RIGHT OF LIGHT CONSULTING
Chartered Surveyors

Daylight and Sunlight Report

(Within Development)

27 September 2023

266 Kentwood Hill
Tilehurst
Reading
RG31 6DR

RICS
Regulated by RICS

Right of Light Consulting Ltd

Burley House
15-17 High Street
Rayleigh
Essex SS6 7EW

Tel: 0800 197 4836

www.right-of-light.co.uk

CONTENTS

..... 1

1 EXECUTIVE SUMMARY 2
1.1 Overview 2

2 INFORMATION SOURCES 3
2.1 Documents Considered 3

3 METHODOLOGY OF THE ASSESSMENT 4
3.1 Local Planning Policy 4
3.2 National Planning Policy Framework 4
3.3 National Planning Practice Guidance 5
3.4 Interior Daylighting 5
3.5 Exposure to Sunlight 7

4 RESULTS OF THE ASSESSMENT 8
4.1 Windows Analysed 8
4.2 Interior Daylighting 8
4.3 Exposure to Sunlight 8
4.4 Conclusion 8

5 CLARIFICATIONS 9
5.1 General 9

APPENDICES

APPENDIX 1 WINDOW KEY
APPENDIX 2 DAYLIGHT PROVISION DATA & CONTOURS
APPENDIX 3 EXPOSURE TO SUNLIGHT DATA

1 EXECUTIVE SUMMARY

1.1 Overview

1.1.1 Right of Light Consulting has been commissioned by Savoys Properties Ltd to undertake a daylight and sunlight assessment in connection with the development at 266 Kentwood Hill, Tilehurst, Reading RG31 6DR. The aim of the assessment is to check whether the proposed accommodation will provide its future occupiers with adequate levels of natural light.

1.1.2 The assessment 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, 3rd Edition' by P J Littlefair 2022.

1.1.3 Appendix 1 identifies the windows analysed in this assessment. Daylight provision data and contours for the habitable rooms are presented in Appendix 2. Exposure to sunlight data is provided in Appendix 3.

1.1.4 In the absence of an arboricultural report, we have not been able to undertake the assessment including the effect of trees. We have however provided our opinion in section 4 of this report on how the presence of the tree on the northeast elevation of the proposed development will affect the results presented.

1.1.5 Right of Light Consulting are of the opinion that the minimum requirements for daylight, as set out in the BRE guide 'Site Layout Planning for Daylight and Sunlight,' are likely to be achieved when including the tree in the assessment. 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:

Savoys

2023-266KH-PA2-1	Proposal: Location Plan	Rev 1.0
2023-266KH-PA2-2	Proposed Floor Plans	Rev 1.0
2023-266KH-PA2-3	Proposed Elevations	Rev 1.0

3 METHODOLOGY OF THE ASSESSMENT

3.1 Local Planning Policy

3.1.1 We understand that the Local Authority takes 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, 3rd Edition' by P J Littlefair 2022. The BRE guide is based on European standard BS EN 17037 'Daylight in Buildings', 2019 (BS EN 17037).

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."

3.1.4 In reference to applying different numerical target values in different locations, the BRE guide states:

3.1.5 "These values are purely advisory and different targets may be used based on the special requirements of the proposed development or its location."

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:

"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 National Planning Practice Guidance

3.3.1 The BRE numerical guidelines should also be considered in the context of the National Planning Practice Guidance (NPPG). The NPPG states that developments should maintain acceptable living standards. It goes on to explain that what this means in practice is that appropriate levels of sunlight and daylight, will depend to some extent on the context for the development. This is consistent with the BRE guide which as noted in paragraphs 3.1.4 to 3.1.5 above, states that site location is a relevant factor when setting sunlight and daylight targets.

3.4 Interior Daylighting

3.4.1 The BRE guide recommends that interior daylighting is checked using the daylight provision test set out in BS EN 17037. The test measures both the amount of daylight, as well as the distribution of daylight within a room. The General Permitted Development (England) Order 2015 (GPDO 2015) states that adequate natural light is required in habitable rooms. The GDPO 2015 defines a habitable room as any rooms used or intended to be used for sleeping or living which are not solely used for cooking purposes, but does not include bath or toilet facilities, service rooms, corridors, laundry rooms, hallways or utility rooms. This includes living rooms, bedrooms and sometimes kitchens. If the kitchen is small and is solely used for cooking purposes, then the accepted practice is to treat the kitchen as a non-habitable room.

3.4.2 The assessment is carried out using a grid of points on a horizontal reference plane in each room. In accordance with the BRE recommendations, we have set the reference plane at 850mm above the floor and have excluded assessment points from a 0.3m wide band around the perimeter of each room.

3.4.3 The UK National Annex to BS EN 17037 gives UK specific minimum illuminance recommendations which we have set as the targets for this project. The targets comprise of 100 lux in bedrooms, 150 lux in living rooms and 200 lux in kitchens to be exceeded over at least 50% of the reference plane.

3.4.4 Where a room has a shared use, the highest target should apply. However, the BRE guide explains that local authorities could use discretion here. The guide gives the example where the target for a living room could be used for a combined

living/dining/kitchen area if the kitchens are not treated as habitable spaces, as it may avoid small separate kitchens in a design.

3.4.5 The data in Appendix 2 includes the lux target we have assigned to each room, together with the percentage of the reference plane that meets the target. The median illuminance (lux) achieved for each room is also presented. Where the median illuminance exceeds the lux target, this means the lux target has been achieved over at least 50% of the assessment grid.

3.4.6 The daylight provision test may be carried out using either the daylight factor method, or the interior illuminance method. For the purpose of this assessment, we have adopted the daylight factor method. Using the conversion table set out in the BRE guide, we have expressed the results in terms of lux.

3.4.7 Since the assessment is based on a computer simulation, it is necessary to set various surface reflectance values. For example, a 0.6 reflectance means that 60% of the light hitting the surface will be reflected. The BRE guide states that it is necessary to make an allowance for the deterioration of surface finishes. Furniture within the rooms will also have an impact on daylight provision. Since the computer model used in the simulation does not include furniture, the BRE guide recommends that an allowance for this is also made within the reflectance values. For this reason, we have set out below, both the manufacturer's reflectance values, and the values used in the simulation. The simulation values include allowances for furniture and the deterioration of the surfaces. Should product substitutions be required, products with equal reflectance values should be chosen to ensure the daylight results presented in this report are achieved.

Surface	**Product**	**Product Reflectance**	**Simulation Reflectance**
Interior walls	Dulux Light & Space Absolute White	0.93	0.8
Ceilings	Dulux Light & Space Absolute White	0.93	0.8
Floors	Kahrs engineered wood (Ash Air)	0.76	0.4
Development cladding	BRE default value	n/a	0.2
Balcony floors	Portland stone	0.6	0.5
Balcony soffits	Dulux Weathershield Brilliant White	0.92	0.6
Neighbouring buildings	BRE default value	n/a	0.2
Mirror	Generic value	n/a	0.95
Glass	Generic value	n/a	0.1
Exterior ground	BRE default value	n/a	0.2

3.4.8 The simulation is based on double-glazed windows with a glazed area that equates to 80% of the structural opening size. The glazing consists of a Pilkington 4mm Optifloat

Clear outer pane and a Pilkington 6.4mm OptiLam K Glass S inner pane, which has an overall manufacturer's direct transmittance of 0.82. In accordance with the BRE guide, the simulation includes maintenance factors to allow for the effect of dirt on the glazing.

3.5 Exposure to Sunlight

3.5.1 The BRE guide states that the main requirement for sunlight is in living rooms, where it is valued at any time of day but especially in the afternoon. Sunlight is also required in conservatories. It is viewed as less important in bedrooms and in kitchens, where people prefer it in the morning rather than the afternoon.

3.5.2 The BRE guide states that, in general, a dwelling will appear reasonably sunlit provided:

- at least one main window wall faces within 90 degrees of due south, and
- a habitable room, preferably a main living room, can receive a total of at least 1.5 hours of sunlight on 21 March.

3.5.3 The guide states that, where groups of dwellings are planned, site layout design should aim to maximise the number of dwellings with a main living room that meets the above recommendations.

3.6 Trees and Hedges

3.6.1 Appendix G of the BRE guide gives guidance on trees and hedges. The guide states that trees and hedges vary in their effects on skylight and sunlight and most tree species will cast partial shade.

3.6.2 In the absence of an arboricultural report, we have not been able to undertake the assessment including the effect of trees. We have however provided our opinion in section 4 of this report on how the presence of the tree on the northeast elevation of the proposed development will affect the results presented.

4 RESULTS OF THE ASSESSMENT

4.1 Windows Analysed

4.1.1 Appendix 1 identifies the windows serving habitable rooms analysed in this assessment.

4.2 Interior Daylighting

4.2.1 Daylight provision data and contours for the habitable rooms are presented in Appendix 2.

4.2.2 The proposed unit surpasses the BRE minimum illuminance recommendations, excluding the effect of the tree on the northeast elevation of the proposal. Right of Light Consulting are of the opinion that if the tree was included in the assessment of interior daylighting, there would be some reduction in the well-lit area of the room, but the proposal would still meet the minimum requirements for daylight.

4.3 Exposure to Sunlight

4.3.1 Exposure to sunlight data is provided in Appendix 3.

4.3.2 In the case of the proposed development, there is one habitable room window which faces within 90 degrees of due south.

4.4 Conclusion

4.4.1 Right of Light Consulting are of the opinion that the minimum requirements for daylight, as set out in the BRE guide 'Site Layout Planning for Daylight and Sunlight,' are likely to be achieved when including the tree in assessment. 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 assessment is limited to assessing daylight, sunlight of the proposed development as set out in section 2.1 and 3.1 of the BRE guide.

5.1.3 The assessment is based on the information listed in section 2 of this report. The assessment has been undertaken without access to the proposed development site or neighbouring properties.

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

APPENDIX 2

DAYLIGHT PROVISION DATA & CONTOURS

APPENDIX 3

EXPOSURE TO SUNLIGHT DATA

Clear outer pane and a Pilkington 6.4mm OptiLam K Glass S inner pane, which has an overall manufacturer's direct transmittance of 0.82. In accordance with the BRE guide, the simulation includes maintenance factors to allow for the effect of dirt on the glazing.

3.5 Exposure to Sunlight

3.5.1 The BRE guide states that the main requirement for sunlight is in living rooms, where it is valued at any time of day but especially in the afternoon. Sunlight is also required in conservatories. It is viewed as less important in bedrooms and in kitchens, where people prefer it in the morning rather than the afternoon.

3.5.2 The BRE guide states that, in general, a dwelling will appear reasonably sunlit provided:

- at least one main window wall faces within 90 degrees of due south, and
- a habitable room, preferably a main living room, can receive a total of at least 1.5 hours of sunlight on 21 March.

3.5.3 The guide states that, where groups of dwellings are planned, site layout design should aim to maximise the number of dwellings with a main living room that meets the above recommendations.

3.6 Trees and Hedges

3.6.1 Appendix G of the BRE guide gives guidance on trees and hedges. The guide states that trees and hedges vary in their effects on skylight and sunlight and most tree species will cast partial shade.

3.6.2 In the absence of an arboricultural report, we have not been able to undertake the assessment including the effect of trees. We have however provided our opinion in section 4 of this report on how the presence of the tree on the northeast elevation of the proposed development will affect the results presented.

4 RESULTS OF THE ASSESSMENT

4.1 Windows Analysed

4.1.1 Appendix 1 identifies the windows serving habitable rooms analysed in this assessment.

4.2 Interior Daylighting

4.2.1 Daylight provision data and contours for the habitable rooms are presented in Appendix 2.

4.2.2 The proposed unit surpasses the BRE minimum illuminance recommendations, excluding the effect of the tree on the northeast elevation of the proposal. Right of Light Consulting are of the opinion that if the tree was included in the assessment of interior daylighting, there would be some reduction in the well-lit area of the room, but the proposal would still meet the minimum requirements for daylight.

4.3 Exposure to Sunlight

4.3.1 Exposure to sunlight data is provided in Appendix 3.

4.3.2 In the case of the proposed development, there is one habitable room window which faces within 90 degrees of due south.

4.4 Conclusion

4.4.1 Right of Light Consulting are of the opinion that the minimum requirements for daylight, as set out in the BRE guide 'Site Layout Planning for Daylight and Sunlight,' are likely to be achieved when including the tree in assessment. 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 assessment is limited to assessing daylight, sunlight of the proposed development as set out in section 2.1 and 3.1 of the BRE guide.

5.1.3 The assessment is based on the information listed in section 2 of this report. The assessment has been undertaken without access to the proposed development site or neighbouring properties.

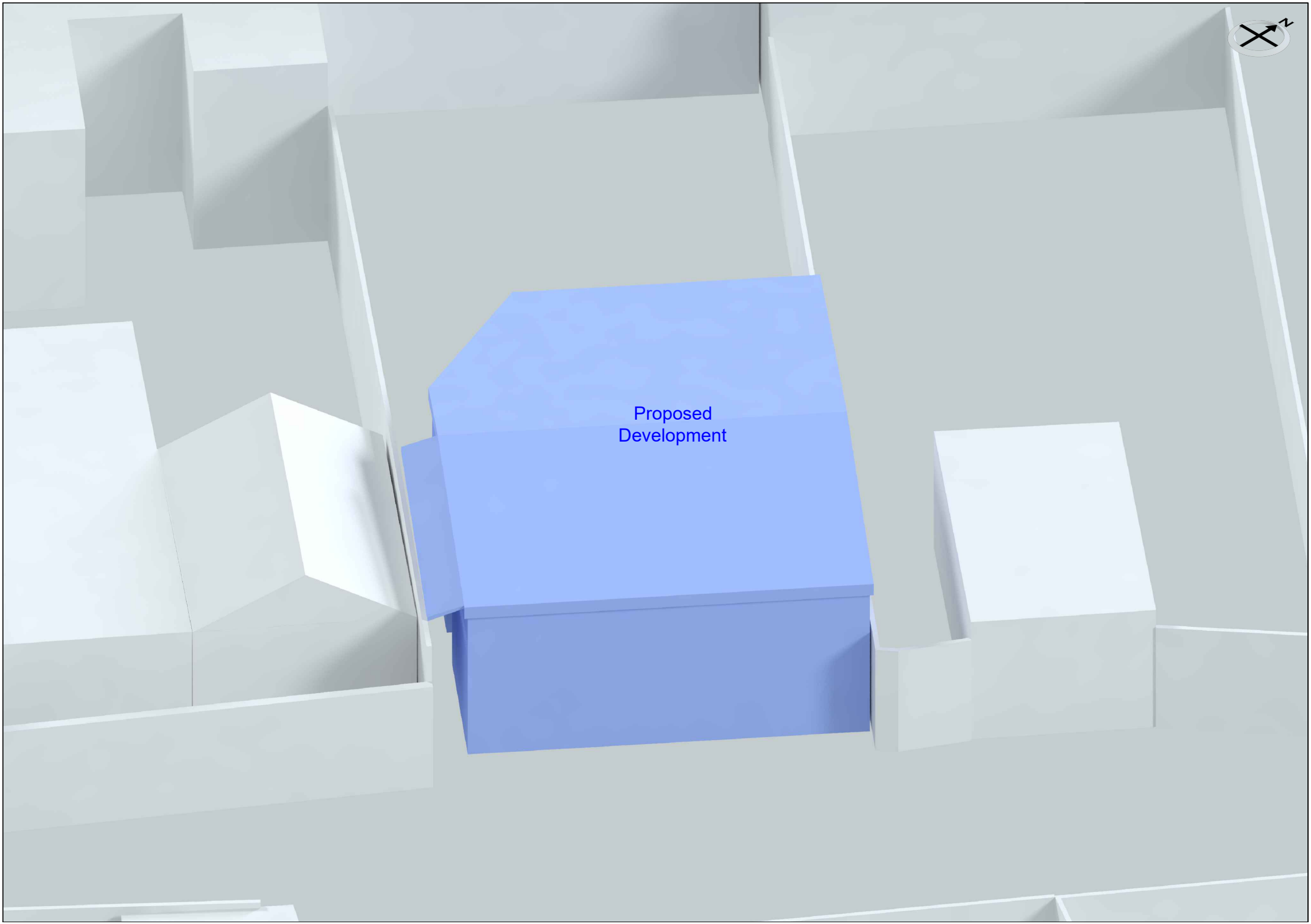
5.1.4 We have undertaken the survey following the guidelines of the RICS publication "Surveying Safely". Where limited access is available, assumptions will have been made.

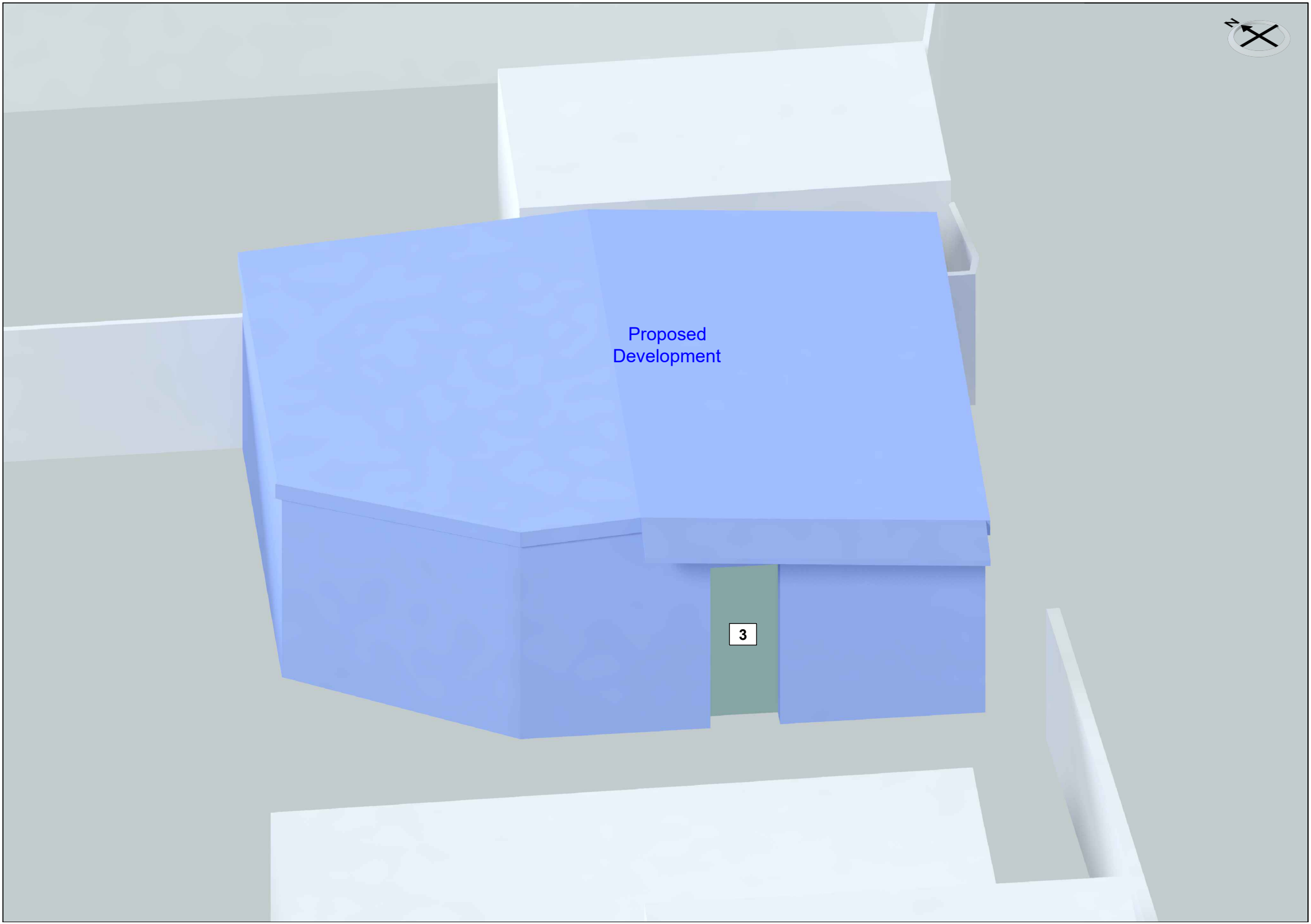
5.1.5 This report is based upon and subject to the scope of work set out in Right of Light Consulting's quotation and standard terms and conditions.

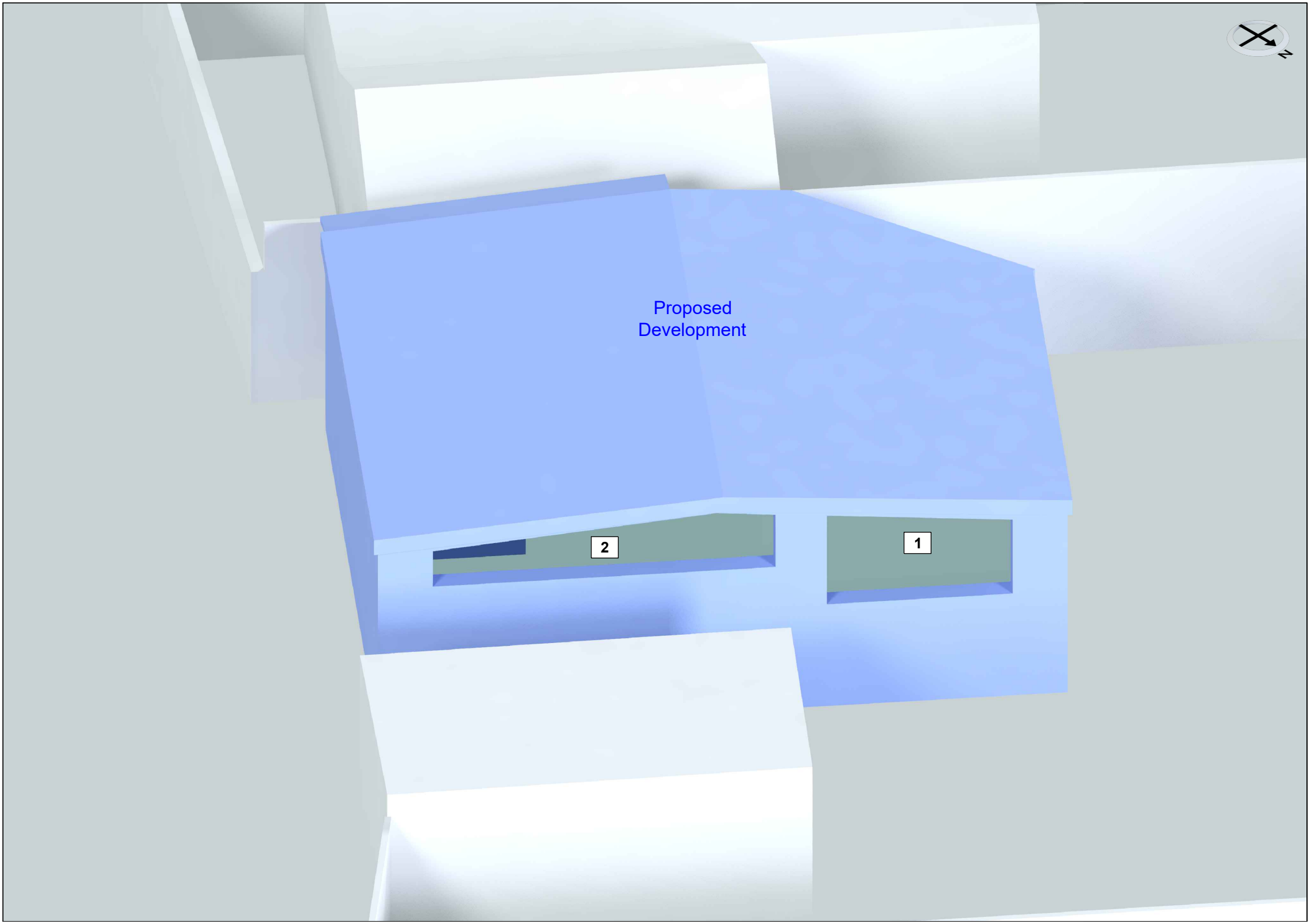
APPENDICES

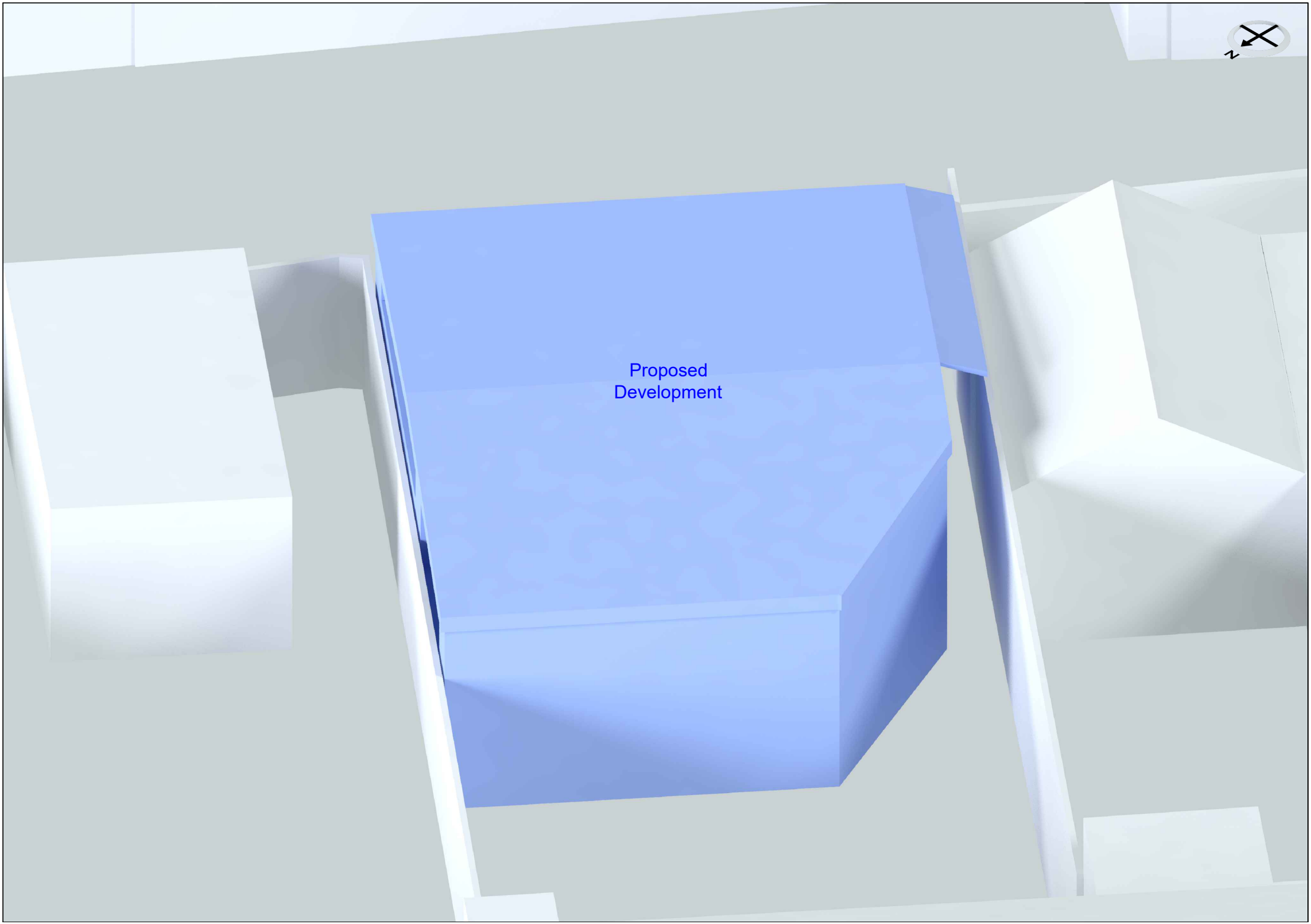
APPENDIX 1

WINDOW KEY


Proposed
Development


Proposed
Development
3


Proposed
Development
2
1
N


Proposed
Development
N

APPENDIX 2

DAYLIGHT PROVISION DATA & CONTOURS

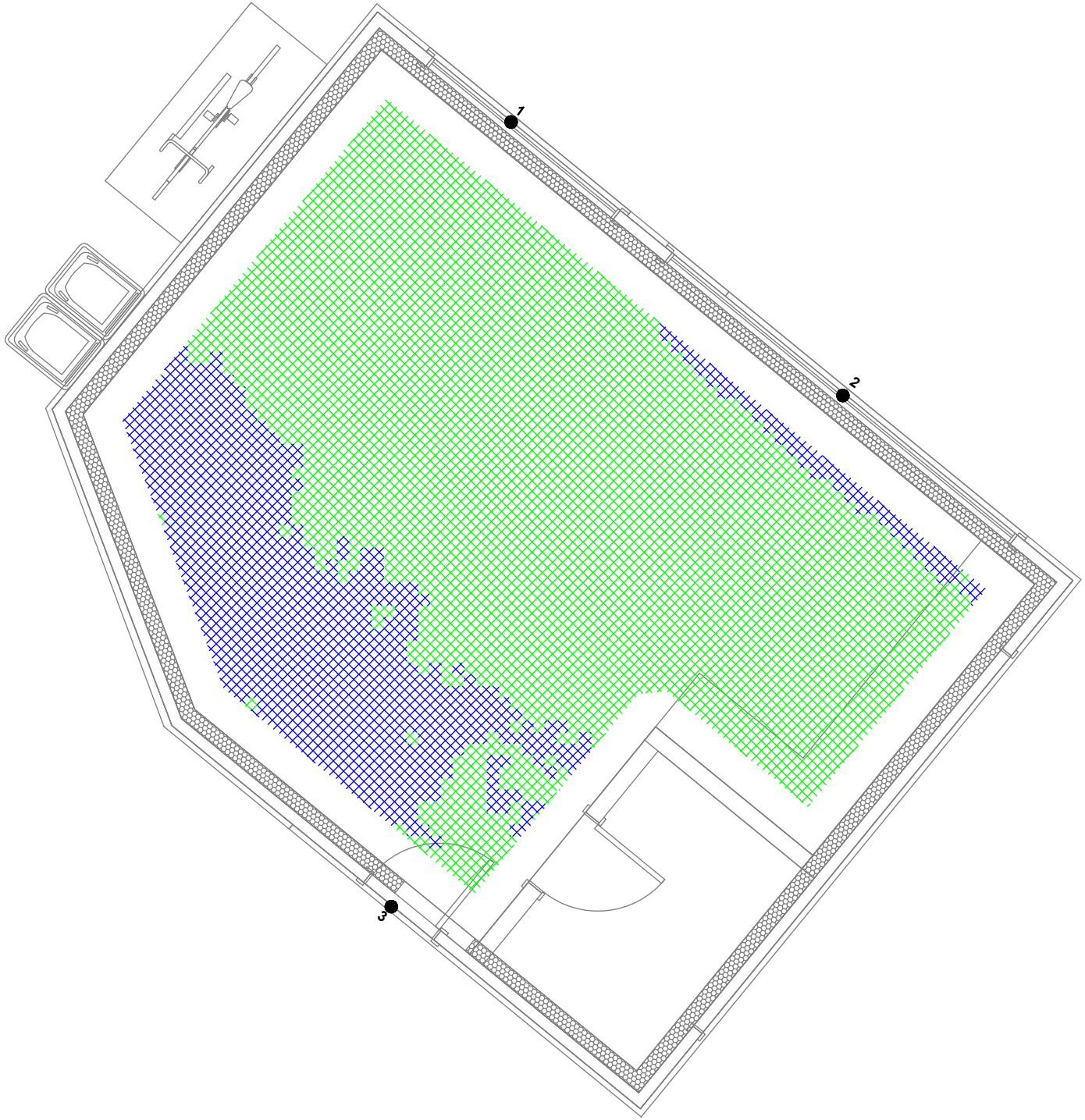
Appendix 2 - Daylight Provision

266 Kentwood Hill, Tilehurst, Reading RG31 6DR

Reference	Room Use	Min.Target Illuminance (Lux)	Target % of Reference Plane	% of Reference Plane Achieved	Target % Achieved	Median Illuminance (Lux)
266 Kentwood Hill (Flat)						
Ground Floor						
Windows 1 to 3	Studio	200	50%	75%	Yes	290

Proposed Ground Floor

Daylight Provision Contours



Key:

- 200 lux and above
- 150 lux to 199 lux
- 100 lux to 149 lux
- Below 100 lux
- Window reference
- G1 Gardens and Amenity Areas

Drawing Title:	Daylight Provision Contours
Scale:	Do not scale
Drawing No: 1 of 1	Rev. -

Rev	Date	Details of revision

RIGHT OF LIGHT CONSULTING
Chartered Surveyors

Right of Light Consulting
Burley House
15 - 17 High Street
Rayleigh
Essex
SS6 7EW
TEL 0800 197 4836
E-MAIL enquiries@right-of-light.co.uk
WEBSITE www.right-of-light.co.uk

APPENDIX 3

EXPOSURE TO SUNLIGHT DATA

Appendix 3 - Sunlight Exposure

266 Kentwood Hill, Tilehurst, Reading RG31 6DR

Reference	Room Use	Target Sunlight Exposure	Sunlight Exposure Achieved	At least one room meets Sunlight Exposure Target
266 Kentwood Hill (Flat)				
Ground Floor				
Windows 1 to 3	Studio	1.5 hours	1.1 hours	No