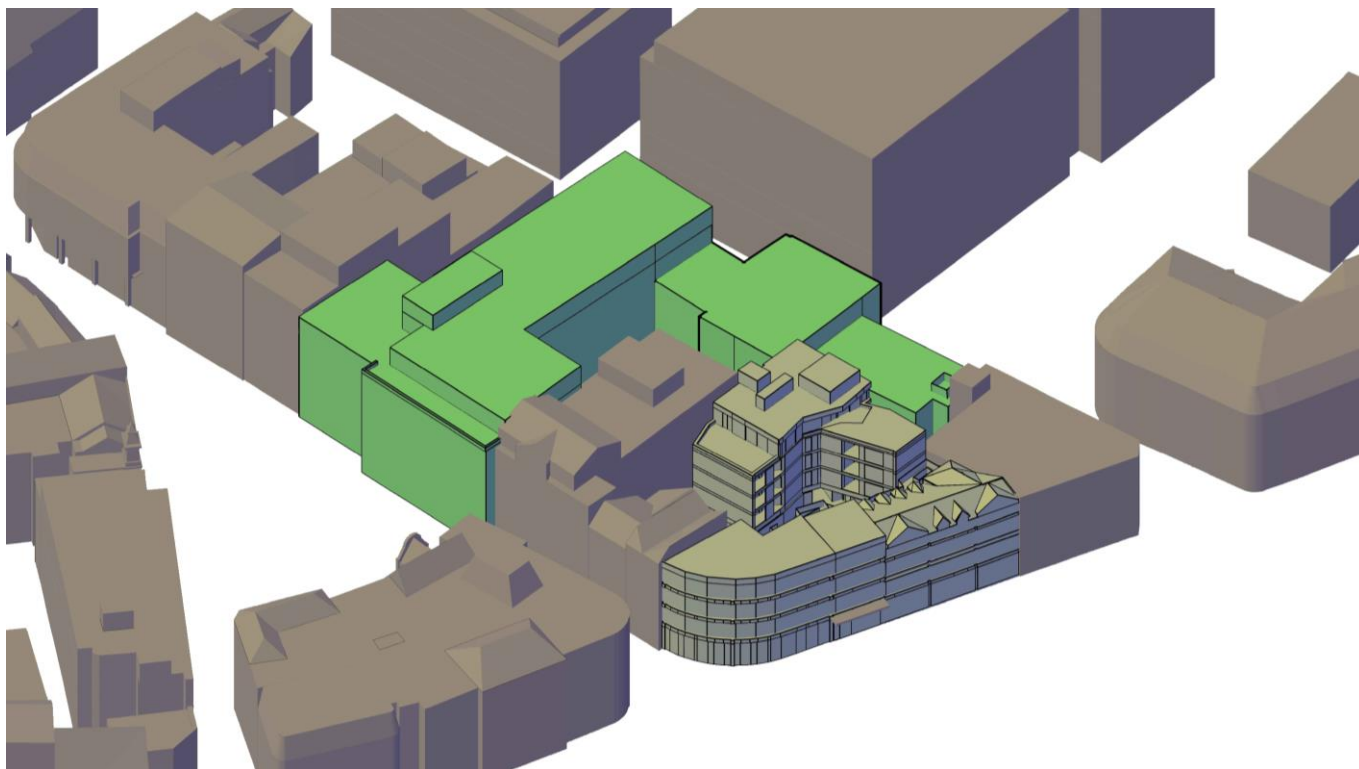


Figure 2: Existing Context - Baseline

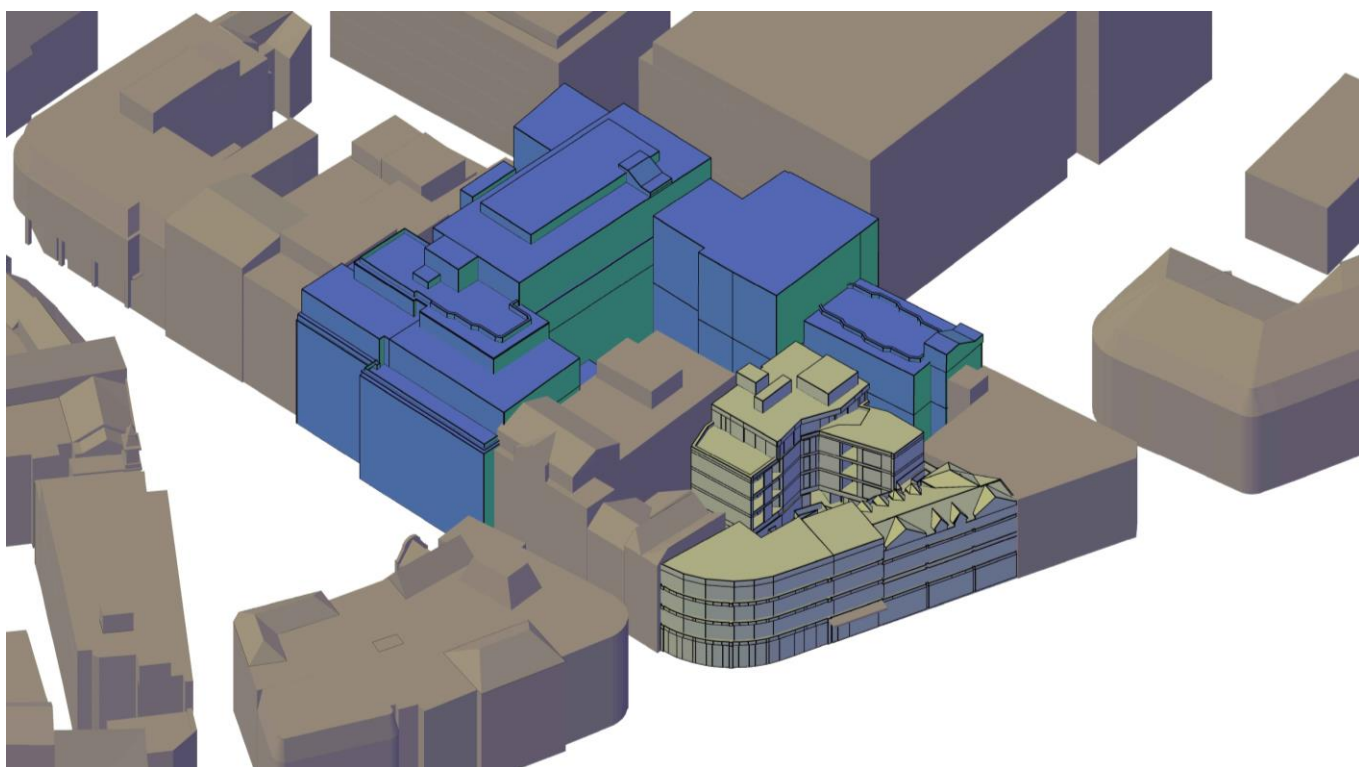


Figure 3: Proposed Massing

METHODOLOGY

The assessment is based on guidelines set out in the BRE “Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice” (2011).

DAYLIGHT

DAYLIGHT TO SURROUNDING WINDOWS

A plane is drawn at 25 degrees from the horizontal, at the centre of an existing window. If the new development intersects with this plane, the internal daylight levels of the surrounding windows may be reduced. When an obstruction of the 25-degree plane occurs, a more detailed assessment involving the Vertical Sky Component of the affected window would need to be carried out.

VERTICAL SKY COMPONENT (VSC)

The Vertical Sky Component is the ratio of the direct sky illuminance falling on the vertical wall at a reference point, to the simultaneous horizontal illuminance under an unobstructed sky. To maintain good levels of daylight, the Vertical Sky Component of a window needs to be 27% or greater. If the VSC is less than 27%, then a comparison of existing and proposed levels of VSC level would need to be calculated.

Good levels of daylighting can still be achieved if VSC levels are within 0.8 of their former value.

VIEW OF THE SKY (NSL)

The NSL criteria is a measure of the distribution of daylight at the working plane within a room. The ‘working plane’ means a horizontal ‘desktop’ plane 0.85m in height for residential properties. The NSL divides those areas of the working plane which can receive direct sky light from those which cannot.

A reduction of 0.8 times in the area of sky visibility at the working plane may be deemed to be noticeable.

AVERAGE DAYLIGHT FACTOR (ADF)

BRE suggests that the Average Daylight Factor (ADF) calculation should be used “to check that adequate daylight is provided within new rooms”. The ADF is a measure of internal daylight indicating the ratio of inside illuminance to the outside illuminance expressed as a percentage. BS8206-2 Code of Practice for Daylighting recommends different average daylight factors for different habitable spaces. These are as follows:

- 1% for bedrooms
- 1.5% for living rooms and
- 2% for kitchens, or rooms with kitchens

SUNLIGHT

ACCESS TO SUNLIGHT (APSH)

The BRE test relates mainly to existing living room windows, although care should be taken to ensure that kitchens and bedrooms receive reasonable amounts of sunlight. Annual Probable Sunlight Hour (APSH) assessment is carried out when there is an obstruction within the 25-degree line and the window is facing within 90 degrees due south. The APSH assessment states that the existing living room window should receive at least:

- 25% of annual probable sunlight hours (APSH) throughout the year;
- 5% of annual probable sunlight hours during the winter months;
- not less than 80% of its former sunlight hours during either period;
- not more than a 4% reduction in sunlight received over the whole year (APSH).

The term ‘annual probable sunlight hours’ refers to the long-term average of the total of hours during a year in

DAYLIGHT & SUNLIGHT

which direct sunlight reaches the unobstructed ground (when clouds are taken into account). The 'winter probable sunlight hours' is used to mean the same but only for the winter period (21 September – 21 March).

OVERSHADOWING

SUNLIGHT TO AMENITY SPACES

Open spaces should retain a reasonable amount of sunlight throughout the year. The BRE states that for an amenity space to “appear adequately sunlit throughout the year, at least half of the area should receive at least 2 hours of sunlight on 21 March”. Where this is not achieved, the difference between the area achieving 2 hours of sun on 21 March should be no less than 0.8 times its former value.

DAYLIGHT ASSESSMENT

The analysis indicates that the proposed development is unlikely to have a significant impact on neighbouring windows in terms of daylight. The following subsections detail the findings for the relevant neighbouring building.

1-9 KING’S ROAD – JACKSON’S CORNER

This building is located to the south-west of the proposed development and has recently been given planning consent. It comprises the redevelopment of listed properties along 1-9 King’s Rd, as well a new 5 storeys block between these existing buildings and the Market Place Site (Figure 4). Figure 5 shows the assessed windows which directly face the Market Place development site.

The detailed drawings for this property have been obtained from Reading planning portal, therefore all internal layouts, fenestration and room uses are known.

Given this development is still under construction BRE contemplates (Appendix F) the use of ADF metric to appraise the retained daylight levels within the habitable rooms, and whether those are in line with BRE guidance for new residential buildings. The VSC methodology have also been assessed but should be given a lower consideration when assessing the impacts of the proposal due to the currently unoccupied character of this building.

A total of 35 windows serving 18 rooms were assessed. 18 windows will retain levels of VSC of at least 0.8 of its former value and thus the effects of the proposal are considered acceptable. A further 14 windows serve rooms with a sky visibility (NSL) of at least 0.8 its existing value and therefore the effects on the daylight levels are considered acceptable for 32 out of the 35 tested windows. Table 2 below summarises these

findings. Detailed results are presented in the Appendix A.



Figure 4: 1-9 King’s Rd development



Figure 5: North-East elevations and assessed windows

Table 2: Daylight results summary for 1-9 King’s Rd development

Number of windows tested	35
Number of windows with a VSC of at least 0.8 of existing value	18
Number of windows that belong to rooms meeting the NSL test	32

Number of rooms tested	18
Number of rooms with a NSL of at least 0.8 of existing value	15
Number of rooms with an ADF that meet BRE criteria in the proposed scenario	12
Number of rooms that do not meet any of the above criteria	1

In relation to the daylight levels within the habitable rooms, the NSL criteria is met for all but 3 rooms and the effects on the ADF levels are considered acceptable for 12 out of the 18 tested rooms.

Therefore, only 6 rooms are considered to experience daylight losses (ADF and/or NSL) beyond the levels suggested by BRE. These rooms and assessment data are listed in Table 3 below.

These rooms are located on the second, third and fourth floors and directly face the development site. Appendix B includes window maps and showing the rooms and windows reference.

The assessments data show that for all but 1 on these rooms, the sky visibility effects are within the BRE guidance (reduction below 20%). The only room where daylight losses are considered relevant is a bedroom located on the second floor (R3).

In addition to an assessment of the sensitive habitable rooms within this portion of the 1-9 King's Rd development, XCO2 has also carried out daylight assessments for the rooms not facing the development site. This is aimed to understand whether the levels of light left with the proposal in place are in line with those seen across other areas of the 1-9 King's Rd development. The results included in Appendix A show that the daylight levels within the habitable rooms facing the courtyard within the 1-9 King's Rd development are similar to those observed within the 6 rooms facing the development site and falling short of the ADF guidance for bedrooms and L/K/Ds.

Overall, we therefore consider that the effects of the proposed Market Place development upon 1-9 King's Rd consented scheme is minimal and considered acceptable.

Table 3: Daylight results summary for the affected rooms within 1-9 King's Rd development

Floor	Room no.	Room use	Window no.	VSC test			NSL test			ADF test		
				Proposed VSC (%)	Existing VSC (%)	Relative VSC loss >0.8?	Proposed NSL (%)	Existing NSL (%)	Relative NSL loss >0.8?	Proposed NSL (%)	Existing NSL (%)	Absolute loss
Second	R1	L/K/D	W1	1.5	3.9	0.4	60.5	66.1	0.9	0.6	1.0	0.4
			W2	0.1	3.6	0.0						
			W16	8.4	15.1	0.6						
Second	R2	Bedroom	W3	0.0	3.0	0.0	65.0	81.9	0.8	0.6	1.1	0.5
			W4	0.0	2.7	0.0						
			W5	8.6	8.7	1.0						
Second	R3	Bedroom	W6	11.0	22.4	0.5	26.0	84.0	0.3	0.8	1.3	0.4
Third	R1	L/K/D	W1	3.1	5.4	0.6	70.5	89.2	0.8	0.8	1.2	0.5
			W2	0.2	6.2	0.0						
			W16	11.8	23.0	0.5						
Third	R2	Bedroom	W3	0.1	5.2	0.0	81.1	88.0	0.9	0.7	1.4	0.7
			W4	0.6	3.5	0.2						
			W5	12.2	12.3	1.0						
Fourth	R1	L/K/D	W1	4.8	6.3	0.8	77.1	94.5	0.8	1.0	1.4	0.4
			W2	2.9	7.0	0.4						
			W16	15.6	29.8	0.5						

SUNLIGHT ASSESSMENT

This assessment has not been carried out as the proposal is located to the north of the 1-9 King's Rd development and therefore no relevant south facing windows have been identified.

OVERSHADOWING ASSESSMENT

This assessment has not been carried out as there are no open areas of communal amenity in close proximity to the development site likely to be affected by the additional proposed massing

CONCLUSION

The daylight, sunlight and overshadowing analysis indicates that there will not be a significant impact on surrounding properties arising from the proposed development at 6-8 Market Place, Reading.

DAYLIGHT ASSESSMENT

A total of 35 windows serving 18 rooms were highlighted as being in close proximity to, and facing the proposed development.

18 of these 35 windows will retain levels of VSC of at least 0.8 of its former value and thus the effects of the proposal are considered acceptable. A further 14 windows serve rooms with a sky visibility (NSL) of at least 0.8 its existing value. Table 2 below summarises these findings. Detailed results are presented in the Appendix A.

As recommended by BRE, an Average Daylight Factor (ADF) assessment has been undertaken given the new building nature of the consented 1-9 King's RD scheme. The results show that only 6 out of the 18 tested rooms will experience a significant reduction on the levels of internal daylight. However, all but one of these rooms will still have acceptable levels of sky visibility (NSL) and the retained ADF levels are in line with those observed within rooms located in other areas of the 1-9 King's RD scheme.

Overall, the proposed development is anticipated to have a minor impact on the daylight levels received by this neighbouring property. The vast majority of the windows and rooms seeing a reduction in daylight will still retain levels of light commensurate with those

experienced in such a constrained site and therefore, these effects are considered acceptable.

In summary,

- 18 windows achieved relative VSCs over 0.8 of their former values
- 14 of the remaining 17 windows were found to meet the no skyline test;
- 12 rooms meet BRE criteria for ADF
- Only 1 bedroom is considered to be materially affected by the proposed development

SUNLIGHT ASSESSMENT

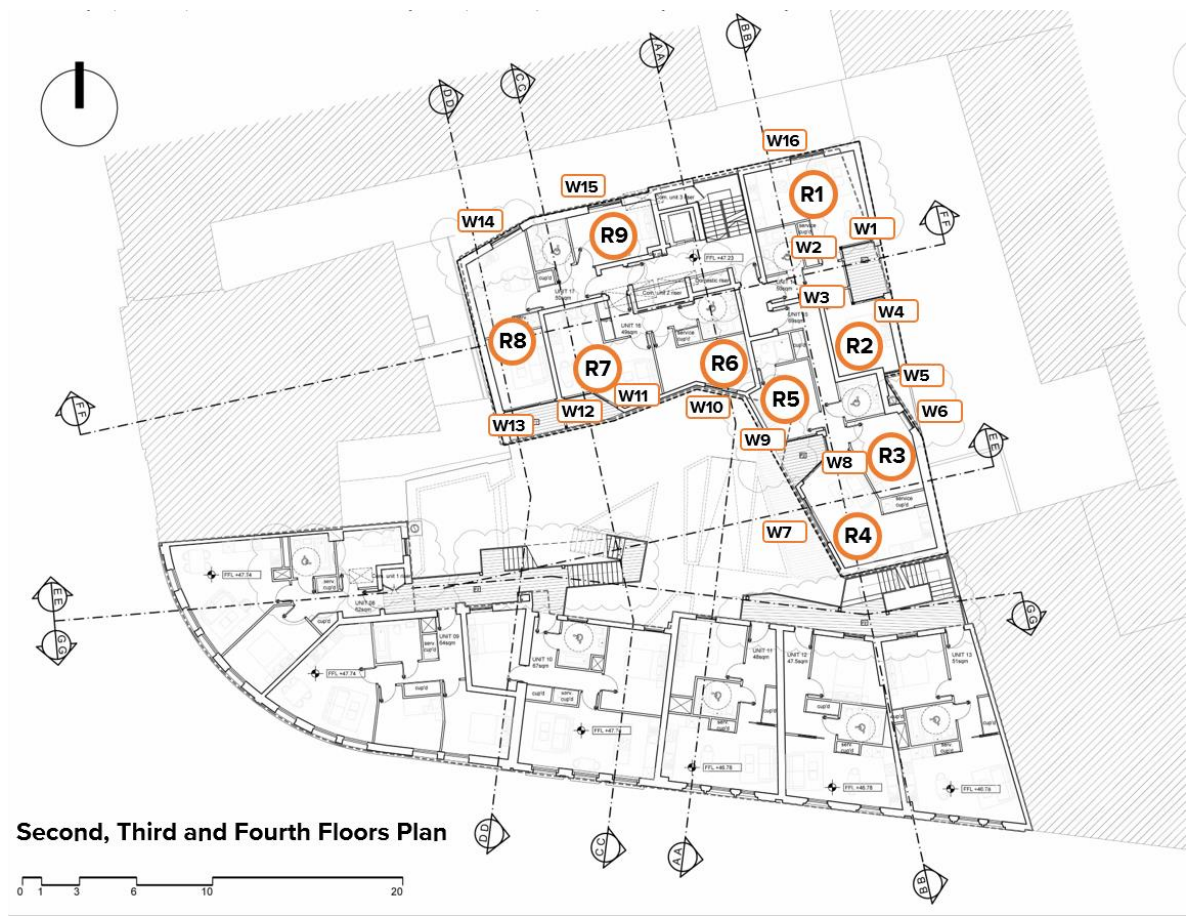
This assessment has not been carried out as the proposal is located to the north of the 1-9 King's Rd development and therefore no relevant south facing windows have been identified.

OVERSHADOWING ASSESSMENT

This assessment has not been carried out as there are no open areas of communal amenity in close proximity to the development site likely to be affected by the additional proposed massing.

APPENDIX A – WINDOWS AND ROOMS REFERENCE







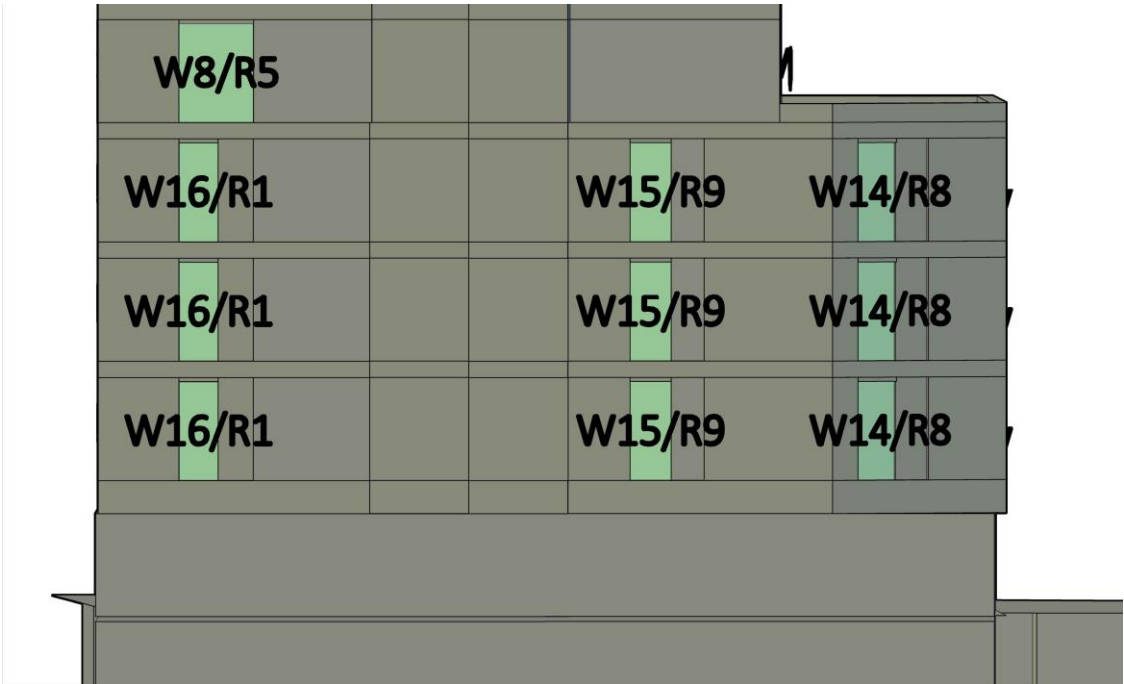


Figure 6: Window map - North elevation



Figure 7: Window map – North and East elevations



Figure 8: Window map – East and South elevations



Figure 9: Window map – West elevations – Courtyard view

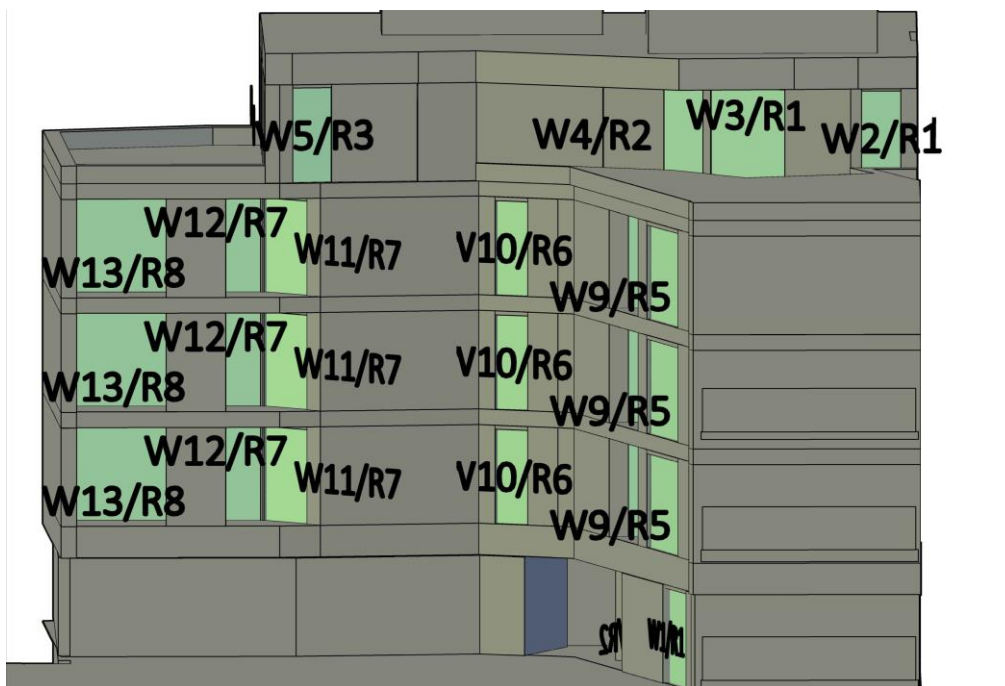


Figure 10: Window map – South elevation – Courtyard view

APPENDIX B - DETAILED DAYLIGHT RESULTS

Building	Floor	Room no.	Room use	Window no.	VSC test			NSL test			ADF test		
					Proposed VSC (%)	Existing VSC (%)	Relative VSC >0.8?	Proposed NSL (%)	Existing NSL (%)	Relative NSL >0.8?	Proposed NSL (%)	Existing NSL (%)	Absolute reduction
1-9 Kings Rd	First	R1	L/K/D	W1	9.9	9.9	1.0	38.6	38.6	1.0	0.9	0.9	0.0
1-9 Kings Rd	First	R2	Bedroom	W2	3.3	3.3	1.0	23.2	23.2	1.0	0.2	0.2	0.0
1-9 Kings Rd	Second	R1	L/K/D	W1	1.5	3.9	0.4	60.5	66.1	0.9	0.6	1.0	0.4
				W2	0.1	3.6	0.0						
				W16	8.4	15.1	0.6						
1-9 Kings Rd	Second	R2	Bedroom	W3	0.0	3.0	0.0	65.0	81.9	0.8	0.6	1.1	0.5
				W4	0.0	2.7	0.0						
				W5	8.6	8.7	1.0						
1-9 Kings Rd	Second	R3	Bedroom	W6	11.0	22.4	0.5	26.0	84.0	0.3	0.8	1.3	0.4
1-9 Kings Rd	Second	R4	L/K/D	W7	19.5	19.5	1.0	95.7	95.7	1.0	2.1	2.1	0.0
				W8	3.7	3.7	1.0						
1-9 Kings Rd	Second	R5	Bedroom	W9	3.4	3.4	1.0	58.6	58.6	1.0	0.6	0.6	0.0
1-9 Kings Rd	Second	R6	Bedroom	W10	22.0	22.0	1.0	65.4	65.4	1.0	1.1	1.1	0.0
1-9 Kings Rd	Second	R7	L/K/D	W11	9.1	9.1	1.0	78.7	78.7	1.0	0.9	0.9	0.0
				W12	5.0	5.0	1.0						
1-9 Kings Rd	Second	R8	L/K/D	W13	3.9	3.9	1.0	30.5	30.5	1.0	0.7	0.7	0.0
				W14	6.6	6.6	1.0						
1-9 Kings Rd	Second	R9	Bedroom	W15	4.9	5.9	0.8	13.1	24.6	0.5	0.5	0.6	0.1
1-9 Kings Rd	Third	R1	L/K/D	W1	3.1	5.4	0.6	70.5	89.2	0.8	0.8	1.2	0.5
				W2	0.2	6.2	0.0						
				W16	11.8	23.0	0.5						
1-9 Kings Rd	Third	R2	Bedroom	W3	0.1	5.2	0.0	81.1	88.0	0.9	0.7	1.4	0.7

DAYLIGHT & SUNLIGHT

Building	Floor	Room no.	Room use	Window no.	VSC test			NSL test			ADF test		
					Proposed VSC (%)	Existing VSC (%)	Relative VSC >0.8?	Proposed NSL (%)	Existing NSL (%)	Relative NSL >0.8?	Proposed NSL (%)	Existing NSL (%)	Absolute reduction
				W4	0.6	3.5	0.2						
				W5	12.2	12.3	1.0						
1-9 Kings Rd	Third	R3	Bedroom	W6	16.8	27.5	0.6	45.1	89.1	0.5	1.1	1.4	0.4
1-9 Kings Rd	Third	R4	L/K/D	W7	29.6	29.6	1.0	98.3	98.3	1.0			
				W8	5.0	5.0	1.0						
1-9 Kings Rd	Third	R5	Bedroom	W9	6.4	6.4	1.0	82.6	82.6	1.0	1.0	1.0	0.0
1-9 Kings Rd	Third	R6	Bedroom	W10	27.7	27.7	1.0	67.9	67.9	1.0	1.3	1.3	0.0
1-9 Kings Rd	Third	R7	L/K/D	W11	14.2	14.2	1.0	95.2	95.2	1.0	1.3	1.3	0.0
				W12	8.7	8.7	1.0						
1-9 Kings Rd	Third	R8	L/K/D	W13	9.0	9.0	1.0	78.4	78.6	1.0	1.3	1.3	0.0
				W14	12.6	12.6	1.0						
1-9 Kings Rd	Third	R9	Bedroom	W15	10.5	11.5	0.9	40.5	48.9	0.8	0.8	0.8	0.0
1-9 Kings Rd	Fourth	R1	L/K/D	W1	4.8	6.3	0.8	77.1	94.5	0.8	1.0	1.4	0.4
				W2	2.9	7.0	0.4						
				W16	15.6	29.8	0.5						
1-9 Kings Rd	Fourth	R2	Bedroom	W3	2.6	5.9	0.4	86.7	98.2	0.9	1.2	1.6	0.3
				W4	1.7	4.1	0.4						
				W5	14.5	14.7	1.0						
1-9 Kings Rd	Fourth	R3	Bedroom	W6	23.4	30.2	0.8	76.2	89.2	0.9	1.3	1.5	0.2
1-9 Kings Rd	Fourth	R4	L/K/D	W7	36.4	36.4	1.0	99.2	99.2	1.0	3.3	3.3	0.0
				W8	6.7	6.7	1.0						
1-9 Kings Rd	Fourth	R5	Bedroom	W9	9.1	9.1	1.0	82.9	82.9	1.0	1.2	1.2	0.0
1-9 Kings Rd	Fourth	R6	Bedroom	W10	33.4	33.4	1.0	76.7	76.7	1.0	1.4	1.4	0.0
1-9 Kings Rd	Fourth	R7	L/K/D	W11	18.9	18.9	1.0	97.4	97.4	1.0	1.5	1.5	0.0
				W12	12.0	12.0	1.0						
1-9 Kings Rd	Fourth	R8	L/K/D	W13	13.9	13.9	1.0	94.7	97.0	1.0	1.7	1.7	0.0

DAYLIGHT & SUNLIGHT

Building	Floor	Room no.	Room use	Window no.	VSC test			NSL test			ADF test		
					Proposed VSC (%)	Existing VSC (%)	Relative VSC >0.8?	Proposed NSL (%)	Existing NSL (%)	Relative NSL >0.8?	Proposed NSL (%)	Existing NSL (%)	Absolute reduction
				W14	23.7	24.0	1.0						
1-9 Kings Rd	Fourth	R9	Bedroom	W15	21.2	23.5	0.9	91.2	95.6	1.0	1.2	1.3	0.1
1-9 Kings Rd	Fifth	R1	L/K/D	W1	20.4	23.2	0.9	99.7	99.7	1.0	3.0	3.1	0.1
				W2	33.3	33.3	1.0						
				W3	24.1	24.1	1.0						
1-9 Kings Rd	Fifth	R2	Bedroom	W4	22.4	22.4	1.0	95.8	96.1	1.0	0.9	0.9	0.0
1-9 Kings Rd	Fifth	R3	L/K/D	W5	37.9	38.0	1.0	100.0	100.0	1.0	3.0	3.0	0.0
				W6	37.4	37.7	1.0						
1-9 Kings Rd	Fifth	R4	Bedroom	W7	36.0	36.4	1.0	97.9	97.9	1.0	1.8	1.8	0.0
1-9 Kings Rd	Fifth	R5	Bedroom	W8	19.9	33.9	0.6	89.1	98.6	0.9	1.7	2.5	0.8

XCO2
56 Kingsway Place, Sans Walk
London EC1R 0LU

+44 (0)20 7700 1000
mail@xco2.com
xco2.com

