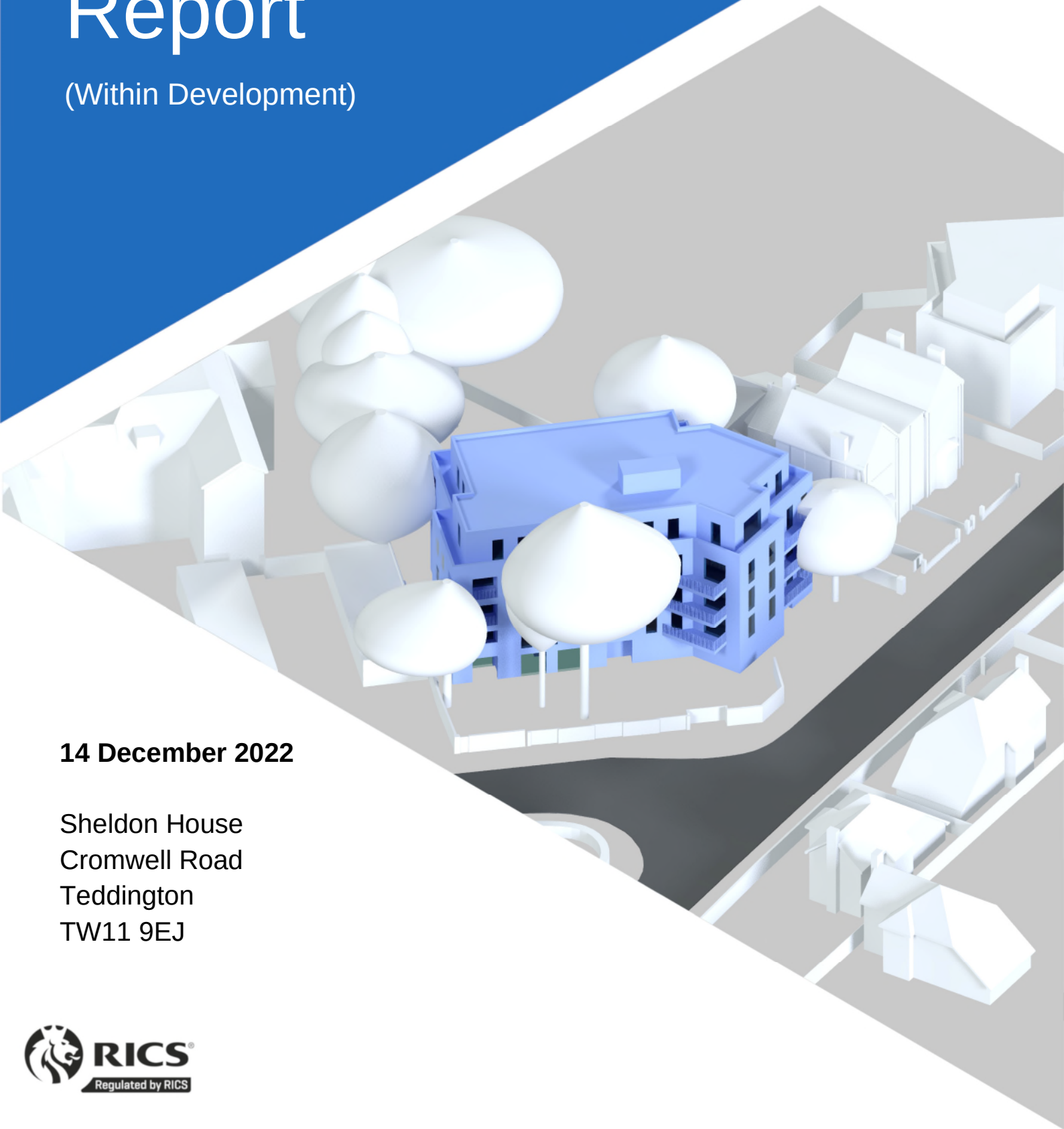
RIGHT OF LIGHT CONSULTING
Chartered Surveyors

Daylight and Sunlight Report

(Within Development)



14 December 2022

Sheldon House
Cromwell Road
Teddington
TW11 9EJ

RICS
Regulated by RICS

Right of Light Consulting

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CONTENTS

1 EXECUTIVE SUMMARY

1.1 Overview

1.1.1 Right of Light Consulting has been commissioned by Richmond Housing Partnership Limited to undertake a daylight and sunlight study in connection with the development at Sheldon House, Cromwell Road, Teddington TW11 9EJ. The aim of the study is to check whether or not the proposed Ground to Fifth Floors receive satisfactory levels of daylight and sunlight.

1.1.2 The study is based on the numerical tests laid down in the Building Research Establishment (BRE) guide 'Site Layout Planning for Daylight and Sunlight: a good practice guide, 2nd Edition' by P J Littlefair 2011.

1.1.3 Appendix 1 identifies the windows analysed in this study. The numerical test results (including all calculation workings) are provided in Appendix 2. No skyline contours are presented in Appendix 1.

1.1.4 Right of Light Consulting confirms that the proposed design achieves a high level of compliance with all of the requirements set out in the BRE guide 'Site Layout Planning for Daylight and Sunlight'. In our professional opinion, the proposed design will provide the development's future occupiers with adequate levels of natural light.

2 INFORMATION SOURCES

2.1 Documents Considered

2.1.1 This report is based on the following drawings:

Clive Chapman Architects

SH-02	Site Layout & Roof Plan	Rev -
SH-03	Site Layout & Ground Floor Plan	Rev -
SH-06	Floor Plans & Roof Plan	Rev -
SH-07	Block Elevations	Rev -

3 METHODOLOGY OF THE STUDY

3.1 Local Planning Policy

3.1.1 We understand that the Local Authority take the conventional approach of considering daylight and sunlight amenity with reference to the various numerical tests laid down in the Building Research Establishment (BRE) guide 'Site Layout Planning for Daylight and Sunlight: a guide to good practice, 2nd Edition' by P J Littlefair 2011. A new European standard BS EN 17037 'Daylight in Buildings' was published in May 2019. An update to the BRE guide to take into account the European standard is expected sometime in 2021. It is not yet clear, how and to what extent, the European recommendations will be adopted by the BRE and Local Authorities.

3.1.2 The standards set out in the BRE guide are intended to be used flexibly. The BRE guide states:

3.1.3 "The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly, since natural lighting is only one of many factors in site layout design."

3.2 National Planning Policy Framework

3.2.1 The BRE numerical guidelines should be considered in the context of the National Planning Policy Framework (NPPF), which stipulates that local planning authorities should take a flexible approach to daylight and sunlight to ensure the efficient use of land. The NPPF states:

3.2.2 "Local planning authorities should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework. In this context, 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)."

3.3 Interior Daylighting

3.3.1 The interior daylighting recommendations set out in BRE guide are based on British Standard BS 8206 Part 2 and the Chartered Institute of Building Services Engineers Applications Manual on window design. Collectively, the guides set out three main criteria for interior daylighting. These are summarised as follows:

Test 1 Average Daylight Factor *(df)*

3.3.2 The Average Daylight Factor can be calculated using the following formula:

$$df = \frac{T\ Aw\ \theta}{A\ (1-R^2)}\ \%$$

Where

T is the diffuse visible transmittance of the glazing
Aw is the net glazed area of the window (m^2)
A is the total area of the room surfaces (m^2)
R is their average reflectance
Θ is the angle of visible sky in degrees

3.3.3 The Average Daylight factor test is applied to habitable rooms within domestic properties. A kitchen is generally deemed to be a habitable room if it is large enough to accommodate a dining area. If the kitchen is small or if the property has a separate dining area then the accepted practice is to treat the kitchen as a non habitable room.

3.3.4 For the purpose of this study, we have assumed BRE internal reflectance values pertaining to medium wooden floors (Coefficient value of 0.4), light painted walls (0.8) and matte white painted ceilings (0.85).

3.3.5 For the purpose of this study, we have assumed the windows consist of modern double-glazed units with a frame to glazing ratio of 0.8. A maintenance factor has been applied to consider the effect of dirt and grime on the visibility of the window. On this basis, the transmittance value used within this study is 0.68.

3.3.6 To achieve a predominately daylit space, the guide recommends an Average Daylight Factor of 5% or more if there is no supplementary electric lighting, or 2% or more if supplementary lighting is provided. There are additional minimum recommendations for dwellings of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms.

3.3.7 The BRE guide does not give guidance on how to apply the ADF test to spaces which contain a mix of room uses e.g. open plan living, dining and kitchen areas. For this assessment we have set a target of 2% with the aim of reaching the predominately daylit benchmark.

3.3.8 A special procedure is required for floor to ceiling windows such as patio doors. If part of a window is below the height of the working plane (a horizontal plane 0.85m above the floor in housing), this portion should be treated as a separate window. The ADF for this window has an extra factor applied to it, to take account of the reduced effectiveness of low level glazing in lighting the room. A value equal to the floor reflectance may be taken for this factor. The ADF for the portion of the window above the working plane is calculated in the normal way without this additional factor, and the ADFs for the two portions are added together.

3.3.9 Where a window has a large obstruction in front of it, the angle of visible sky can be increased by around 6° assuming the obstruction is painted a light colour.

Test 2 Room Depth

3.3.10 If a daylit room is lit by windows in one wall only, the depth of the room L should not exceed the limiting value given by:

$$\frac{L}{W} + \frac{L}{H} \leq \frac{2}{1-R_b}$$

Where

W is the room width
H is the window-head height above floor level
R_b is the average reflectance of the surfaces in the rear half of the room

Test 3 Position of the no skyline

3.3.11 If a significant area of the working plane lies beyond the no skyline (i.e. it receives no direct skylight), then the distribution of daylight in the room will look poor and supplementary electric lighting will be required.

3.3.12 The no skyline assessment is not applicable where a room derives its daylight solely from a light well or atrium. In these situations, the room relies on borrowed light instead of direct skylight.

3.4 Sunlight to Windows

3.4.1 The BRE guide recommends that where possible each dwelling should have at least one main living room window that faces within 90 degrees of due south. However, the guide acknowledges that this is not always possible when it comes to flats.

3.4.2 The BRE sunlight tests should be applied to all main living rooms and conservatories which have a window which faces within 90 degrees of due south. The guide states that sunlight is viewed as less important in kitchens and bedrooms. In non-domestic buildings, any spaces which are deemed to have a specific requirement for sunlight should be checked.

3.4.3 The BRE guide recommends that main living room windows should receive 25% of the total annual probable sunlight hours, including 5% of the annual probable sunlight hours during the winter months between 21st September and 21st March.

3.5 Overshadowing to Gardens and Open Spaces

3.5.1 The availability of sunlight should be checked for all open spaces where sunlight is required. This would normally include:

- Gardens, usually the main back garden of a house
- Parks and playing fields
- Children's playgrounds
- Outdoor swimming pools and paddling pools
- Sitting out areas, such as those between non-domestic buildings and in public squares
- Focal points for views such as a group of monuments or fountains.

3.5.2 The BRE guide recommends that for an open space to appear adequately lit throughout the year, at least 50% of its area should receive two hours of sunlight on 21st March.

3.6 Trees

3.6.1 Appendix H of the BRE guide gives guidance on trees and hedges. Trees and hedges vary in their effects on skylight and sunlight. Most tree species will cast partial shade; for deciduous trees this will vary with the time of year. It is generally more difficult to calculate the effects of trees on daylight and sunlight because of their irregular shape and because some light will generally penetrate through the tree crown. Modern computer programmes do allow daylight and sunlight consultants to predict the impact of trees with a relatively high degree of accuracy.

3.6.2 To account for the effect of trees it is necessary to run the daylight and sunlight simulation twice. For example, with daylight, the first set of calculations treat the trees as solid obstructions. The second set of calculations ignores the trees altogether. The true effect of the trees is somewhere between the two sets of results. To interpolate between the two sets of results it is necessary to factor in how much light is able to pass through the trees.

3.6.3 Appendix H in the BRE guide gives approximate transparency values for various type of trees. The transparency value is a measure of how much light will pass through a tree. When analysing daylight and sunlight, we have applied the average transparency value of 20% in the summer months and 55% in the winter months i.e. 20% of the light will pass through and 80% will be blocked in the summer and 55% of light will pass through and 45% will be blocked in the winter.

3.6.4 Because there are two different values of transparency for winter and summer, there will be two different values of equivalent visible sky angle θ. These values are then used in the Average Daylight Factor (ADF) equation to give two different ADF scores for winter and summer.

3.6.5 The BRE guide notes that if the recommended values of ADF are exceeded in both summer and winter, then daylight would be considered adequate; if the recommendations are not reached in both summer and winter, then daylight would be considered inadequate. For a room where the minimum value is exceeded in winter but not in summer, daylight provision all year round is likely to be adequate, but it is clear that the trees are having some effect on daylight.

3.6.6 To assess the effect of trees on sunlight, a modified form of the above procedure is used. In the calculation, the θ is replaced by the annual probable sunlight hours (APSH) and winter probable sunlight hours (WPSH). As with the ADF, the results showing the effect of trees on APSH will lie somewhere between if the trees are treated as opaque and if they are not there at all.

3.6.7 For the overshadowing to gardens test, as per section H4 in Appendix H of the BRE guide, trees and shrubs are not normally included in the calculation because the dappled shade of a tree is more pleasant than the deep shadow of a building. However, if the trees and shrubs are dense enough, the impact they have on a garden or amenity area can be demonstrated by showing the results if the trees are treated as both opaque and if they are not there.

4 RESULTS OF THE STUDY

4.1 Window Reference Points and No Skyline Contours

4.1.1 Refer to Appendix 1 for a drawing which identifies the positions of the windows analysed in this study. The no skyline contours for the habitable rooms are also presented in Appendix 1.

4.2 Numerical Results

4.2.1 The numerical test results including all calculation workings are provided in Appendix 2.

4.3 Interior Daylighting

4.3.1 For completeness we have provided Average Daylight Factor (ADF) results for both the summer and winter months. The BRE Guide explains that providing the ADF target is met in the winter months, daylight provision all year round is likely to be adequate. In the case of the proposed development 98% of the rooms tested meet or surpass the BRE winter ADF targets. 2 out of the 120 rooms fall short of the targets (Living/Dining/Kitchens served by windows 102 and 104). As explained in paragraphs 3.3.6 and 3.3.7 of this report, whilst the BRE guide gives minimum targets for living rooms, bedrooms and kitchens, no equivalent target is given for open plan rooms comprising two or more uses. Therefore, we have adopted the more onerous 2% target for these rooms. The rooms that do not achieve an ADF of 2%, achieve an ADF of 1.6% or above. The rooms therefore achieve the minimum recommended target applicable to living rooms. In overall terms, the ADF scores represent a relatively high level of compliance with the BRE recommendations.

4.3.2 All rooms pass the room depth test.

4.3.3 The BRE guide does not give fixed numerical pass/fail criteria for the No Skyline test when applied to new dwellings (guidance is given for when this test is applied to existing neighbouring buildings). However, for completeness, we have illustrated the no skyline contours in Appendix 1. With the exception of one bedroom, the contours illustrate good access to daylight over a significant part of the working plane for all other rooms.

4.4 Sunlight to Windows

4.4.1 The BRE guide acknowledges that, in some cases, it may not be possible for every dwelling to achieve ideal levels of sunlight. The guide explains that, where groups of dwellings are planned, the aim should be to maximise the number of dwellings that:

- have at least one main window that faces within 90 degrees of due south, and
- have at least one window to a main living room that meets the BRE numerical targets.

In the case of the proposed development, 41 out of the 68 habitable rooms contain a south facing window, of which 30 meet the BRE numerical targets.

In our opinion, the proposed development represents good site layout design. Since the design maximises sunlight availability, as far as practically possible given the constraints of the site, the BRE direct sunlight to windows recommendations for groups of dwellings have been met.

4.4.2 Living rooms which face within 90 degrees of due south have been tested for direct sunlight. The results are presented in Appendix 2. Not all windows receive ideal levels of direct sunlight. However, the BRE guide acknowledges that it is not always possible for every dwelling to be well situated to receive direct sunlight.

4.5 Overshadowing to Gardens and Open Spaces

4.5.1 The results show that 83% or more of the area of each amenity space will receive at least two hours of sunlight on 21 March. This is significantly better than the BRE recommendation which states that at least 50% of any garden or amenity area should receive at least two hours of sunlight on 21 March. The proposed development therefore passes the BRE overshadowing to gardens and open spaces test.

4.6 Conclusion

4.6.1 Right of Light Consulting confirms that the proposed design achieves a high level of compliance with all of the requirements set out in the BRE guide ‘Site Layout Planning for Daylight and Sunlight’. In our professional opinion, the proposed design will provide the development’s future occupiers with adequate levels of natural light.

5 CLARIFICATIONS

5.1 General

5.1.1 The report provided is solely for the use of the client and no liability to anyone else is accepted.

5.1.2 The study is limited to assessing daylight, sunlight and overshadowing of the proposed development as set out in section 2.1, 3.1 and 3.3 of the BRE Guide.

5.1.3 The study has been undertaken following access to the proposed development site. We have not had access to neighbouring properties. The study is based on the information listed in section 2 of this report.

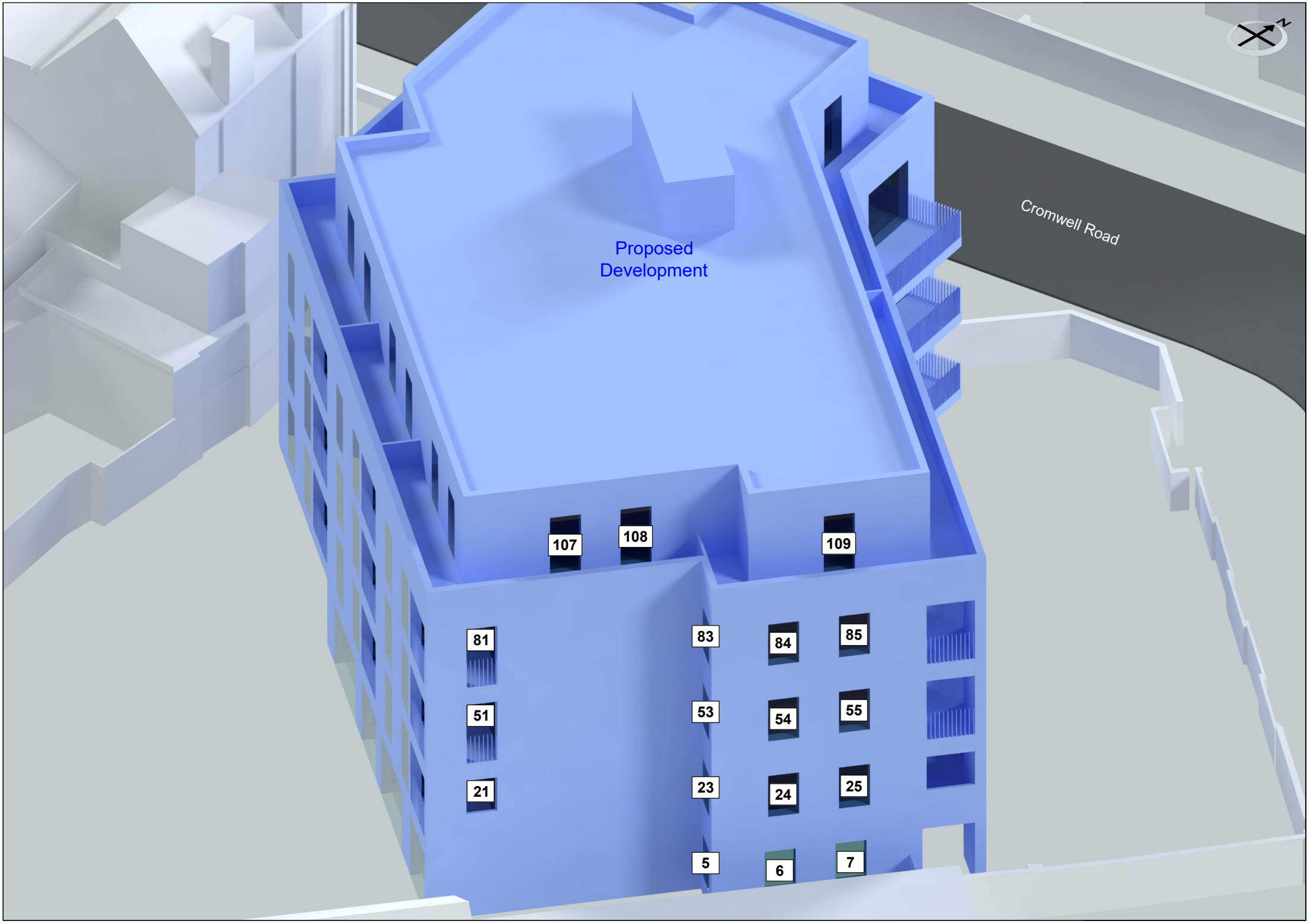
5.1.4 We have undertaken the survey following the guidelines of the RICS publication "Surveying Safely". Where limited access is available, assumptions will have been made.

5.1.5 This report is based upon and subject to the scope of work set out in Right of Light Consulting's quotation and standard terms and conditions.

APPENDICES

APPENDIX 1

WINDOW KEY & NO SKYLINE CONTOURS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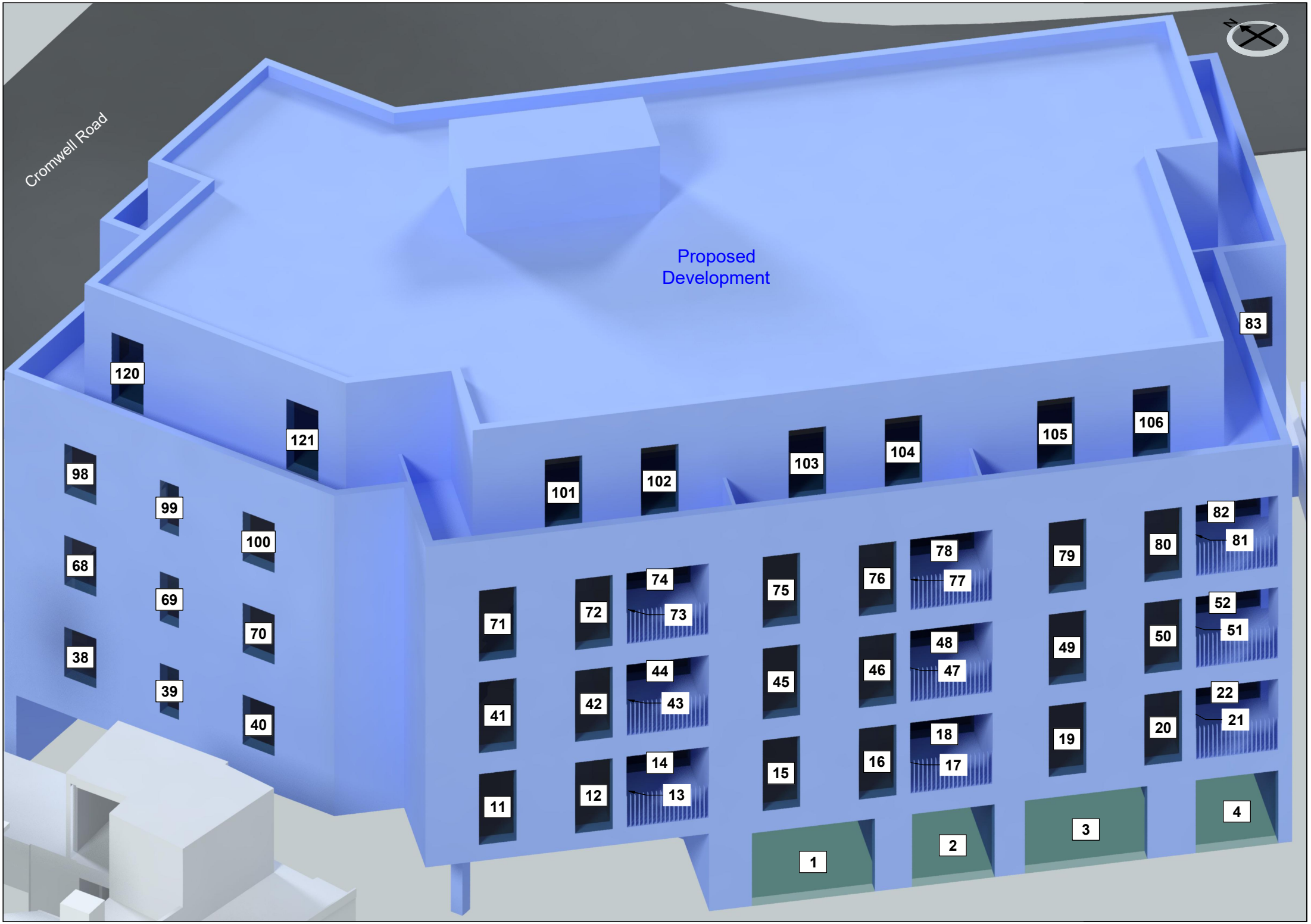
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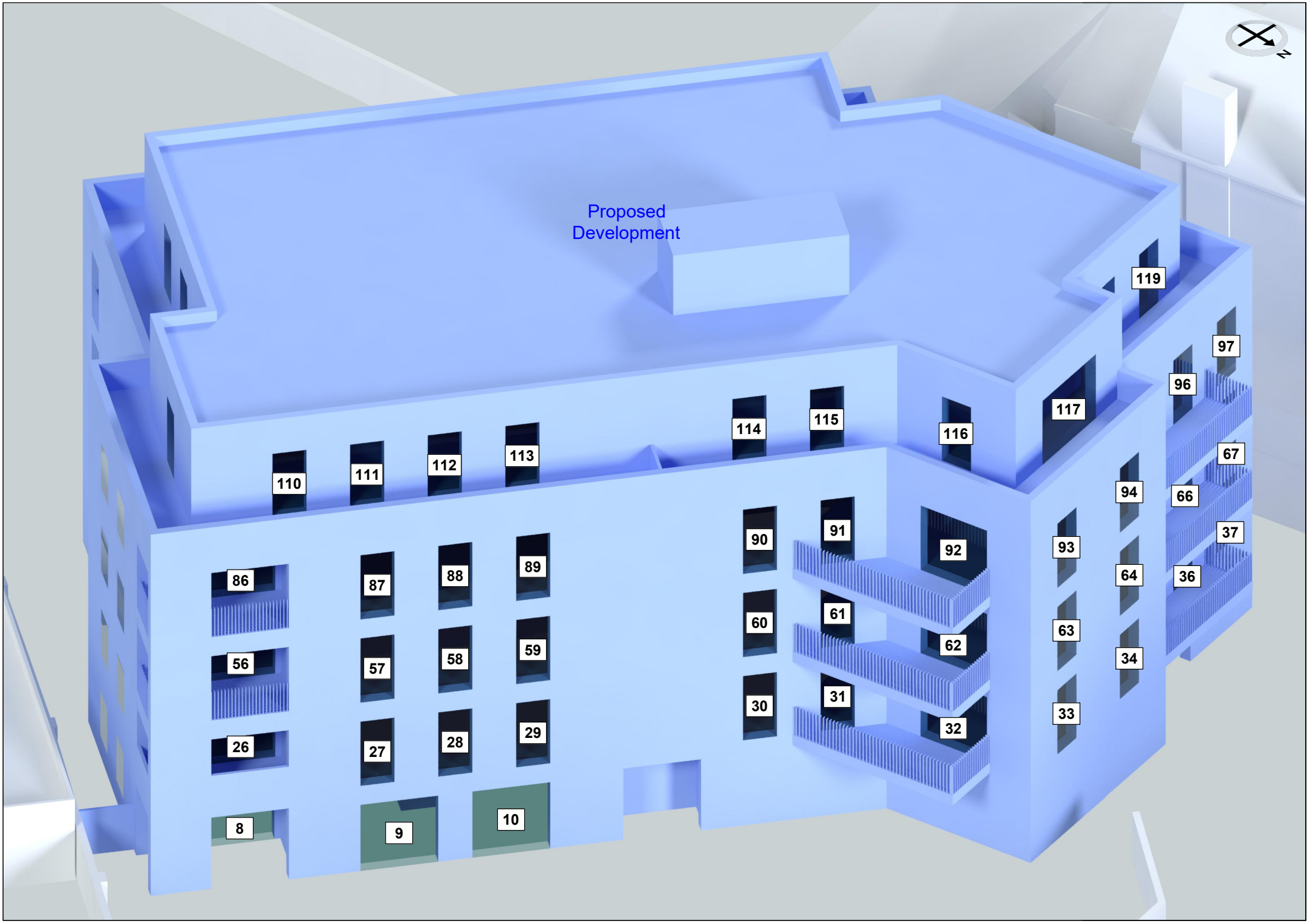
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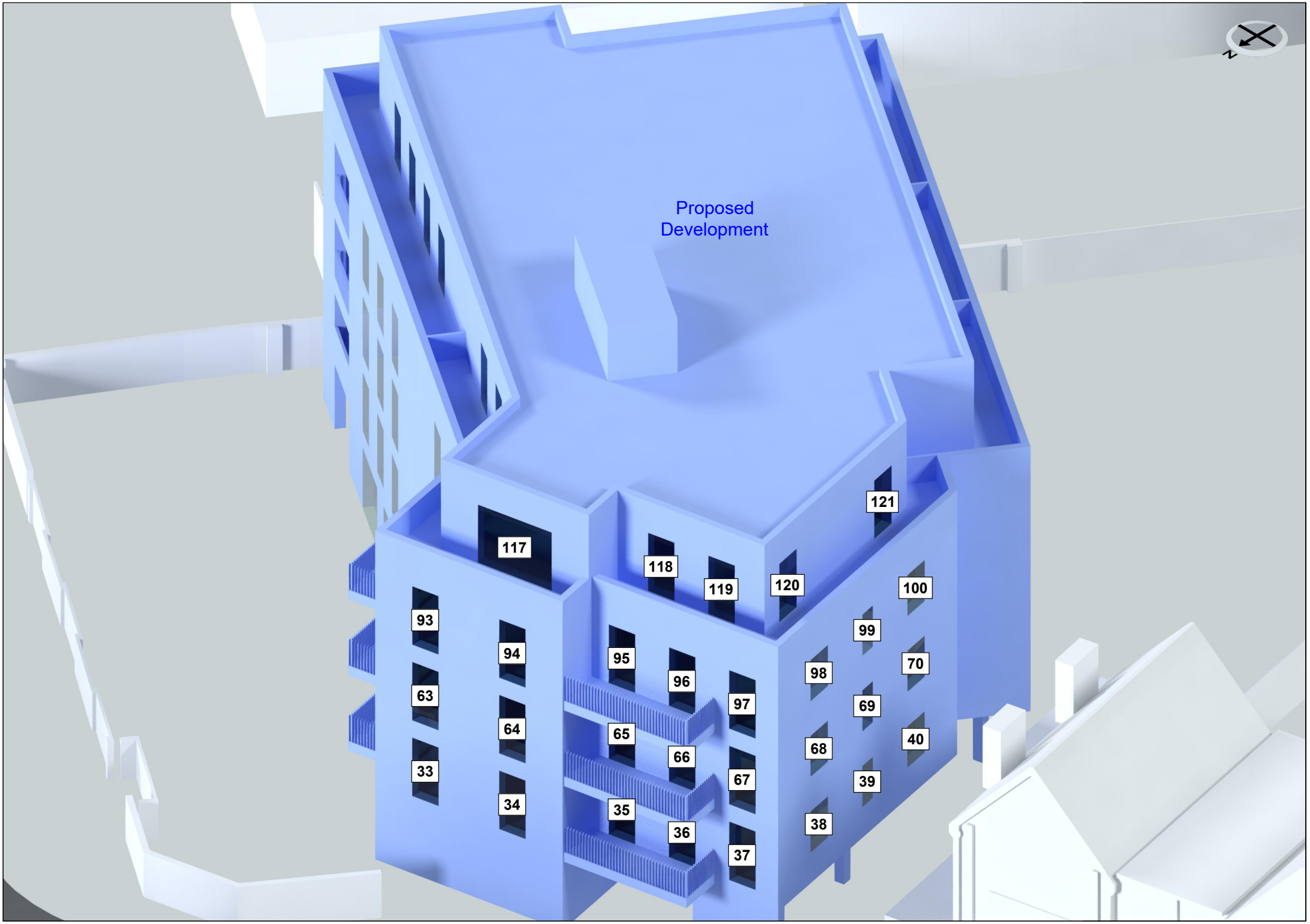
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Proposed Ground Floor

Window Key and No Sky Line Contours

Key:

- Window reference
- G1 — Gardens and Amenity Areas
- Area receives no direct sky light (applied to habitable rooms)
- Area does receive direct sky light.
- Light aperture.

Drawing Title:	Window Key and No Sky Line Contours
Scale:	Do not scale
Drawing No:	1 of 5
Rev.	-

Rev	Date	Details of revision

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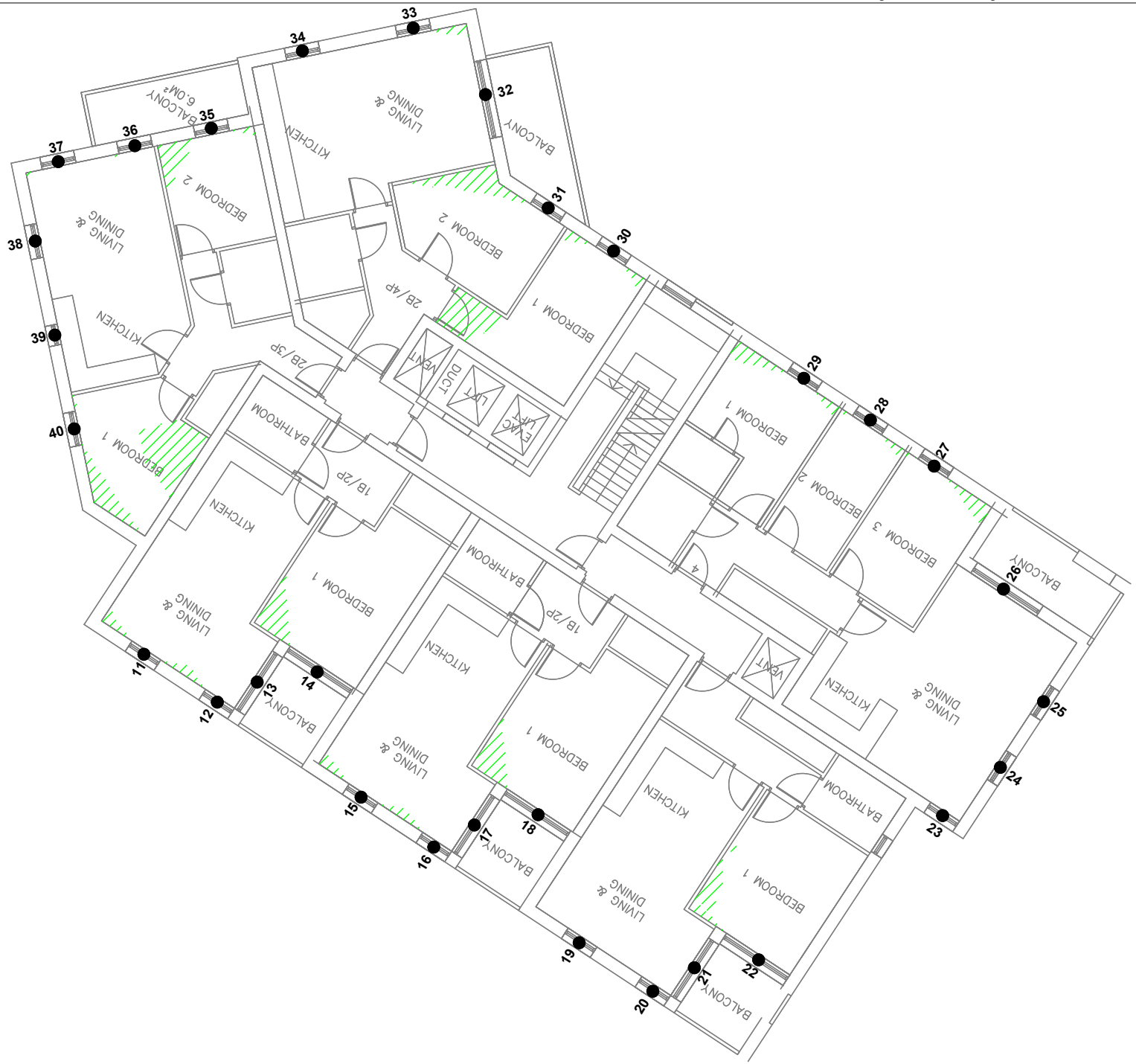
Proposed First Floor

Window Key and No Sky Line Contours



Key:

- Window reference
- G1 Gardens and Amenity Areas
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- Area does receive direct sky light.
- Light aperture.

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Drawing No:	2 of 5
Rev.	-

Rev	Date	Details of revision

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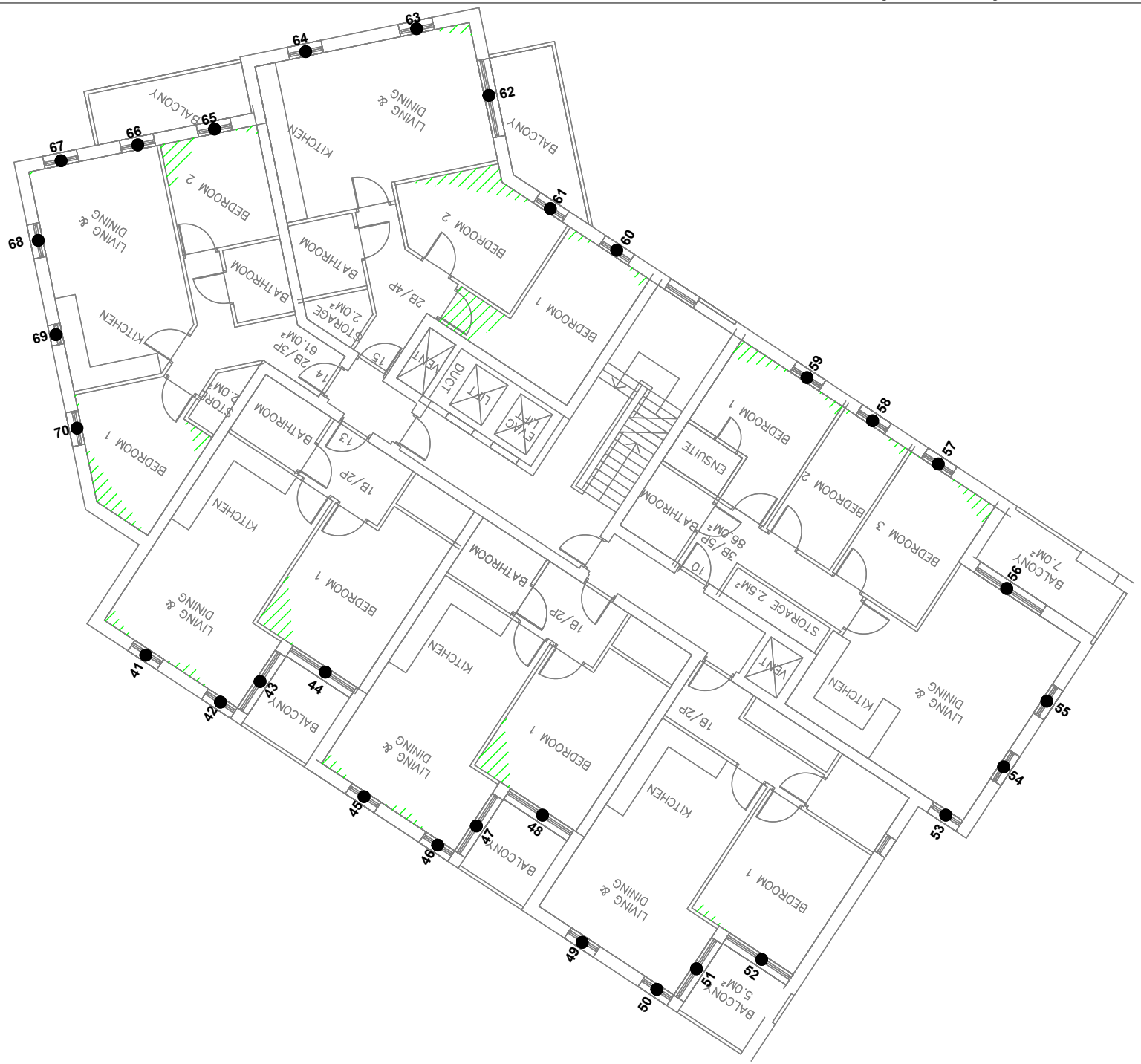
Proposed Second Floor

Window Key and No Sky Line Contours



Key:

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- G1 — Gardens and Amenity Areas
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- Area does receive direct sky light.
- Light aperture.

Drawing Title:	Window Key and No Sky Line Contours
Scale:	Do not scale
Drawing No:	3 of 5
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Rev	Date	Details of revision

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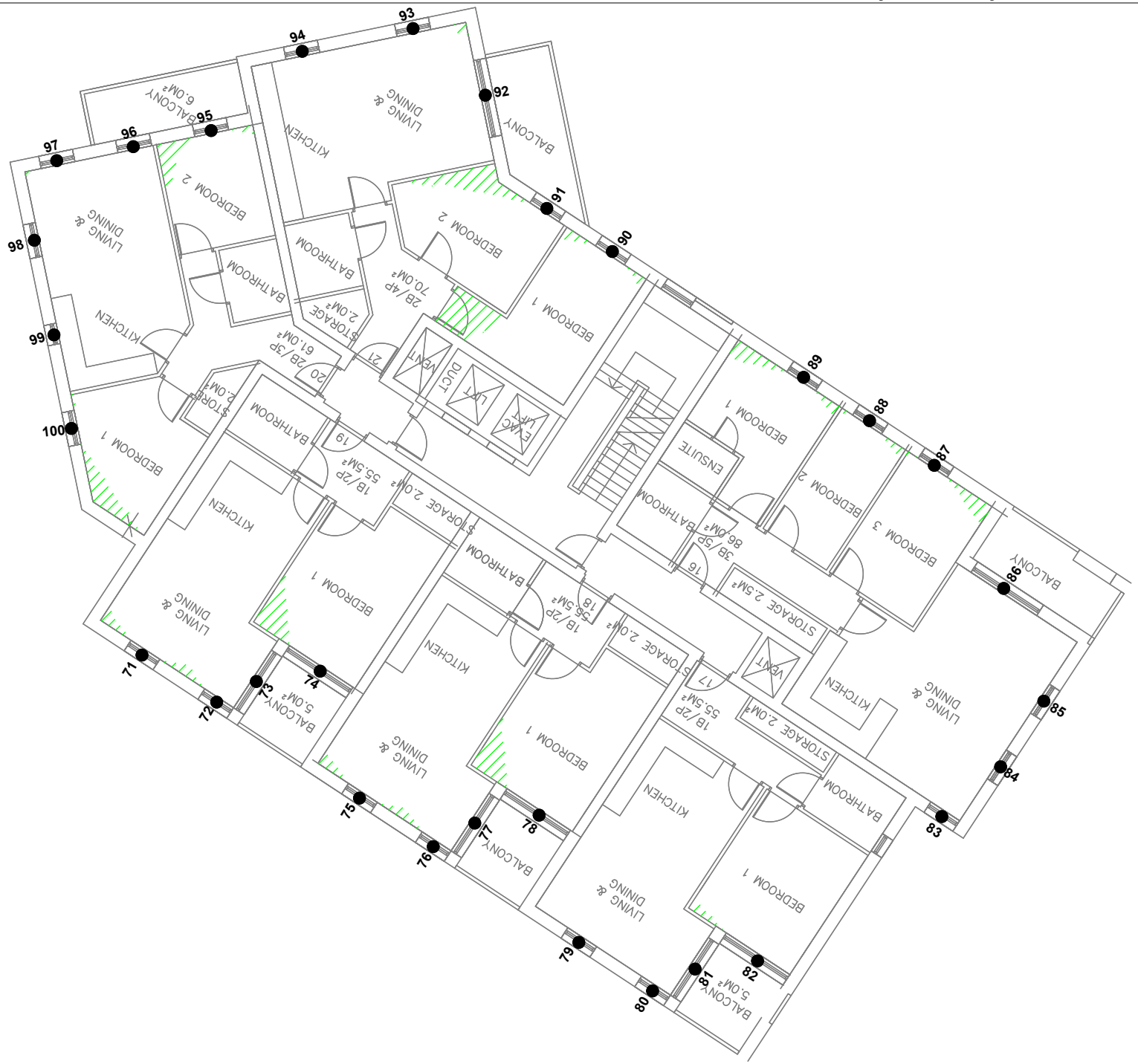
Proposed Third Floor

Window Key and No Sky Line Contours



Key:

- Window reference
- G1 — Gardens and Amenity Areas
- Area receives no direct sky light (applied to habitable rooms)
- Area does receive direct sky light.
- Light aperture.

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Rev.	-

Rev	Date	Details of revision

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Proposed Fourth Floor

Window Key and No Sky Line Contours

Key:

- Window reference
- G1 — Gardens and Amenity Areas
- Area receives no direct sky light (applied to habitable rooms)
- Area does receive direct sky light.
- Light aperture.

Drawing Title:	Window Key and No Sky Line Contours
Scale:	Do not scale
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Rev.	-

Rev	Date	Details of revision

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APPENDIX 2

DAYLIGHT AND SUNLIGHT CALCULATIONS

Appendix 2 - Average Daylight Factor (ADF)

Sheldon House, Cromwell Road, Teddington TW11 9EJ

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		$\theta_{no\ trees}$	Tp_{summer}	ADF	Tp_{winter}	ADF
Flat 1													
Ground Floor													
Window 1 (lower)			0.68	2.23	102.69	0.67	56.6	0.6%	78.7	0.2	0.7%	0.55	0.7%
Window 1 (upper)			0.68	3.86	102.69	0.67	55.6	2.6%	81.9	0.2	2.8%	0.55	3.3%
Total ADF for room	Living/Dining/Kitchen	2.0%						**3.2%**			**3.5%**		**4.0%**
Window 2 (lower)			0.68	1.5	77.87	0.69	55.6	0.6%	79.1	0.2	0.6%	0.55	0.7%
Window 2 (upper)			0.68	2.6	77.87	0.69	54.8	2.4%	81.9	0.2	2.6%	0.55	3.0%
Total ADF for room	Bedroom	1.0%						**3.0%**			**3.2%**		**3.7%**
Flat 2													
Ground Floor													
Window 3 (lower)			0.68	2.23	101.97	0.67	52.5	0.6%	78.4	0.2	0.6%	0.55	0.7%
Window 3 (upper)			0.68	3.86	101.97	0.67	51.3	2.4%	81.0	0.2	2.7%	0.55	3.2%
Total ADF for room	Living/Dining/Kitchen	2.0%						**3.0%**			**3.3%**		**3.9%**
Window 4 (lower)			0.68	1.5	83.4	0.69	47.6	0.4%	76.0	0.2	0.5%	0.55	0.6%
Window 4 (upper)			0.68	2.6	83.4	0.69	44.5	1.8%	78.7	0.2	2.1%	0.55	2.6%
Total ADF for room	Bedroom	1.0%						**2.2%**			**2.6%**		**3.2%**
Flat 3													
Ground Floor													
Window 5 (lower)			0.68	0.09	127.66	0.67	57.5	0.0%	45.1	0.2	0.0%	0.55	0.0%
Window 5 (upper)			0.68	1.18	127.66	0.67	57.1	0.6%	47.1	0.2	0.6%	0.55	0.6%
Window 6 (lower)			0.68	0.09	127.66	0.67	76.7	0.0%	44.0	0.2	0.0%	0.55	0.0%
Window 6 (upper)			0.68	1.18	127.66	0.67	76.2	0.9%	57.2	0.2	0.8%	0.55	0.7%
Window 7 (lower)			0.68	0.09	127.66	0.67	74.1	0.0%	44.3	0.2	0.0%	0.55	0.0%
Window 7 (upper)			0.68	1.18	127.66	0.67	73.0	0.8%	57.9	0.2	0.8%	0.55	0.7%
Window 8 (lower)			0.68	1.55	127.66	0.67	58.0	0.3%	40.7	0.2	0.3%	0.55	0.3%
Window 8 (upper)			0.68	2.69	127.66	0.67	55.0	1.4%	28.9	0.2	1.3%	0.55	1.0%
Total ADF for room	Living/Dining/Kitchen	2.0%						**4.0%**			**3.8%**		**3.3%**
Window 9 (lower)			0.68	1.55	71.47	0.69	61.9	0.7%	80.1	0.2	0.7%	0.55	0.8%
Window 9 (upper)			0.68	2.69	71.47	0.69	59.4	2.9%	84.1	0.2	3.2%	0.55	3.6%
Total ADF for room	Bedroom	1.0%						**3.6%**			**3.9%**		**4.4%**
Window 10 (lower)			0.68	1.55	71.88	0.68	63.0	0.7%	79.8	0.2	0.7%	0.55	0.8%
Window 10 (upper)			0.68	2.69	71.88	0.68	60.3	2.9%	83.6	0.2	3.1%	0.55	3.5%
Total ADF for room	Bedroom	1.0%						**3.6%**			**3.8%**		**4.3%**
Flat 4													
First Floor													
Window 11 (lower)			0.68	0.63	107.82	0.67	43.0	0.1%	80.6	0.2	0.1%	0.55	0.2%
Window 11 (upper)			0.68	1.18	107.82	0.67	37.0	0.5%	82.5	0.2	0.6%	0.55	0.8%
Window 12 (lower)			0.68	0.63	107.82	0.67	45.1	0.1%	82.3	0.2	0.2%	0.55	0.2%
Window 12 (upper)			0.68	1.18	107.82	0.67	40.4	0.5%	83.8	0.2	0.7%	0.55	0.9%
Window 13 (lower)			0.68	1.26	107.82	0.67	64.9	0.4%	24.3	0.2	0.3%	0.55	0.2%
Window 13 (upper)			0.68	2.36	107.82	0.67	65.7	1.8%	18.4	0.2	1.5%	0.55	1.1%
Total ADF for room	Living/Dining/Kitchen	2.0%						**3.4%**			**3.4%**		**3.4%**
Window 14 (lower)			0.68	1.38	75.03	0.69	51.7	0.5%	34.8	0.2	0.5%	0.55	0.4%
Window 14 (upper)			0.68	2.6	75.03	0.69	50.4	2.2%	22.2	0.2	2.0%	0.55	1.6%
Total ADF for room	Bedroom	1.0%						**2.7%**			**2.5%**		**2.0%**
Flat 5													
First Floor													
Window 15 (lower)			0.68	0.63	107.82	0.67	53.6	0.2%	83.8	0.2	0.2%	0.55	0.2%
Window 15 (upper)			0.68	1.18	107.82	0.67	52.9	0.7%	84.7	0.2	0.8%	0.55	0.9%
Window 16 (lower)			0.68	0.63	107.82	0.67	54.9	0.2%	83.9	0.2	0.2%	0.55	0.2%
Window 16 (upper)			0.68	1.18	107.82	0.67	55.0	0.7%	84.7	0.2	0.8%	0.55	1.0%
Window 17 (lower)			0.68	1.26	107.82	0.67	59.4	0.3%	24.1	0.2	0.3%	0.55	0.2%
Window 17 (upper)			0.68	2.36	107.82	0.67	60.5	1.6%	16.6	0.2	1.4%	0.55	1.0%
Total ADF for room	Living/Dining/Kitchen	2.0%						**3.7%**			**3.7%**		**3.5%**
Window 18 (lower)			0.68	1.38	75.14	0.69	56.1	0.5%	35.6	0.2	0.5%	0.55	0.4%
Window 18 (upper)			0.68	2.6	75.14	0.69	56.7	2.5%	22.9	0.2	2.2%	0.55	1.7%
Total ADF for room	Bedroom	1.0%						**3.0%**			**2.7%**		**2.1%**
Flat 6													
First Floor													
Window 19 (lower)			0.68	0.63	108.44	0.67	50.9	0.1%	82.8	0.2	0.2%	0.55	0.2%

Appendix 2 - Average Daylight Factor (ADF)

Sheldon House, Cromwell Road, Teddington TW11 9EJ

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		$\theta_{no\ trees}$	Tp_{summer}	ADF	Tp_{winter}	ADF
Window 19 (upper)			0.68	1.18	108.44	0.67	51.1	0.7%	83.6	0.2	0.8%	0.55	0.9%
Window 20 (lower)			0.68	0.63	108.44	0.67	45.7	0.1%	81.7	0.2	0.2%	0.55	0.2%
Window 20 (upper)			0.68	1.18	108.44	0.67	45.0	0.6%	82.6	0.2	0.7%	0.55	0.9%
Window 21 (lower)			0.68	1.26	108.44	0.67	43.6	0.2%	29.8	0.2	0.2%	0.55	0.2%
Window 21 (upper)			0.68	2.36	108.44	0.67	41.0	1.1%	17.4	0.2	1.0%	0.55	0.8%
Total ADF for room	Living/Dining/Kitchen	2.0%						**2.8%**			**3.1%**		**3.2%**
Window 22 (lower)			0.68	1.38	67.32	0.68	41.8	0.4%	38.7	0.2	0.4%	0.55	0.4%
Window 22 (upper)			0.68	2.6	67.32	0.68	41.1	2.0%	23.5	0.2	1.9%	0.55	1.5%
Total ADF for room	Bedroom	1.0%						**2.4%**			**2.3%**		**1.9%**
Flat 7													
First Floor													
Window 23 (lower)			0.68	0.09	128.03	0.67	57.3	0.0%	49.8	0.2	0.0%	0.55	0.0%
Window 23 (upper)			0.68	1.18	128.03	0.67	58.1	0.7%	50.5	0.2	0.6%	0.55	0.6%
Window 24 (lower)			0.68	0.09	128.03	0.67	75.3	0.0%	79.0	0.2	0.0%	0.55	0.0%
Window 24 (upper)			0.68	1.18	128.03	0.67	75.4	0.9%	79.8	0.2	0.9%	0.55	0.9%
Window 25 (lower)			0.68	0.09	128.03	0.67	69.8	0.0%	79.9	0.2	0.0%	0.55	0.0%
Window 25 (upper)			0.68	1.18	128.03	0.67	69.0	0.8%	80.7	0.2	0.8%	0.55	0.9%
Window 26 (lower)			0.68	1.43	128.03	0.67	48.9	0.3%	34.7	0.2	0.3%	0.55	0.2%
Window 26 (upper)			0.68	2.69	128.03	0.67	44.9	1.2%	27.4	0.2	1.1%	0.55	0.9%
Total ADF for room	Living/Dining/Kitchen	2.0%						**3.9%**			**3.7%**		**3.5%**
Window 27 (lower)			0.68	0.63	59.59	0.71	54.0	0.3%	85.7	0.2	0.3%	0.55	0.4%
Window 27 (upper)			0.68	1.18	59.59	0.71	48.9	1.3%	86.3	0.2	1.5%	0.55	1.9%
Total ADF for room	Bedroom	1.0%						**1.6%**			**1.8%**		**2.3%**
Window 28 (lower)			0.68	0.63	50.25	0.71	53.4	0.4%	85.5	0.2	0.4%	0.55	0.5%
Window 28 (upper)			0.68	1.18	50.25	0.71	48.0	1.6%	86.2	0.2	1.8%	0.55	2.2%
Total ADF for room	Bedroom	1.0%						**2.0%**			**2.2%**		**2.7%**
Window 29 (lower)			0.68	0.63	61.9	0.71	55.3	0.3%	85.1	0.2	0.3%	0.55	0.4%
Window 29 (upper)			0.68	1.18	61.9	0.71	50.6	1.3%	85.8	0.2	1.5%	0.55	1.8%
Total ADF for room	Bedroom	1.0%						**1.6%**			**1.8%**		**2.2%**
Flat 8													
First Floor													
Window 30 (lower)			0.68	0.63	72.32	0.71	67.5	0.3%	78.1	0.2	0.3%	0.55	0.4%
Window 30 (upper)			0.68	1.18	72.32	0.71	65.4	1.5%	78.6	0.2	1.5%	0.55	1.6%
Total ADF for room	Bedroom	1.0%						**1.8%**			**1.8%**		**2.0%**
Window 31 (lower)			0.68	0.63	60.89	0.71	71.8	0.4%	53.0	0.2	0.4%	0.55	0.3%
Window 31 (upper)			0.68	1.18	60.89	0.71	70.5	1.9%	50.9	0.2	1.8%	0.55	1.6%
Total ADF for room	Bedroom	1.0%						**2.3%**			**2.2%**		**1.9%**
Window 32 (lower)			0.68	1.43	110.19	0.66	65.4	0.4%	54.3	0.2	0.4%	0.55	0.4%
Window 32 (upper)			0.68	2.69	110.19	0.66	64.5	1.9%	43.4	0.2	1.8%	0.55	1.6%
Window 33 (lower)			0.68	0.63	110.19	0.66	87.2	0.2%	84.4	0.2	0.2%	0.55	0.2%
Window 33 (upper)			0.68	1.18	110.19	0.66	87.3	1.1%	85.8	0.2	1.1%	0.55	1.1%
Window 34 (lower)			0.68	0.63	110.19	0.66	83.1	0.2%	84.5	0.2	0.2%	0.55	0.2%
Window 34 (upper)			0.68	1.18	110.19	0.66	83.0	1.1%	85.8	0.2	1.1%	0.55	1.1%
Total ADF for room	Living/Dining/Kitchen	2.0%						**4.9%**			**4.8%**		**4.6%**
Flat 9													
First Floor													
Window 35 (lower)			0.68	0.63	49.22	0.71	67.9	0.5%	50.8	0.2	0.4%	0.55	0.4%
Window 35 (upper)			0.68	1.18	49.22	0.71	65.5	2.1%	40.7	0.2	2.0%	0.55	1.7%
Total ADF for room	Bedroom	1.0%						**2.6%**			**2.4%**		**2.1%**
Window 36 (lower)			0.68	0.63	97.63	0.67	52.1	0.2%	58.2	0.2	0.2%	0.55	0.2%
Window 36 (upper)			0.68	1.18	97.63	0.67	42.2	0.6%	47.8	0.2	0.7%	0.55	0.7%
Window 37 (lower)			0.68	0.63	97.63	0.67	37.5	0.1%	73.4	0.2	0.1%	0.55	0.2%
Window 37 (upper)			0.68	1.18	97.63	0.67	13.6	0.2%	74.1	0.2	0.4%	0.55	0.7%
Window 38 (lower)			0.68	0.09	97.63	0.67	62.2	0.0%	57.8	0.2	0.0%	0.55	0.0%
Window 38 (upper)			0.68	1.18	97.63	0.67	56.7	0.9%	60.4	0.2	0.9%	0.55	0.9%
Window 39 (lower)			0.68	0.05	97.63	0.67	74.4	0.0%	54.5	0.2	0.0%	0.55	0.0%
Window 39 (upper)			0.68	0.71	97.63	0.67	74.0	0.7%	57.7	0.2	0.6%	0.55	0.6%
Total ADF for room	Living/Dining/Kitchen	2.0%						**2.7%**			**2.9%**		**3.3%**
Window 40 (lower)			0.68	0.09	57.55	0.71	74.9	0.1%	56.8	0.2	0.1%	0.55	0.1%
Window 40 (upper)			0.68	1.18	57.55	0.71	74.5	2.1%	60.6	0.2	2.0%	0.55	1.9%
Total ADF for room	Bedroom	1.0%						**2.2%**			**2.1%**		**2.0%**

Appendix 2 - Average Daylight Factor (ADF)

Sheldon House, Cromwell Road, Teddington TW11 9EJ

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		$\theta_{no\ trees}$	Tp_{summer}	ADF	Tp_{winter}	ADF
Flat 10													
Second Floor													
Window 41 (lower)			0.68	0.63	107.82	0.67	26.2	0.1%	85.4	0.2	0.1%	0.55	0.2%
Window 41 (upper)			0.68	1.18	107.82	0.67	20.4	0.3%	86.5	0.2	0.5%	0.55	0.8%
Window 42 (lower)			0.68	0.63	107.82	0.67	33.8	0.1%	86.0	0.2	0.1%	0.55	0.2%
Window 42 (upper)			0.68	1.18	107.82	0.67	32.0	0.4%	86.8	0.2	0.6%	0.55	0.8%
Window 43 (lower)			0.68	1.26	107.82	0.67	67.9	0.4%	24.3	0.2	0.3%	0.55	0.3%
Window 43 (upper)			0.68	2.36	107.82	0.67	69.9	1.9%	19.0	0.2	1.6%	0.55	1.1%
Total ADF for room	Living/Dining/Kitchen	2.0%						**3.2%**			**3.2%**		**3.4%**
Window 44 (lower)			0.68	1.38	75.03	0.69	49.9	0.5%	35.4	0.2	0.4%	0.55	0.4%
Window 44 (upper)			0.68	2.6	75.03	0.69	51.6	2.3%	22.9	0.2	2.0%	0.55	1.6%
Total ADF for room	Bedroom	1.0%						**2.8%**			**2.4%**		**2.0%**
Flat 11													
Custom Floor													
Window 45 (lower)			0.68	0.63	107.82	0.67	53.2	0.2%	86.3	0.2	0.2%	0.55	0.2%
Window 45 (upper)			0.68	1.18	107.82	0.67	54.9	0.7%	86.9	0.2	0.8%	0.55	1.0%
Window 46 (lower)			0.68	0.63	107.82	0.67	56.5	0.2%	86.1	0.2	0.2%	0.55	0.2%
Window 46 (upper)			0.68	1.18	107.82	0.67	58.5	0.8%	86.7	0.2	0.9%	0.55	1.0%
Window 47 (lower)			0.68	1.26	107.82	0.67	63.7	0.4%	24.2	0.2	0.3%	0.55	0.2%
Window 47 (upper)			0.68	2.36	107.82	0.67	66.7	1.8%	17.9	0.2	1.5%	0.55	1.1%
Total ADF for room	Living/Dining/Kitchen	2.0%						**4.1%**			**3.9%**		**3.7%**
Window 48 (lower)			0.68	1.38	75.14	0.69	59.0	0.6%	35.6	0.2	0.5%	0.55	0.4%
Window 48 (upper)			0.68	2.6	75.14	0.69	61.2	2.7%	22.9	0.2	2.4%	0.55	1.8%
Total ADF for room	Bedroom	1.0%						**3.3%**			**2.9%**		**2.2%**
Flat 12													
Second Floor													
Window 49 (lower)			0.68	0.63	108.44	0.67	53.3	0.2%	85.2	0.2	0.2%	0.55	0.2%
Window 49 (upper)			0.68	1.18	108.44	0.67	55.9	0.7%	85.9	0.2	0.8%	0.55	1.0%
Window 50 (lower)			0.68	0.63	108.44	0.67	46.7	0.1%	84.4	0.2	0.2%	0.55	0.2%
Window 50 (upper)			0.68	1.18	108.44	0.67	49.5	0.7%	85.2	0.2	0.8%	0.55	0.9%
Window 51 (lower)			0.68	1.26	108.44	0.67	40.6	0.2%	31.9	0.2	0.2%	0.55	0.2%
Window 51 (upper)			0.68	2.36	108.44	0.67	43.4	1.2%	20.2	0.2	1.0%	0.55	0.8%
Total ADF for room	Living/Dining/Kitchen	2.0%						**3.1%**			**3.2%**		**3.3%**
Window 52 (lower)			0.68	1.38	67.32	0.68	42.3	0.4%	39.6	0.2	0.4%	0.55	0.4%
Window 52 (upper)			0.68	2.6	67.32	0.68	44.5	2.2%	24.9	0.2	2.0%	0.55	1.7%
Total ADF for room	Bedroom	1.0%						**2.6%**			**2.4%**		**2.1%**
Flat 13													
Second Floor													
Window 53 (lower)			0.68	0.09	128.03	0.67	62.3	0.0%	52.7	0.2	0.0%	0.55	0.0%
Window 53 (upper)			0.68	1.18	128.03	0.67	64.5	0.7%	53.7	0.2	0.7%	0.55	0.7%
Window 54 (lower)			0.68	0.09	128.03	0.67	77.6	0.0%	82.6	0.2	0.0%	0.55	0.0%
Window 54 (upper)			0.68	1.18	128.03	0.67	79.3	0.9%	83.5	0.2	0.9%	0.55	0.9%
Window 55 (lower)			0.68	0.09	128.03	0.67	70.3	0.0%	83.3	0.2	0.0%	0.55	0.0%
Window 55 (upper)			0.68	1.18	128.03	0.67	72.7	0.8%	84.1	0.2	0.8%	0.55	0.9%
Window 56 (lower)			0.68	1.43	128.03	0.67	42.6	0.2%	40.6	0.2	0.2%	0.55	0.2%
Window 56 (upper)			0.68	2.69	128.03	0.67	44.4	1.1%	27.6	0.2	1.1%	0.55	0.9%
Total ADF for room	Living/Dining/Kitchen	2.0%						**3.7%**			**3.7%**		**3.6%**
Window 57 (lower)			0.68	0.63	59.59	0.71	39.3	0.2%	87.6	0.2	0.3%	0.55	0.4%
Window 57 (upper)			0.68	1.18	59.59	0.71	35.4	1.0%	88.1	0.2	1.2%	0.55	1.7%
Total ADF for room	Bedroom	1.0%						**1.2%**			**1.5%**		**2.1%**
Window 58 (lower)			0.68	0.63	50.25	0.71	37.1	0.3%	87.5	0.2	0.3%	0.55	0.4%
Window 58 (upper)			0.68	1.18	50.25	0.71	31.2	1.0%	88.0	0.2	1.4%	0.55	2.0%
Total ADF for room	Bedroom	1.0%						**1.3%**			**1.7%**		**2.4%**
Window 59 (lower)			0.68	0.63	61.9	0.71	41.7	0.2%	87.2	0.2	0.3%	0.55	0.4%
Window 59 (upper)			0.68	1.18	61.9	0.71	36.4	1.0%	87.8	0.2	1.2%	0.55	1.7%
Total ADF for room	Bedroom	1.0%						**1.2%**			**1.5%**		**2.1%**
Flat 14													
Custom Floor													
Window 60 (lower)			0.68	0.63	72.32	0.71	62.0	0.3%	80.5	0.2	0.3%	0.55	0.3%
Window 60 (upper)			0.68	1.18	72.32	0.71	59.9	1.4%	81.8	0.2	1.5%	0.55	1.6%
Total ADF for room	Bedroom	1.0%						**1.7%**			**1.8%**		**1.9%**

Appendix 2 - Average Daylight Factor (ADF)

Sheldon House, Cromwell Road, Teddington TW11 9EJ

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		$\theta_{no\ trees}$	Tp_{summer}	ADF	Tp_{winter}	ADF
Window 61 (lower)			0.68	0.63	60.89	0.71	68.4	0.4%	53.7	0.2	0.4%	0.55	0.3%
Window 61 (upper)			0.68	1.18	60.89	0.71	67.3	1.8%	52.1	0.2	1.7%	0.55	1.6%
Total ADF for room	Bedroom	1.0%						**2.2%**			**2.1%**		**1.9%**
Window 62 (lower)			0.68	1.43	110.19	0.66	63.4	0.4%	55.0	0.2	0.4%	0.55	0.4%
Window 62 (upper)			0.68	2.69	110.19	0.66	63.0	1.9%	44.3	0.2	1.8%	0.55	1.6%
Window 63 (lower)			0.68	0.63	110.19	0.66	88.0	0.2%	88.1	0.2	0.2%	0.55	0.2%
Window 63 (upper)			0.68	1.18	110.19	0.66	88.6	1.2%	88.9	0.2	1.2%	0.55	1.2%
Window 64 (lower)			0.68	0.63	110.19	0.66	84.5	0.2%	88.1	0.2	0.2%	0.55	0.2%
Window 64 (upper)			0.68	1.18	110.19	0.66	86.1	1.1%	88.9	0.2	1.1%	0.55	1.1%
Total ADF for room	Living/Dining/Kitchen	2.0%						**5.0%**			**4.9%**		**4.7%**
Flat 15													
Second Floor													
Window 65 (lower)			0.68	0.63	49.22	0.71	66.6	0.5%	51.8	0.2	0.4%	0.55	0.4%
Window 65 (upper)			0.68	1.18	49.22	0.71	70.8	2.3%	42.4	0.2	2.1%	0.55	1.8%
Total ADF for room	Bedroom	1.0%						**2.8%**			**2.5%**		**2.2%**
Window 66 (lower)			0.68	0.63	97.63	0.67	34.1	0.1%	59.1	0.2	0.1%	0.55	0.2%
Window 66 (upper)			0.68	1.18	97.63	0.67	38.0	0.6%	49.7	0.2	0.6%	0.55	0.7%
Window 67 (lower)			0.68	0.63	97.63	0.67	0.4	0.0%	76.0	0.2	0.0%	0.55	0.1%
Window 67 (upper)			0.68	1.18	97.63	0.67	0.4	0.0%	77.7	0.2	0.2%	0.55	0.6%
Window 68 (lower)			0.68	0.09	97.63	0.67	3.3	0.0%	68.3	0.2	0.0%	0.55	0.0%
Window 68 (upper)			0.68	1.18	97.63	0.67	3.4	0.1%	71.0	0.2	0.3%	0.55	0.6%
Window 69 (lower)			0.68	0.05	97.63	0.67	75.9	0.0%	67.1	0.2	0.0%	0.55	0.0%
Window 69 (upper)			0.68	0.71	97.63	0.67	77.8	0.7%	70.0	0.2	0.7%	0.55	0.7%
Total ADF for room	Living/Dining/Kitchen	2.0%						**1.5%**			**1.9%**		**2.9%**
Window 70 (lower)			0.68	0.09	57.55	0.71	75.3	0.1%	71.0	0.2	0.1%	0.55	0.1%
Window 70 (upper)			0.68	1.18	57.55	0.71	76.2	2.2%	73.7	0.2	2.2%	0.55	2.1%
Total ADF for room	Bedroom	1.0%						**2.3%**			**2.3%**		**2.2%**
Flat 16													
Third Floor													
Window 71 (lower)			0.68	0.63	107.82	0.67	14.8	0.0%	87.9	0.2	0.1%	0.55	0.2%
Window 71 (upper)			0.68	1.18	107.82	0.67	15.4	0.2%	88.4	0.2	0.4%	0.55	0.7%
Window 72 (lower)			0.68	0.63	107.82	0.67	34.8	0.1%	88.0	0.2	0.1%	0.55	0.2%
Window 72 (upper)			0.68	1.18	107.82	0.67	41.7	0.6%	88.5	0.2	0.7%	0.55	0.9%
Window 73 (lower)			0.68	1.26	107.82	0.67	73.6	0.4%	24.3	0.2	0.4%	0.55	0.3%
Window 73 (upper)			0.68	2.36	107.82	0.67	76.2	2.1%	19.4	0.2	1.7%	0.55	1.2%
Total ADF for room	Living/Dining/Kitchen	2.0%						**3.4%**			**3.4%**		**3.5%**
Window 74 (lower)			0.68	1.38	75.03	0.69	57.3	0.5%	35.6	0.2	0.5%	0.55	0.4%
Window 74 (upper)			0.68	2.6	75.03	0.69	62.3	2.8%	22.9	0.2	2.4%	0.55	1.8%
Total ADF for room	Bedroom	1.0%						**3.3%**			**2.9%**		**2.2%**
Flat 17													
Third Floor													
Window 75 (lower)			0.68	0.63	107.82	0.67	59.8	0.2%	88.0	0.2	0.2%	0.55	0.2%
Window 75 (upper)			0.68	1.18	107.82	0.67	64.0	0.9%	88.5	0.2	0.9%	0.55	1.0%
Window 76 (lower)			0.68	0.63	107.82	0.67	62.9	0.2%	87.9	0.2	0.2%	0.55	0.2%
Window 76 (upper)			0.68	1.18	107.82	0.67	66.4	0.9%	88.4	0.2	1.0%	0.55	1.1%
Window 77 (lower)			0.68	1.26	107.82	0.67	71.9	0.4%	24.3	0.2	0.4%	0.55	0.3%
Window 77 (upper)			0.68	2.36	107.82	0.67	75.3	2.0%	19.0	0.2	1.7%	0.55	1.2%
Total ADF for room	Living/Dining/Kitchen	2.0%						**4.6%**			**4.4%**		**4.0%**
Window 78 (lower)			0.68	1.38	75.14	0.69	65.5	0.6%	35.6	0.2	0.6%	0.55	0.5%
Window 78 (upper)			0.68	2.6	75.14	0.69	68.8	3.1%	23.0	0.2	2.7%	0.55	1.9%
Total ADF for room	Bedroom	1.0%						**3.7%**			**3.3%**		**2.4%**
Flat 18													
Third Floor													
Window 79 (lower)			0.68	0.63	108.44	0.67	61.3	0.2%	87.4	0.2	0.2%	0.55	0.2%
Window 79 (upper)			0.68	1.18	108.44	0.67	65.1	0.9%	88.0	0.2	0.9%	0.55	1.0%
Window 80 (lower)			0.68	0.63	108.44	0.67	56.7	0.2%	87.0	0.2	0.2%	0.55	0.2%
Window 80 (upper)			0.68	1.18	108.44	0.67	62.2	0.8%	87.8	0.2	0.9%	0.55	1.0%
Window 81 (lower)			0.68	1.26	108.44	0.67	54.6	0.3%	32.5	0.2	0.3%	0.55	0.2%
Window 81 (upper)			0.68	2.36	108.44	0.67	63.6	1.7%	22.7	0.2	1.5%	0.55	1.1%
Total ADF for room	Living/Dining/Kitchen	2.0%						**4.1%**			**4.0%**		**3.7%**
Window 82 (lower)			0.68	1.38	67.32	0.68	53.0	0.6%	40.1	0.2	0.5%	0.55	0.5%

Appendix 2 - Average Daylight Factor (ADF)

Sheldon House, Cromwell Road, Teddington TW11 9EJ

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		$\theta_{no\ trees}$	Tp_{summer}	ADF	Tp_{winter}	ADF
Window 82 (upper)			0.68	2.6	67.32	0.68	60.6	3.0%	26.1	0.2	2.6%	0.55	2.1%
Total ADF for room	Bedroom	1.0%						**3.6%**			**3.1%**		**2.6%**
Flat 19													
Third Floor													
Window 83 (lower)			0.68	0.09	128.03	0.67	71.2	0.0%	57.5	0.2	0.0%	0.55	0.0%
Window 83 (upper)			0.68	1.18	128.03	0.67	73.7	0.8%	59.8	0.2	0.8%	0.55	0.7%
Window 84 (lower)			0.68	0.09	128.03	0.67	84.7	0.0%	86.2	0.2	0.0%	0.55	0.0%
Window 84 (upper)			0.68	1.18	128.03	0.67	86.5	1.0%	87.0	0.2	1.0%	0.55	1.0%
Window 85 (lower)			0.68	0.09	128.03	0.67	82.1	0.0%	86.6	0.2	0.0%	0.55	0.0%
Window 85 (upper)			0.68	1.18	128.03	0.67	85.2	1.0%	87.2	0.2	1.0%	0.55	1.0%
Window 86 (lower)			0.68	1.43	128.03	0.67	51.2	0.3%	40.6	0.2	0.3%	0.55	0.2%
Window 86 (upper)			0.68	2.69	128.03	0.67	56.7	1.5%	27.8	0.2	1.3%	0.55	1.1%
Total ADF for room	Living/Dining/Kitchen	2.0%						**4.6%**			**4.4%**		**4.0%**
Window 87 (lower)			0.68	0.63	59.59	0.71	33.9	0.2%	88.8	0.2	0.3%	0.55	0.4%
Window 87 (upper)			0.68	1.18	59.59	0.71	35.7	1.0%	88.9	0.2	1.3%	0.55	1.8%
Total ADF for room	Bedroom	1.0%						**1.2%**			**1.6%**		**2.2%**
Window 88 (lower)			0.68	0.63	50.25	0.71	26.8	0.2%	88.8	0.2	0.3%	0.55	0.4%
Window 88 (upper)			0.68	1.18	50.25	0.71	26.8	0.9%	88.9	0.2	1.3%	0.55	2.0%
Total ADF for room	Bedroom	1.0%						**1.1%**			**1.6%**		**2.4%**
Window 89 (lower)			0.68	0.63	61.9	0.71	30.1	0.2%	88.7	0.2	0.2%	0.55	0.4%
Window 89 (upper)			0.68	1.18	61.9	0.71	28.0	0.7%	88.8	0.2	1.1%	0.55	1.6%
Total ADF for room	Bedroom	1.0%						**0.9%**			**1.3%**		**2.0%**
Flat 20													
Third Floor													
Window 90 (lower)			0.68	0.63	72.32	0.71	57.3	0.3%	85.7	0.2	0.3%	0.55	0.4%
Window 90 (upper)			0.68	1.18	72.32	0.71	56.5	1.3%	87.3	0.2	1.4%	0.55	1.7%
Total ADF for room	Bedroom	1.0%						**1.6%**			**1.7%**		**2.1%**
Window 91 (lower)			0.68	0.63	60.89	0.71	66.2	0.4%	67.7	0.2	0.4%	0.55	0.4%
Window 91 (upper)			0.68	1.18	60.89	0.71	66.2	1.7%	83.6	0.2	1.8%	0.55	2.0%
Total ADF for room	Bedroom	1.0%						**2.1%**			**2.2%**		**2.4%**
Window 92 (lower)			0.68	1.43	110.19	0.66	63.5	0.4%	73.5	0.2	0.4%	0.55	0.4%
Window 92 (upper)			0.68	2.69	110.19	0.66	64.6	1.9%	84.7	0.2	2.0%	0.55	2.2%
Window 93 (lower)			0.68	0.63	110.19	0.66	89.5	0.2%	89.5	0.2	0.2%	0.55	0.2%
Window 93 (upper)			0.68	1.18	110.19	0.66	89.9	1.2%	89.3	0.2	1.2%	0.55	1.2%
Window 94 (lower)			0.68	0.63	110.19	0.66	88.6	0.2%	89.5	0.2	0.2%	0.55	0.2%
Window 94 (upper)			0.68	1.18	110.19	0.66	89.6	1.2%	89.3	0.2	1.2%	0.55	1.2%
Total ADF for room	Living/Dining/Kitchen	2.0%						**5.1%**			**5.2%**		**5.4%**
Flat 21													
Third Floor													
Window 95 (lower)			0.68	0.63	49.22	0.71	82.1	0.6%	64.8	0.2	0.5%	0.55	0.5%
Window 95 (upper)			0.68	1.18	49.22	0.71	87.7	2.9%	72.8	0.2	2.8%	0.55	2.6%
Total ADF for room	Bedroom	1.0%						**3.5%**			**3.3%**		**3.1%**
Window 96 (lower)			0.68	0.63	97.63	0.67	58.0	0.2%	73.4	0.2	0.2%	0.55	0.2%
Window 96 (upper)			0.68	1.18	97.63	0.67	82.0	1.2%	86.6	0.2	1.3%	0.55	1.3%
Window 97 (lower)			0.68	0.63	97.63	0.67	1.3	0.0%	82.7	0.2	0.1%	0.55	0.1%
Window 97 (upper)			0.68	1.18	97.63	0.67	7.2	0.1%	88.6	0.2	0.4%	0.55	0.8%
Window 98 (lower)			0.68	0.09	97.63	0.67	75.7	0.0%	79.6	0.2	0.0%	0.55	0.0%
Window 98 (upper)			0.68	1.18	97.63	0.67	85.4	1.3%	82.6	0.2	1.3%	0.55	1.3%
Window 99 (lower)			0.68	0.05	97.63	0.67	83.6	0.0%	78.8	0.2	0.0%	0.55	0.0%
Window 99 (upper)			0.68	0.71	97.63	0.67	85.2	0.8%	81.8	0.2	0.8%	0.55	0.8%
Total ADF for room	Living/Dining/Kitchen	2.0%						**3.6%**			**4.1%**		**4.5%**
Window 100 (lower)			0.68	0.09	57.55	0.71	80.1	0.1%	81.1	0.2	0.1%	0.55	0.1%
Window 100 (upper)			0.68	1.18	57.55	0.71	81.6	2.3%	83.6	0.2	2.3%	0.55	2.4%
Total ADF for room	Bedroom	1.0%						**2.4%**			**2.4%**		**2.5%**
Flat 22													
Fourth Floor													
Window 101 (lower)			0.68	0.68	62.04	0.71	65.3	0.4%	65.6	0.2	0.4%	0.55	0.4%
Window 101 (upper)			0.68	1.12	62.04	0.71	72.4	1.8%	89.2	0.2	1.9%	0.55	2.0%
Total ADF for room	Bedroom	1.0%						**2.2%**			**2.3%**		**2.4%**
Window 102 (lower)			0.68	0.68	91.64	0.71	69.3	0.3%	65.0	0.2	0.3%	0.55	0.3%

Appendix 2 - Average Daylight Factor (ADF)

Sheldon House, Cromwell Road, Teddington TW11 9EJ

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		$\theta_{no\ trees}$	Tp_{summer}	ADF	Tp_{winter}	ADF
Window 102 (upper)			0.68	1.12	91.64	0.71	75.1	1.3%	89.2	0.2	1.3%	0.55	1.4%
Total ADF for room	Living/Dining/Kitchen	2.0%						**1.6%**			**1.6%**		**1.7%**
Flat 23													
Custom Floor													
Window 103 (lower)			0.68	0.68	66.18	0.71	73.3	0.4%	65.3	0.2	0.4%	0.55	0.4%
Window 103 (upper)			0.68	1.12	66.18	0.71	77.5	1.8%	89.2	0.2	1.8%	0.55	1.9%
Total ADF for room	Bedroom	1.0%						**2.2%**			**2.2%**		**2.3%**
Window 104 (lower)			0.68	0.68	91.64	0.71	73.9	0.3%	65.0	0.2	0.3%	0.55	0.3%
Window 104 (upper)			0.68	1.12	91.64	0.71	77.7	1.3%	89.2	0.2	1.3%	0.55	1.4%
Total ADF for room	Living/Dining/Kitchen	2.0%						**1.6%**			**1.6%**		**1.7%**
Flat 24													
Fourth Floor													
Window 105 (lower)			0.68	0.68	62.04	0.71	73.0	0.4%	65.4	0.2	0.4%	0.55	0.4%
Window 105 (upper)			0.68	1.12	62.04	0.71	77.1	1.9%	89.2	0.2	2.0%	0.55	2.1%
Total ADF for room	Bedroom	1.0%						**2.3%**			**2.4%**		**2.5%**
Window 106 (lower)			0.68	0.68	91.64	0.68	71.4	0.3%	65.6	0.2	0.3%	0.55	0.3%
Window 106 (upper)			0.68	1.12	91.64	0.68	76.0	1.2%	89.2	0.2	1.2%	0.55	1.3%
Window 107 (lower)			0.68	0.68	91.64	0.68	82.6	0.3%	65.2	0.2	0.3%	0.55	0.3%
Window 107 (upper)			0.68	1.12	91.64	0.68	85.8	1.3%	88.6	0.2	1.3%	0.55	1.4%
Window 108 (lower)			0.68	0.68	91.64	0.68	85.6	0.3%	63.6	0.2	0.3%	0.55	0.3%
Window 108 (upper)			0.68	1.12	91.64	0.68	87.6	1.4%	86.7	0.2	1.4%	0.55	1.4%
Total ADF for room	Living/Dining/Kitchen	2.0%						**4.8%**			**4.8%**		**5.0%**
Flat 25													
Custom Floor													
Window 109 (lower)			0.68	0.68	108.61	0.69	88.4	0.3%	65.7	0.2	0.3%	0.55	0.2%
Window 109 (upper)			0.68	1.12	108.61	0.69	89.5	1.2%	89.2	0.2	1.2%	0.55	1.2%
Window 110 (lower)			0.68	0.68	108.61	0.69	59.2	0.2%	65.7	0.2	0.2%	0.55	0.2%
Window 110 (upper)			0.68	1.12	108.61	0.69	62.8	0.8%	89.2	0.2	0.9%	0.55	1.0%
Total ADF for room	Living/Dining/Kitchen	2.0%						**2.5%**			**2.6%**		**2.6%**
Window 111 (lower)			0.68	0.68	57.85	0.69	51.3	0.3%	65.7	0.2	0.3%	0.55	0.4%
Window 111 (upper)			0.68	1.12	57.85	0.69	55.2	1.4%	89.2	0.2	1.5%	0.55	1.8%
Window 112 (lower)			0.68	0.68	57.85	0.69	44.9	0.3%	65.7	0.2	0.3%	0.55	0.3%
Window 112 (upper)			0.68	1.12	57.85	0.69	49.2	1.2%	89.2	0.2	1.4%	0.55	1.8%
Total ADF for room	Bedroom	1.0%						**3.2%**			**3.5%**		**4.3%**
Window 113 (lower)			0.68	0.68	47.53	0.71	43.3	0.3%	65.6	0.2	0.4%	0.55	0.4%
Window 113 (upper)			0.68	1.12	47.53	0.71	47.3	1.5%	89.2	0.2	1.8%	0.55	2.3%
Total ADF for room	Bedroom	1.0%						**1.8%**			**2.2%**		**2.7%**
Flat 26													
Fourth Floor													
Window 114 (lower)			0.68	0.68	63.21	0.69	61.9	0.3%	64.8	0.2	0.4%	0.55	0.4%
Window 114 (upper)			0.68	1.12	63.21	0.69	64.6	1.5%	88.3	0.2	1.6%	0.55	1.8%
Window 115 (lower)			0.68	0.68	63.21	0.69	69.6	0.4%	63.8	0.2	0.4%	0.55	0.4%
Window 115 (upper)			0.68	1.12	63.21	0.69	71.8	1.7%	86.2	0.2	1.7%	0.55	1.8%
Total ADF for room	Bedroom	1.0%						**3.9%**			**4.1%**		**4.4%**
Window 116 (lower)			0.68	0.68	96.37	0.67	70.4	0.2%	62.9	0.2	0.2%	0.55	0.2%
Window 116 (upper)			0.68	1.12	96.37	0.67	72.7	1.0%	85.3	0.2	1.1%	0.55	1.1%
Window 117 (lower)			0.68	1.9	96.37	0.67	89.9	0.9%	65.7	0.2	0.8%	0.55	0.7%
Window 117 (upper)			0.68	3.12	96.37	0.67	89.9	3.6%	89.6	0.2	3.6%	0.55	3.6%
Total ADF for room	Living/Dining/Kitchen	2.0%						**5.7%**			**5.7%**		**5.6%**
Flat 27													
Custom Floor													
Window 118 (lower)			0.68	0.68	89.2	0.68	89.8	0.3%	58.6	0.2	0.3%	0.55	0.3%
Window 118 (upper)			0.68	1.12	89.2	0.68	89.9	1.4%	79.2	0.2	1.4%	0.55	1.3%
Window 119 (lower)			0.68	0.68	89.2	0.68	89.9	0.3%	64.2	0.2	0.3%	0.55	0.3%
Window 119 (upper)			0.68	1.12	89.2	0.68	89.9	1.4%	87.7	0.2	1.4%	0.55	1.4%
Window 120 (lower)			0.68	0.68	89.2	0.68	87.9	0.3%	65.5	0.2	0.3%	0.55	0.3%
Window 120 (upper)			0.68	1.12	89.2	0.68	88.6	1.4%	89.3	0.2	1.4%	0.55	1.4%
Total ADF for room	Living/Dining/Kitchen	2.0%						**5.1%**			**5.1%**		**5.0%**
Window 121 (lower)			0.68	0.68	52.53	0.71	84.0	0.6%	65.4	0.2	0.6%	0.55	0.5%
Window 121 (upper)			0.68	1.12	52.53	0.71	86.1	2.5%	89.3	0.2	2.5%	0.55	2.5%

Appendix 2 - Average Daylight Factor (ADF)

Sheldon House, Cromwell Road, Teddington TW11 9EJ

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		$\theta_{no\ trees}$	Tp_{summer}	ADF	Tp_{winter}	ADF
Total ADF for room	Bedroom	1.0%						**3.1%**			**3.1%**		**3.0%**

Appendix 2 - Room Depth Calculation

Sheldon House, Cromwell Road, Teddington TW11 9EJ

Reference	Room Depth Coefficients				Room Depth Calculation			Result
	L	W	H	Rb	L/W + L/H	<=	2/1-Rb	
Flat 1								
Ground Floor								
Window 1	6.1	4.2	2.3	0.67	4.1	<=	6.11	Pass
Window 2	6.1	2.9	2.3	0.69	4.76	<=	6.46	Pass
Flat 2								
Ground Floor								
Window 3	6.1	4.2	2.3	0.67	4.1	<=	6.12	Pass
Window 4	6.1	3.0	2.3	0.69	4.69	<=	6.52	Pass
Flat 3								
Ground Floor								
Window 9	4.0	4.7	2.3	0.69	2.59	<=	6.47	Pass
Window 10	4.1	4.0	2.3	0.68	2.81	<=	6.32	Pass
Flat 4								
First Floor								
Window 14	5.0	3.5	2.3	0.69	3.6	<=	6.4	Pass
Flat 5								
First Floor								
Window 18	5.0	3.5	2.3	0.69	3.6	<=	6.4	Pass
Flat 6								
First Floor								
Window 22	4.1	3.5	2.3	0.68	2.95	<=	6.33	Pass
Flat 7								
First Floor								
Window 27	4.2	2.9	2.3	0.71	3.27	<=	6.85	Pass
Window 28	4.2	2.2	2.3	0.71	3.74	<=	6.93	Pass
Window 29	4.2	3.5	2.3	0.71	3.03	<=	6.98	Pass
Flat 8								
First Floor								
Window 30	4.4	4.5	2.3	0.71	2.89	<=	7.01	Pass
Window 31	3.1	4.8	2.3	0.71	1.99	<=	6.84	Pass
Flat 9								
First Floor								
Window 35	3.3	2.8	2.3	0.71	2.61	<=	6.86	Pass
Window 40	3.6	4.4	2.3	0.71	2.38	<=	7.01	Pass
Flat 10								
Second Floor								
Window 44	5.0	3.5	2.3	0.69	3.6	<=	6.4	Pass
Flat 11								
Custom Floor								
Window 48	5.0	3.5	2.3	0.69	3.6	<=	6.4	Pass

Appendix 2 - Room Depth Calculation

Sheldon House, Cromwell Road, Teddington TW11 9EJ

Reference	Room Depth Coefficients				Room Depth Calculation			Result
	L	W	H	Rb	L/W + L/H	<=	2/1-Rb	
Flat 12								
Second Floor								
Window 52	4.1	3.5	2.3	0.68	2.95	<=	6.33	Pass
Flat 13								
Second Floor								
Window 57	4.2	2.9	2.3	0.71	3.27	<=	6.85	Pass
Window 58	4.2	2.2	2.3	0.71	3.74	<=	6.93	Pass
Window 59	4.2	3.5	2.3	0.71	3.03	<=	6.98	Pass
Flat 14								
Custom Floor								
Window 60	4.4	4.5	2.3	0.71	2.89	<=	7.01	Pass
Window 61	3.1	4.8	2.3	0.71	1.99	<=	6.84	Pass
Flat 15								
Second Floor								
Window 65	3.3	2.8	2.3	0.71	2.61	<=	6.86	Pass
Window 70	3.6	4.4	2.3	0.71	2.38	<=	7.01	Pass
Flat 16								
Third Floor								
Window 74	5.0	3.5	2.3	0.69	3.6	<=	6.4	Pass
Flat 17								
Third Floor								
Window 78	5.0	3.5	2.3	0.69	3.6	<=	6.4	Pass
Flat 18								
Third Floor								
Window 82	4.1	3.5	2.3	0.68	2.95	<=	6.33	Pass
Flat 19								
Third Floor								
Window 87	4.2	2.9	2.3	0.71	3.27	<=	6.85	Pass
Window 88	4.2	2.2	2.3	0.71	3.74	<=	6.93	Pass
Window 89	4.2	3.5	2.3	0.71	3.03	<=	6.98	Pass
Flat 20								
Third Floor								
Window 90	4.4	4.5	2.3	0.71	2.89	<=	7.01	Pass
Window 91	3.1	4.8	2.3	0.71	1.99	<=	6.84	Pass
Flat 21								
Third Floor								
Window 95	3.3	2.8	2.3	0.71	2.61	<=	6.86	Pass
Window 100	3.6	4.4	2.3	0.71	2.38	<=	7.01	Pass
Flat 22								
Fourth Floor								
Window 101	4.8	2.9	2.2	0.71	3.84	<=	6.98	Pass
Window 102	7.0	3.2	2.2	0.71	5.37	<=	6.89	Pass

Appendix 2 - Room Depth Calculation

Sheldon House, Cromwell Road, Teddington TW11 9EJ

Reference	Room Depth Coefficients				Room Depth Calculation			Result
	L	W	H	Rb	L/W + L/H	<=	2/1-Rb	
Flat 23								
Custom Floor								
Window 103	4.8	2.9	2.2	0.71	3.84	<=	6.85	Pass
Window 104	7.0	3.2	2.2	0.71	5.37	<=	6.89	Pass
Flat 24								
Fourth Floor								
Window 105	4.8	2.9	2.2	0.71	3.84	<=	6.98	Pass
Flat 25								
Custom Floor								
Window 113	2.7	3.3	2.3	0.71	1.99	<=	6.87	Pass
Flat 27								
Custom Floor								
Window 121	4.1	3.9	2.2	0.71	2.91	<=	6.82	Pass

Appendix 2 - Sunlight to Windows

Sheldon House, Cromwell Road, Teddington TW11 9EJ

Reference	Room Use	$APSH_{no\ trees}$		$APSH_{opaque\ tree}$		Transparency, Tp		APSH	
		Total	Winter	Total	Winter	Tp_{summer}	Tp_{winter}	Total	Winter
Flat 1									
Ground Floor									
Window 1	Living/Dining/Kitchen	58%	23%	41%	10%	0.2	0.55	50%	16%
Window 2	Bedroom	57%	21%	34%	11%	0.2	0.55	49%	16%
Flat 2									
Ground Floor									
Window 3	Living/Dining/Kitchen	57%	21%	23%	7%	0.2	0.55	45%	13%
Window 4	Bedroom	58%	21%	19%	9%	0.2	0.55	46%	14%
Flat 3									
Ground Floor									
Window 5	Living/Dining/Kitchen	21%	9%	47%	14%	0.2	0.55	28%	12%
Window 6	Living/Dining/Kitchen	29%	4%	55%	15%	0.2	0.55	38%	10%
Window 7	Living/Dining/Kitchen	29%	4%	57%	15%	0.2	0.55	38%	10%
Window 8	Living/Dining/Kitchen	0%	0%	11%	2%	0.2	0.55	3%	1%
Window 9	Bedroom	12%	0%	7%	2%	0.2	0.55	12%	1%
Window 10	Bedroom	12%	0%	8%	1%	0.2	0.55	12%	1%
Flat 4									
First Floor									
Window 11	Living/Dining/Kitchen	49%	20%	27%	7%	0.2	0.55	40%	13%
Window 12	Living/Dining/Kitchen	49%	20%	29%	5%	0.2	0.55	40%	12%
Window 13	Living/Dining/Kitchen	4%	4%	44%	5%	0.2	0.55	12%	5%
Window 14	Bedroom	2%	2%	38%	7%	0.2	0.55	11%	5%
Flat 5									
First Floor									
Window 15	Living/Dining/Kitchen	50%	21%	40%	8%	0.2	0.55	43%	14%
Window 16	Living/Dining/Kitchen	50%	21%	41%	7%	0.2	0.55	43%	13%
Window 17	Living/Dining/Kitchen	4%	4%	40%	1%	0.2	0.55	10%	2%
Window 18	Bedroom	3%	3%	40%	5%	0.2	0.55	11%	4%
Flat 6									
First Floor									
Window 19	Living/Dining/Kitchen	49%	20%	30%	4%	0.2	0.55	40%	11%
Window 20	Living/Dining/Kitchen	48%	19%	21%	4%	0.2	0.55	37%	11%
Window 21	Living/Dining/Kitchen	3%	3%	14%	1%	0.2	0.55	5%	2%
Window 22	Bedroom	3%	3%	19%	5%	0.2	0.55	7%	4%
Flat 7									
First Floor									
Window 23	Living/Dining/Kitchen	26%	13%	53%	11%	0.2	0.55	31%	12%
Window 24	Living/Dining/Kitchen	46%	13%	54%	14%	0.2	0.55	48%	14%
Window 25	Living/Dining/Kitchen	47%	14%	51%	16%	0.2	0.55	49%	15%
Window 26	Living/Dining/Kitchen	0%	0%	3%	2%	0.2	0.55	1%	1%
Window 27	Bedroom	5%	0%	2%	0%	0.2	0.55	4%	0%
Window 28	Bedroom	5%	0%	7%	0%	0.2	0.55	5%	0%
Window 29	Bedroom	5%	0%	9%	0%	0.2	0.55	6%	0%
Flat 8									
First Floor									
Window 30	Bedroom	5%	0%	9%	0%	0.2	0.55	6%	0%
Window 31	Bedroom	5%	0%	8%	0%	0.2	0.55	6%	0%
Window 32	Living/Dining/Kitchen	10%	3%	26%	7%	0.2	0.55	15%	5%
Window 33	Living/Dining/Kitchen	1%	0%	4%	0%	0.2	0.55	2%	0%
Window 34	Living/Dining/Kitchen	1%	0%	3%	0%	0.2	0.55	1%	0%

Appendix 2 - Sunlight to Windows

Sheldon House, Cromwell Road, Teddington TW11 9EJ

Reference	Room Use	$APSH_{no\ trees}$		$APSH_{opaque\ tree}$		Transparency, Tp		APSH	
		Total	Winter	Total	Winter	Tp_{summer}	Tp_{winter}	Total	Winter
Flat 9									
First Floor									
Window 35	Bedroom	1%	0%	2%	0%	0.2	0.55	1%	0%
Window 36	Living/Dining/Kitchen	1%	0%	2%	0%	0.2	0.55	1%	0%
Window 37	Living/Dining/Kitchen	1%	0%	2%	0%	0.2	0.55	1%	0%
Window 38	Living/Dining/Kitchen	15%	2%	41%	9%	0.2	0.55	23%	6%
Window 39	Living/Dining/Kitchen	9%	1%	41%	7%	0.2	0.55	18%	4%
Window 40	Bedroom	21%	6%	36%	7%	0.2	0.55	24%	7%
Flat 10									
Second Floor									
Window 41	Living/Dining/Kitchen	50%	21%	20%	5%	0.2	0.55	38%	12%
Window 42	Living/Dining/Kitchen	50%	21%	25%	6%	0.2	0.55	40%	13%
Window 43	Living/Dining/Kitchen	4%	4%	53%	12%	0.2	0.55	17%	8%
Window 44	Bedroom	3%	3%	41%	10%	0.2	0.55	13%	7%
Flat 11									
Custom Floor									
Window 45	Living/Dining/Kitchen	50%	21%	45%	11%	0.2	0.55	46%	16%
Window 46	Living/Dining/Kitchen	50%	21%	45%	7%	0.2	0.55	44%	13%
Window 47	Living/Dining/Kitchen	4%	4%	50%	6%	0.2	0.55	14%	5%
Window 48	Bedroom	3%	3%	49%	9%	0.2	0.55	14%	6%
Flat 12									
Second Floor									
Window 49	Living/Dining/Kitchen	50%	21%	40%	3%	0.2	0.55	42%	11%
Window 50	Living/Dining/Kitchen	50%	21%	32%	3%	0.2	0.55	40%	11%
Window 51	Living/Dining/Kitchen	5%	5%	20%	0%	0.2	0.55	6%	2%
Window 52	Bedroom	5%	5%	25%	2%	0.2	0.55	8%	3%
Flat 13									
Second Floor									
Window 53	Living/Dining/Kitchen	28%	15%	62%	14%	0.2	0.55	34%	14%
Window 54	Living/Dining/Kitchen	48%	15%	58%	18%	0.2	0.55	51%	17%
Window 55	Living/Dining/Kitchen	48%	15%	58%	19%	0.2	0.55	51%	17%
Window 56	Living/Dining/Kitchen	0%	0%	8%	0%	0.2	0.55	2%	0%
Window 57	Bedroom	5%	0%	9%	0%	0.2	0.55	6%	0%
Window 58	Bedroom	5%	0%	13%	0%	0.2	0.55	7%	0%
Window 59	Bedroom	5%	0%	8%	0%	0.2	0.55	6%	0%
Flat 14									
Custom Floor									
Window 60	Bedroom	5%	0%	5%	0%	0.2	0.55	5%	0%
Window 61	Bedroom	5%	0%	5%	0%	0.2	0.55	5%	0%
Window 62	Living/Dining/Kitchen	10%	3%	25%	8%	0.2	0.55	15%	6%
Window 63	Living/Dining/Kitchen	1%	0%	11%	0%	0.2	0.55	3%	0%
Window 64	Living/Dining/Kitchen	1%	0%	5%	0%	0.2	0.55	2%	0%
Flat 15									
Second Floor									
Window 65	Bedroom	1%	0%	1%	0%	0.2	0.55	1%	0%
Window 66	Living/Dining/Kitchen	1%	0%	1%	0%	0.2	0.55	1%	0%
Window 67	Living/Dining/Kitchen	1%	0%	1%	0%	0.2	0.55	1%	0%
Window 68	Living/Dining/Kitchen	24%	3%	17%	5%	0.2	0.55	23%	4%
Window 69	Living/Dining/Kitchen	21%	4%	46%	9%	0.2	0.55	28%	7%
Window 70	Bedroom	29%	9%	40%	5%	0.2	0.55	30%	7%

Appendix 2 - Sunlight to Windows

Sheldon House, Cromwell Road, Teddington TW11 9EJ

Reference	Room Use	$APSH_{no\ trees}$		$APSH_{opaque\ tree}$		Transparency, Tp		APSH	
		Total	Winter	Total	Winter	Tp_{summer}	Tp_{winter}	Total	Winter
Flat 16									
Third Floor									
Window 71	Living/Dining/Kitchen	50%	21%	20%	6%	0.2	0.55	39%	13%
Window 72	Living/Dining/Kitchen	50%	21%	36%	11%	0.2	0.55	44%	16%
Window 73	Living/Dining/Kitchen	4%	4%	60%	16%	0.2	0.55	19%	11%
Window 74	Bedroom	3%	3%	59%	16%	0.2	0.55	19%	10%
Flat 17									
Third Floor									
Window 75	Living/Dining/Kitchen	50%	21%	55%	17%	0.2	0.55	50%	19%
Window 76	Living/Dining/Kitchen	50%	21%	59%	16%	0.2	0.55	50%	18%
Window 77	Living/Dining/Kitchen	4%	4%	60%	15%	0.2	0.55	19%	10%
Window 78	Bedroom	3%	3%	66%	19%	0.2	0.55	21%	12%
Flat 18									
Third Floor									
Window 79	Living/Dining/Kitchen	50%	21%	57%	13%	0.2	0.55	49%	17%
Window 80	Living/Dining/Kitchen	50%	21%	53%	8%	0.2	0.55	46%	14%
Window 81	Living/Dining/Kitchen	6%	6%	50%	6%	0.2	0.55	15%	6%
Window 82	Bedroom	5%	5%	55%	7%	0.2	0.55	16%	6%
Flat 19									
Third Floor									
Window 83	Living/Dining/Kitchen	32%	15%	70%	21%	0.2	0.55	42%	18%
Window 84	Living/Dining/Kitchen	48%	15%	65%	21%	0.2	0.55	54%	18%
Window 85	Living/Dining/Kitchen	48%	15%	66%	22%	0.2	0.55	54%	19%
Window 86	Living/Dining/Kitchen	0%	0%	17%	2%	0.2	0.55	4%	1%
Window 87	Bedroom	5%	0%	18%	1%	0.2	0.55	8%	1%
Window 88	Bedroom	5%	0%	16%	1%	0.2	0.55	8%	1%
Window 89	Bedroom	5%	0%	11%	1%	0.2	0.55	7%	1%
Flat 20									
Third Floor									
Window 90	Bedroom	5%	0%	7%	2%	0.2	0.55	6%	1%
Window 91	Bedroom	5%	0%	6%	1%	0.2	0.55	6%	1%
Window 92	Living/Dining/Kitchen	28%	4%	26%	9%	0.2	0.55	29%	7%
Window 93	Living/Dining/Kitchen	1%	0%	11%	0%	0.2	0.55	3%	0%
Window 94	Living/Dining/Kitchen	1%	0%	12%	0%	0.2	0.55	3%	0%
Flat 21									
Third Floor									
Window 95	Bedroom	1%	0%	10%	0%	0.2	0.55	3%	0%
Window 96	Living/Dining/Kitchen	1%	0%	8%	0%	0.2	0.55	2%	0%
Window 97	Living/Dining/Kitchen	1%	0%	6%	0%	0.2	0.55	2%	0%
Window 98	Living/Dining/Kitchen	33%	7%	54%	17%	0.2	0.55	41%	13%
Window 99	Living/Dining/Kitchen	29%	5%	51%	14%	0.2	0.55	37%	10%
Window 100	Bedroom	35%	9%	48%	11%	0.2	0.55	38%	10%
Flat 22									
Fourth Floor									
Window 101	Bedroom	49%	21%	72%	22%	0.2	0.55	54%	22%
Window 102	Living/Dining/Kitchen	49%	21%	74%	25%	0.2	0.55	55%	23%
Flat 23									
Custom Floor									
Window 103	Bedroom	49%	21%	75%	26%	0.2	0.55	56%	24%

Appendix 2 - Sunlight to Windows

Sheldon House, Cromwell Road, Teddington TW11 9EJ

Reference	Room Use	$APSH_{no\ trees}$		$APSH_{opaque\ tree}$		Transparency, Tp		APSH	
		Total	Winter	Total	Winter	Tp_{summer}	Tp_{winter}	Total	Winter
Window 104	Living/Dining/Kitchen	49%	21%	76%	27%	0.2	0.55	57%	24%
Flat 24									
Fourth Floor									
Window 105	Bedroom	49%	21%	75%	26%	0.2	0.55	56%	24%
Window 106	Living/Dining/Kitchen	49%	21%	74%	24%	0.2	0.55	55%	23%
Window 107	Living/Dining/Kitchen	47%	15%	67%	22%	0.2	0.55	53%	19%
Window 108	Living/Dining/Kitchen	47%	15%	68%	23%	0.2	0.55	54%	19%
Flat 25									
Custom Floor									
Window 109	Living/Dining/Kitchen	47%	15%	68%	23%	0.2	0.55	54%	19%
Window 110	Living/Dining/Kitchen	5%	0%	22%	2%	0.2	0.55	9%	1%
Window 111	Bedroom	5%	0%	22%	2%	0.2	0.55	9%	1%
Window 112	Bedroom	5%	0%	21%	2%	0.2	0.55	9%	1%
Window 113	Bedroom	5%	0%	18%	2%	0.2	0.55	8%	1%
Flat 26									
Fourth Floor									
Window 114	Bedroom	5%	0%	13%	2%	0.2	0.55	7%	1%
Window 115	Bedroom	5%	0%	12%	2%	0.2	0.55	7%	1%
Window 116	Living/Dining/Kitchen	26%	4%	32%	9%	0.2	0.55	29%	7%
Window 117	Living/Dining/Kitchen	6%	0%	12%	0%	0.2	0.55	7%	0%
Flat 27									
Custom Floor									
Window 118	Living/Dining/Kitchen	1%	0%	12%	0%	0.2	0.55	3%	0%
Window 119	Living/Dining/Kitchen	1%	0%	13%	0%	0.2	0.55	3%	0%
Window 120	Living/Dining/Kitchen	36%	9%	56%	19%	0.2	0.55	44%	15%
Window 121	Bedroom	36%	9%	54%	17%	0.2	0.55	42%	13%

Appendix 2 - Overshadowing to Gardens and Open Spaces

Sheldon House, Cromwell Road, Teddington TW11 9EJ

Reference	Total Area	Area receiving at least 2 hours of sunlight on 21 March (opaque trees)		Area receiving at least 2 hours of sunlight on 21 March (no trees)	
Sheldon House					
Ground Floor					
Garden 1	591.67 m2	588.58 m2	99%	583.5 m2	99%
Garden 2	271.85 m2	270.46 m2	99%	226.93 m2	83%

APPENDIX 3

OVERSHADOWING TO GARDENS AND OPEN SPACES

Key

Receives under two hours sunlight on 21st March.

Receives at least two hours sunlight on 21st March.

Drawing Title: Appendix 3 - Overshadowing to Gardens and Open Spaces

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