

Daylight and Sunlight Report

(Neighbouring Properties)



179 Lambourne Road Chigwell Essex IG7 6JU



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1 EXECUTIVE SUMMARY

1.1 Overview

- 1.1.1 Right of Light Consulting has been commissioned by Mr Whaid to undertake a daylight and sunlight study of the proposed development at 179 Lambourne Road, Chigwell, Essex IG7 6JU.
- 1.1.2 The study is based on 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.
- 1.1.3 The aim of the study is to assess the impact of the development on the light receivable by the neighbouring residential properties at 6, 7 & 8 Crosby Court, 173 (Hainault Hall), 175 (Harsnett), 177 (School Cottage) Lambourne Road and 7 Maypole Drive.
- 1.1.4 The window key in Appendix 1 identifies the windows analysed in this study. Appendix 2 gives the numerical results of the various daylight and sunlight tests.
- 1.1.5 All neighbouring windows that have a requirement for daylight or sunlight pass the relevant BRE diffuse daylight and direct sunlight tests. The development also passes the BRE overshadowing to gardens and open spaces test.
- 1.1.6 In summary, the numerical results in this study demonstrate that the proposed development will have a low impact on the light receivable by its neighbouring properties. In our opinion, the proposed development sufficiently safeguards the daylight and sunlight amenity of the neighbouring properties.

2 INFORMATION SOURCES

2.1 Drawings

2.1.1 This report is based on the following drawings:

Sketch Design Architects

5703 P4_SK01A	Site Location Plan	Rev -
5703_01	Site Location Plan	Rev -

Laser Surveys Limited

L 9523	Elevations	Rev 0
L 9523	Topographical Survey and Elevations	Rev 0

E-gg

Proposed Floor Plans Rev - Proposed Elevations Rev -

2.2 Daylight Distribution Room Layout Information

2.2.1 The daylight distribution test has been applied based on the following room layout information:

Online Local Authority planning records

173 Lambourne Road:

Proposed Ground Floor Plan	Rev -
Proposed Mezzanine Plan	Rev -
Floor Plans	Rev -

www.rightmove.co.uk

177 Lambourne Road:

Ground Floor Plan	Rev -
First Floor Plan	Rev -
Floor Plans	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 Daylight to Windows

- 3.3.1 Diffuse daylight is the light received from the sun which has been diffused through the sky. Even on a cloudy day, when the sun is not visible, a room will continue to be lit with light from the sky. This is diffuse daylight.
- 3.3.2 Diffuse daylight calculations should be undertaken to all rooms within domestic properties, where daylight is required, including living rooms, kitchens and bedrooms. The BRE guide states that windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed. These room types are non-habitable and do not have a requirement for daylight.
- 3.3.3 The BRE guide states that the tests may also be applied to non-domestic buildings where there is a reasonable expectation of daylight. The BRE guide explains that this would normally include schools, hospitals, hotels and hostels, small workshops and some offices. The BRE guide is not explicit in terms of which types of offices it regards as having a requirement for daylight. However, it is widely accepted amongst consultants and local authorities, that for planning purposes, offices (which are commercial in nature) do not have a requirement for daylight. The point is touched on in the 'Daylighting and Sunlighting' guidance note published by the Royal Institution of Chartered Surveyors (RICS), which gives guidance to surveyors on how to produce their reports:
- 3.3.4 "The report should establish the limits of the assessment. For example, existing commercial premises are rarely assessed for loss of amenity."
- 3.3.5 The BRE guide contains two tests which measure diffuse daylight:

Test 1 Vertical Sky Component

- 3.3.6 The Vertical Sky Component is a measure of available skylight at a given point on a vertical plane. Diffuse daylight may be adversely affected if after a development the Vertical Sky Component is both less than 27% and less than 0.8 times its former value.
- 3.3.7 The BRE guide states that the total amount of skylight can be calculated by finding the Vertical Sky Component at the centre of each main window. The BRE guide does not define the term 'main window'. However, in our opinion, where a room has

multiple windows, the largest window is usually taken as the main window and the smaller window(s) as secondary. Although we generally follow the practice of testing all windows, including secondary windows, our interpretation of the BRE guide is that the Vertical Sky Component targets do not apply to secondary windows.

Test 2 Daylight Distribution

- 3.3.8 The distribution of daylight within a room can be calculated by plotting the 'no sky line'. The no sky line is a line which separates areas of the working plane that do and do not have a direct view of the sky. Daylight may be adversely affected if, after the development, the area of the working plane in a room which can receive direct skylight is reduced to less than 0.8 times its former value.
- 3.3.9 The BRE guide states that both the total amount of skylight (Vertical Sky Component) and its distribution within the building (Daylight Distribution) are important. The BRE guide states that where room layouts are known, the impact on the daylighting distribution can be found by plotting the 'no sky line' in each of the main rooms. Therefore, we are of the opinion that application of the test is not a requirement of the BRE guide where room layouts are not known. We don't endorse the practice of applying the test based on assumed room layouts, because the test is very sensitive to the size and layout of the room and the results are likely to be misleading. However, we can provide additional daylight distribution data upon request by the local authority, if neighbouring room layout information is confirmed.

3.4 Sunlight availability to Windows

- 3.4.1 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 kitchens and bedrooms are less important, although care should be taken not to block too much sunlight. The tests should also be applied to non-domestic buildings where there is a particular requirement for sunlight.
- 3.4.2 The test is intended to be applied to main windows which face within 90 degrees of due south. However, the BRE guide explains that if the main window faces within 90 degrees of due north, but a secondary window faces within 90 degrees of due south, sunlight to the secondary window should be checked. For completeness, we have

tested all windows which face within 90 degrees of due south. The BRE guide states that sunlight availability may be adversely affected if the centre of the window:

- receives less than 25% of annual probable sunlight hours, or less than 5% of annual probable sunlight hours between 21 September and 21 March and
- receives less than 0.8 times its former sunlight hours during either period and
- has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

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 One way to consider overshadowing is by preparing shadow plots. However, the BRE guide states that it must be borne in mind that nearly all structures will create areas of new shadow, and some degree of transient overshadowing is to be expected. Therefore, shadow plots are of limited use as interpretation of the plots is subjective. Shadow plots have not been undertaken as part of this study.
- 3.5.3 The BRE guide also contains an objective overshadowing test which has been adopted for the purpose of this study. The guide recommends that at least 50% of the area of each amenity space listed above should receive at least two hours of sunlight on 21 March. If as a result of new development an existing garden or amenity area does not meet the above, and the area which can receive two hours of sunlight on 21 March is less than 0.8 times its former value, then the loss of light is likely to be noticeable.

4 RESULTS OF THE STUDY

4.1 Windows & Amenity Areas Considered

- 4.1.1 The aim of the study is to assess the impact of the development on the light receivable by the neighbouring residential properties at 6, 7 & 8 Crosby Court, 173 (Hainault Hall), 175 (Harsnett), 177 (School Cottage) Lambourne Road and 7 Maypole Drive.
- 4.1.2 Appendix 1 provides a plan and photographs to indicate the positions of the windows and outdoor amenity areas analysed in this study. Appendix 2 lists the detailed numerical daylight and sunlight test results.

4.2 Daylight to Windows

Vertical Sky Component

4.2.1 All windows with a requirement for daylight pass the Vertical Sky Component test.

Daylight Distribution

4.2.2 We have undertaken the Daylight Distribution test where room layouts are known. All rooms tested pass the daylight distribution test.

4.3 Sunlight to Windows

4.3.1 All windows that face within 90 degrees of due south have been tested for direct sunlight. All windows pass both the total annual sunlight hours test and the winter sunlight hours test. The proposed development therefore satisfies the BRE direct sunlight to windows requirements.

4.4 Overshadowing to Gardens and Open Spaces

4.4.1 All gardens and open spaces tested meet the BRE recommendations.

4.5 Conclusion

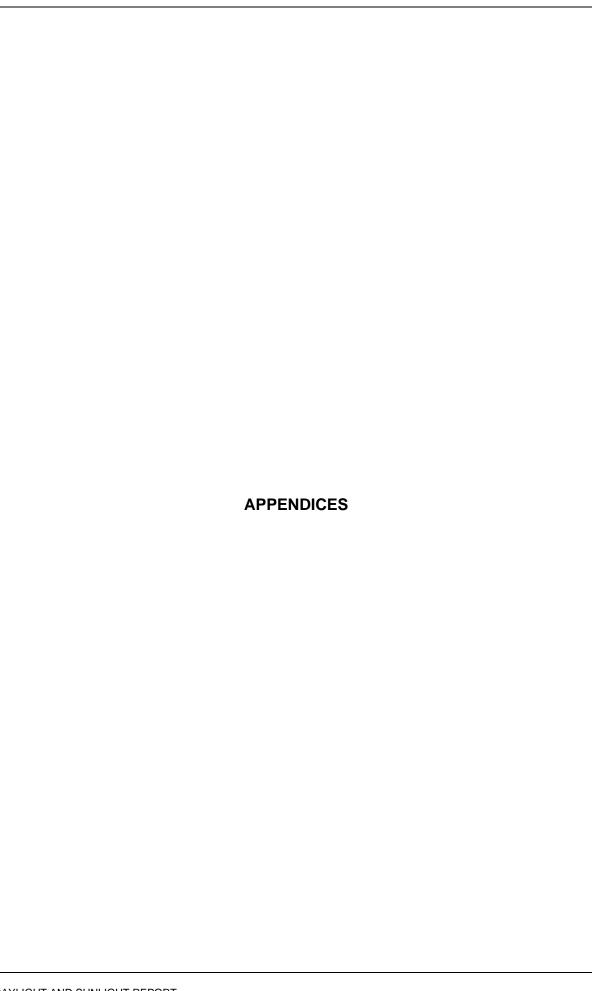
4.5.1 In summary, the numerical results in this study demonstrate that the proposed development will have a low impact on the light receivable by its neighbouring

properties. In our opinion, the proposed development sufficiently safeguards the daylight and sunlight amenity of the neighbouring properties.

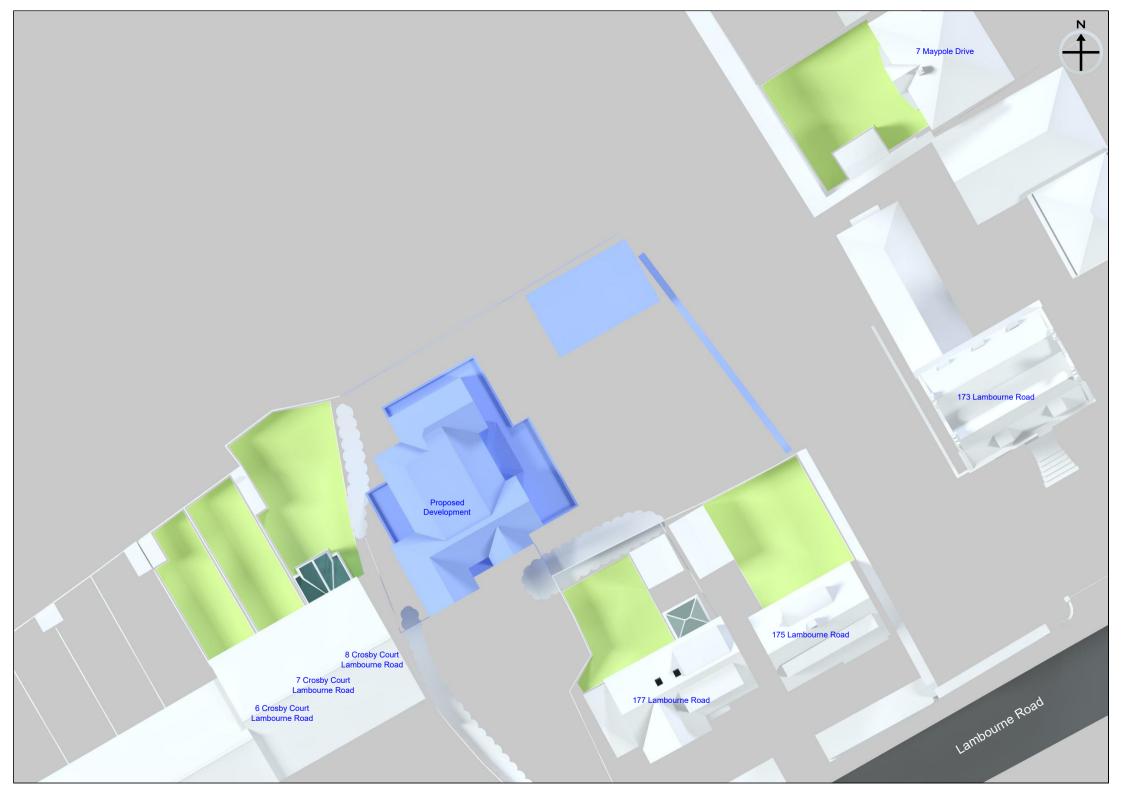
5 CLARIFICATIONS

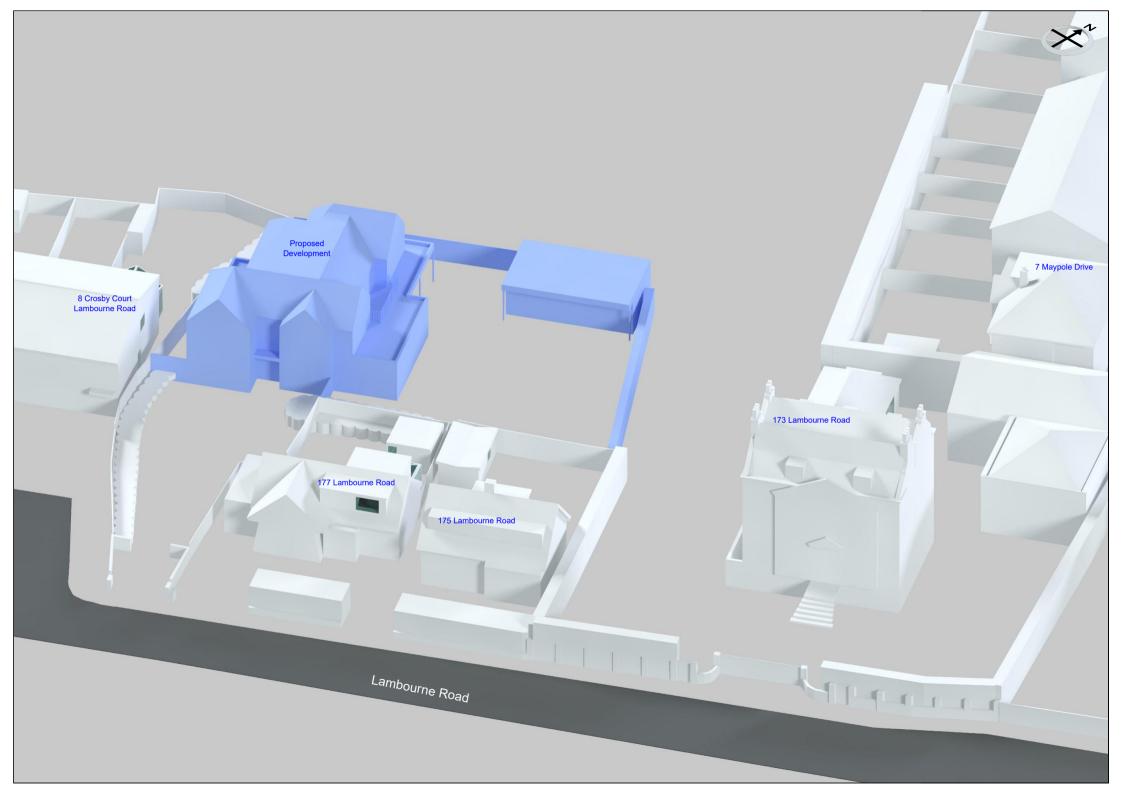
5.1 General

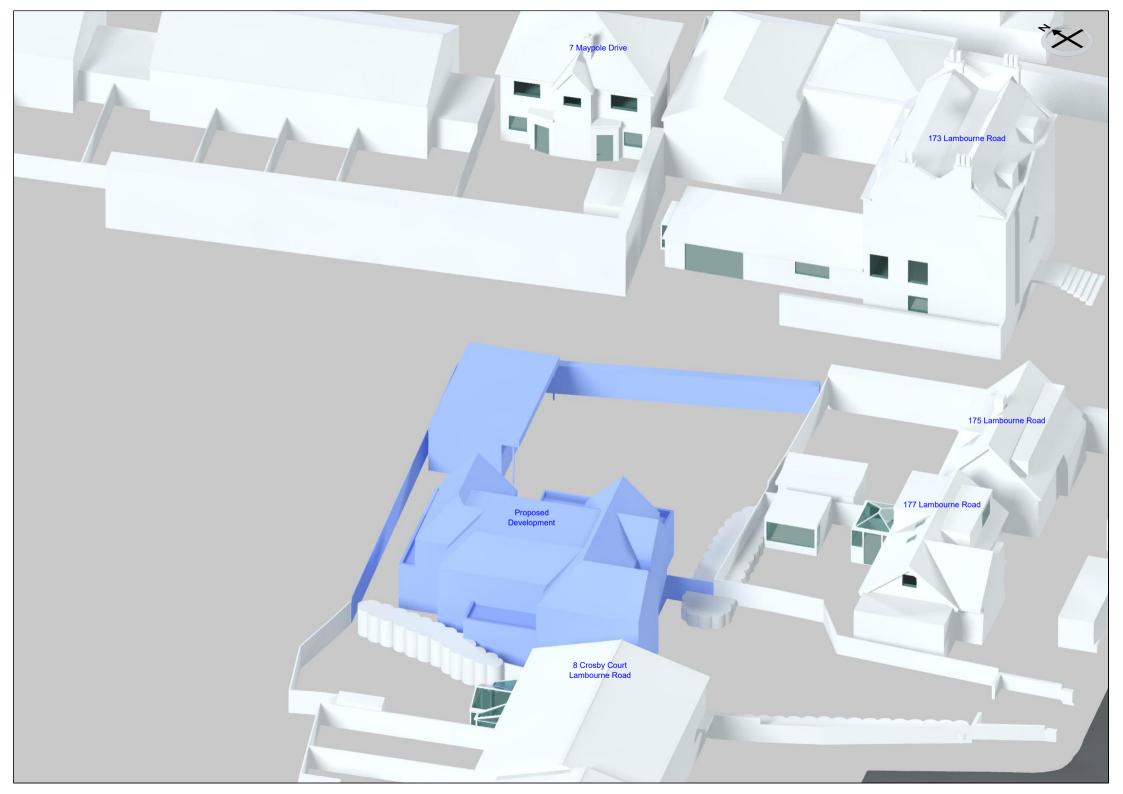
- 5.1.1 The report provided is solely for the use of the client and no liability to anyone else is accepted.
- 5.1.2 The study is limited to assessing daylight, sunlight and overshadowing to neighbouring properties as set out in section 2.2, 3.2 and 3.3 of the BRE Guide.
- 5.1.3 The study is based on the information listed in section 2 of this report and a site visit undertaken on 13 May 2020. We have not had access to neighbouring properties.
- 5.1.4 This study does not calculate the effects of trees and hedges on daylight, sunlight and overshadowing to gardens. The BRE guide states that it is usual to ignore the effect of existing trees.
- 5.1.5 The impact on solar panels is a material planning consideration. However, the BRE guide does not provide assessment criteria for this. The assessment of impact on any neighbouring solar panels is therefore beyond the scope of this report.
- 5.1.6 We have undertaken the study following the guidelines of the RICS publication "Surveying Safely". Where limited access or information is available, assumptions will have been made which may affect the conclusions reached in this report. For example, where neighbouring room uses are not known, we will either make an assumption regarding the use, or take the prudent approach of treating the use of the room as being used for domestic purposes. Therefore, the report may need to be updated if room uses are confirmed by the local authority or by the consultation responses.
- 5.1.7 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.

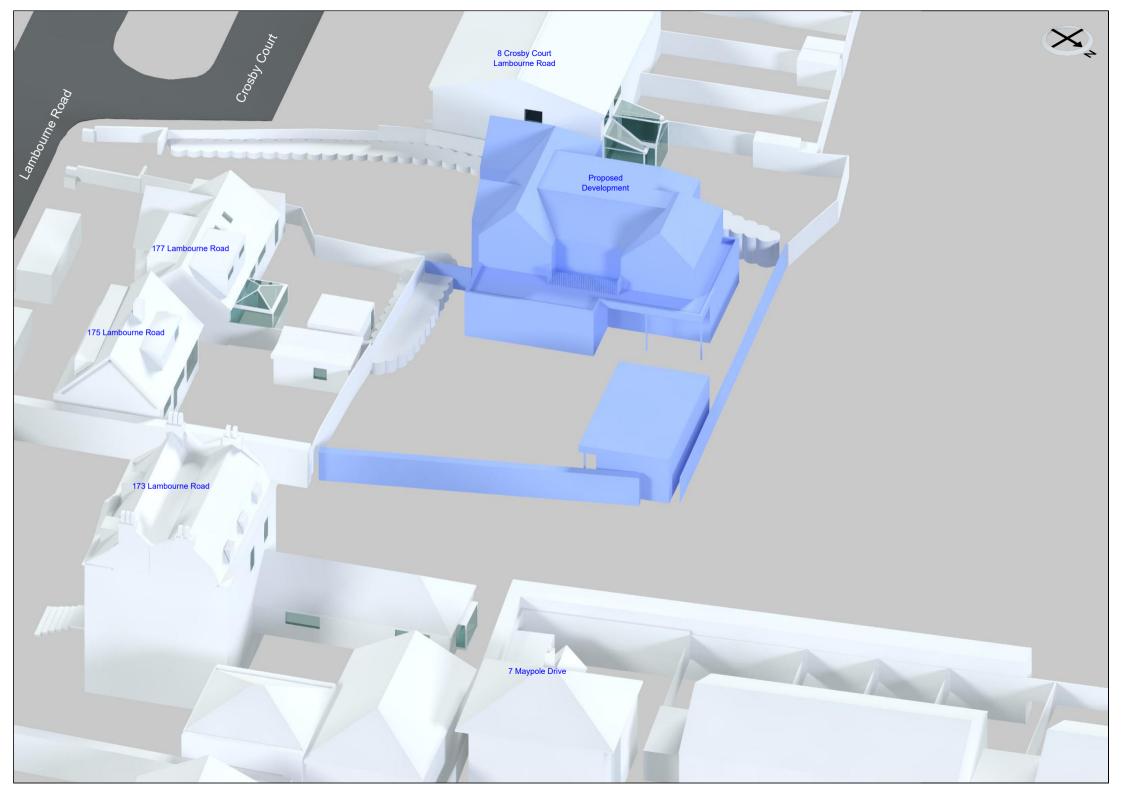


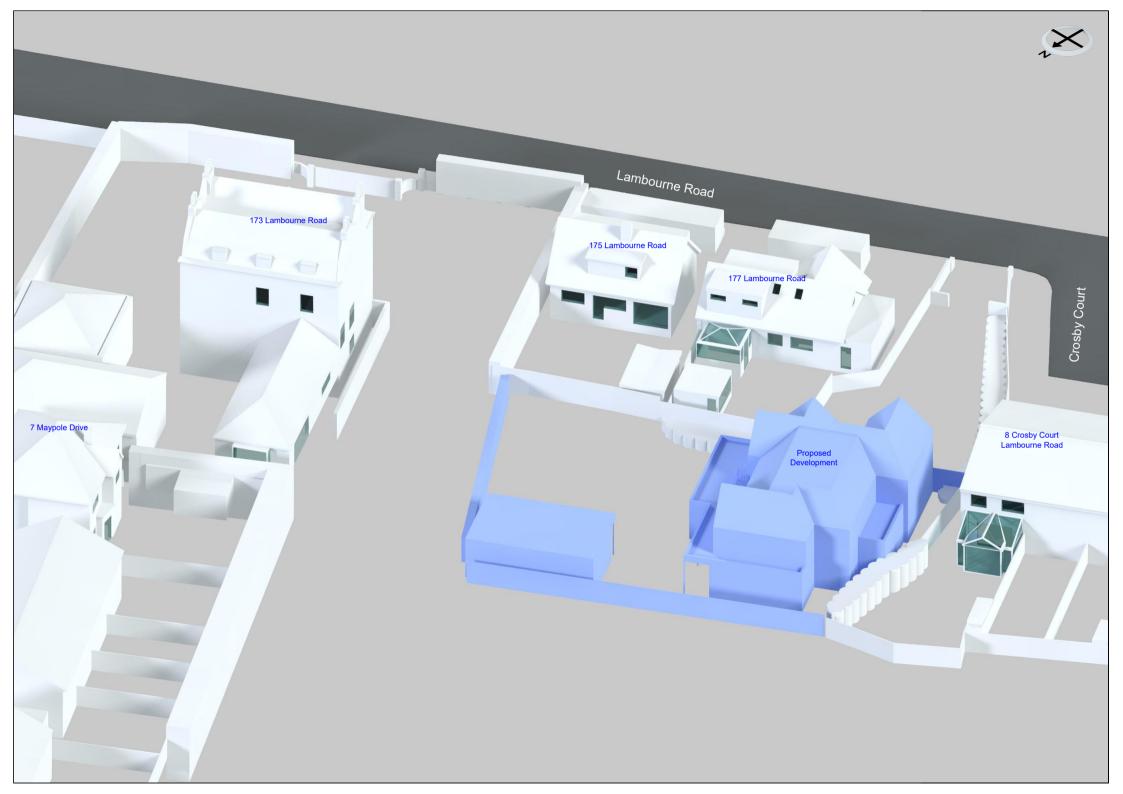
	APPENDIX 1	
	WINDOW & GARDEN KEY	
AYLIGHT AND SUNLIGHT REPORT		











Neighbouring Windows



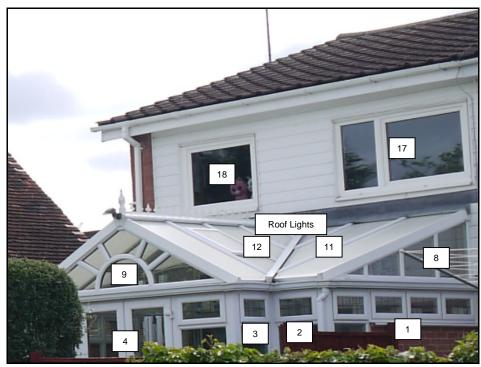
6 Crosby Court Lambourne Road



7 Crosby Court Lambourne Road



8 Crosby Court Lambourne Road



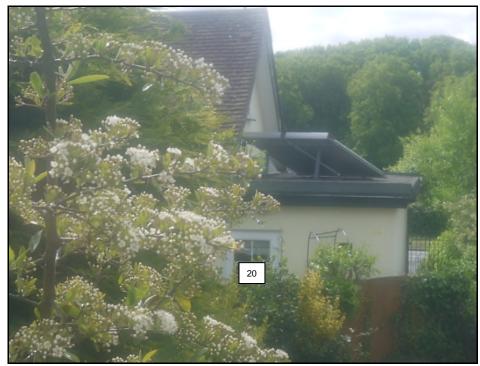
8 Crosby Court Lambourne Road



8 Crosby Court Lambourne Road



8 Crosby Court Lambourne Road



177 Lambourne Road (School Cottage)



177 Lambourne Road (School Cottage)



177 Lambourne Road (School Cottage)



177 Lambourne Road (School Cottage)



177 Lambourne Road (School Cottage)



177 Lambourne Road (School Cottage)



177 Lambourne Road (School Cottage)



175 Lambourne Road (Harsnett)



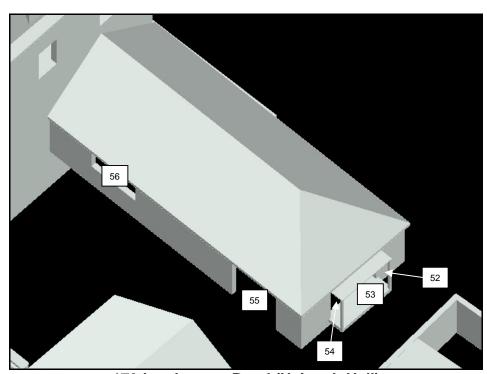
175 Lambourne Road (Harsnett)



175 Lambourne Road (Harsnett)



173 Lambourne Road (Hainault Hall)



173 Lambourne Road (Hainault Hall)



7 Maypole Drive

	APPE	NDIX 2		
	DAYLIGHT AND SU	JNLIGHT RESULT	-S	
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Appendix 2 - Vertical Sky Component 179 Lambourne Road, Chigwell, Essex IG7 6JU

Reference	Room Use		Vertical Sky	Component	
		Before	After	Loss	Ratio
8 Crosby Court Lambourne	Road				
Ground Floor					
Window 1	Domestic	3.9%	3.9%	0.0%	1.0
Window 2 (Secondary)	Domestic	29.3%	28.6%	0.7%	0.98
Window 3 (Secondary)	Domestic	21.9%	21.9%	0.0%	1.0
Window 4	Domestic	38.3%	37.3%	1.0%	0.97
Window 5 (Secondary)	Domestic	23.7%	17.9%	5.8%	0.76
Window 6 (Secondary)	Domestic	31.2%	29.7%	1.5%	0.95
Window 7 (Secondary)	Domestic	27.5%	19.8%	7.7%	0.72
Window 8 (Secondary)	Domestic	26.2%	26.2%	0.0%	1.0
Window 9	Domestic	39.3%	38.5%	0.8%	0.98
Window 10 (Secondary)	Domestic	30.3%	22.1%	8.2%	0.73
Window 11	Domestic	69.6%	68.8%	0.8%	0.99
Window 12	Domestic	74.6%	74.6%	0.0%	1.0
Window 13	Domestic	76.6%	73.6%	3.0%	0.96
Window 14	Domestic	72.0%	69.1%	2.9%	0.96
Window 15	Domestic	30.3%	29.1%	1.2%	0.96
Window 16	Non Habitable	26.1%	20.0%	6.1%	0.77
First Floor					
<u>First Floor</u> Window 17	Domestic	37.0%	36.4%	0.6%	0.98
Window 18	Domestic	36.8%	35.6%	1.2%	0.97
Window 19	Domestic	35.8%	28.1%	7.7%	0.78
177 Lambourne Road (Sch					
Ground Floor					
Window 20	Kitchen/Breakfast	33.4%	31.9%	1.5%	0.96
Window 21	Kitchen/Breakfast	32.1%	31.0%	1.1%	0.97
Window 22	Bathroom/WC	31.6%	30.7%	0.9%	0.97
Window 23	Conservatory	18.8%	18.0%	0.8%	0.96
Window 24	Conservatory	27.7%	26.8%	0.9%	0.97
Window 25	Conservatory	31.9%	30.9%	1.0%	0.97
Window 26	Conservatory	33.9%	32.9%	1.0%	0.97
Window 27	Conservatory	29.5%	29.5%	0.0%	1.0
Window 28	Conservatory	78.0%	77.6%	0.4%	0.99
Window 29	Conservatory	84.0%	83.7%	0.3%	1.0
Window 30	Conservatory	79.2%	79.2%	0.0%	1.0
Window 31	Conservatory	64.3%	64.3%	0.0%	1.0
Window 32	Unknown	23.5%	23.5%	0.0%	1.0
Window 33	Unknown	32.8%	23.5% 31.0%	1.8%	0.95
V V II ICICIVV COO	UHRHUWH	JZ.070	31.070	1.070	U. 90

Appendix 2 - Vertical Sky Component 179 Lambourne Road, Chigwell, Essex IG7 6JU

Before	Reference Room Use Vertical				al Sky Component			
	ivererence	Room ose	Refore					
Window 35			Belore	Altoi	L033	Ratio		
Window 35	First Floor							
Window 36		Bedroom	35.3%	35.0%	0.3%	0.99		
Window 38 Unknown 38.6% 37.8% 0.8% 0.98 Window 39 Bedroom 38.7% 37.9% 0.8% 0.98 Window 40 Bedroom 39.2% 39.2% 0.0% 1.0 ITS Lambourne Road (Harsnett) Window 41 Domestic 33.6% 33.1% 0.5% 0.99 Window 42 Domestic 34.0% 33.5% 0.5% 0.99 Window 44 Domestic 33.2% 32.9% 0.3% 0.99 Window 45 Domestic 37.1% 36.6% 0.5% 0.99 ITSI Elloor Window 46 Domestic 37.1% 36.6% 0.5% 0.99 ITSI Elloor Window 47 Domestic 33.7% 33.8% -0.1% 1.0 Ground Floor Window 48 Domestic 37.8% 37.4% 0.5% 0.99 Window 50 Domestic 36.3% 35.6% 0.7% 0.98 <	Window 36	Bathroom/WC		83.0%	0.3%	1.0		
Window 39 Bedroom 38.7% 37.9% 0.8% 0.98 Window 40 Bedroom 39.2% 39.2% 0.0% 1.0 ITS Lambourne Road (Harsnett) Ground Floor Window 41 Domestic 33.6% 33.1% 0.5% 0.99 Window 42 Domestic 34.0% 33.5% 0.5% 0.99 Window 43 Domestic 33.2% 32.9% 0.3% 0.99 Window 44 Domestic 30.0% 30.0% 0.0% 1.0 Eirst Floor Window 46 Domestic 37.1% 36.6% 0.5% 0.99 173 Lambourne Road (Hainault Hall) Basement Floor Window 47 Domestic 37.8% 37.4% 0.4% 0.99 Window 48 Domestic 37.8% 37.4% 0.4% 0.99 Window 50 Domestic 36.3% 35.1% 0.5% 0.99 Window 52 Domestic </td <td>Window 37</td> <td>Bathroom/WC</td> <td>74.8%</td> <td>74.5%</td> <td>0.3%</td> <td>1.0</td>	Window 37	Bathroom/WC	74.8%	74.5%	0.3%	1.0		
Window 40 Bedroom 39.2% 39.2% 0.0% 1.0 175 Lambourne Road (Harsnett) Ground Floor Window 41 Domestic 33.6% 33.1% 0.5% 0.99 Window 42 Domestic 34.0% 33.6% 0.4% 0.99 Window 43 Domestic 34.0% 33.5% 0.5% 0.99 Window 44 Domestic 30.0% 30.0% 0.0% 1.0 First Floor Window 46 Domestic 37.1% 36.6% 0.5% 0.99 173 Lambourne Road (Hainault Hall) Basement Floor Window 47 Domestic 33.7% 33.8% -0.1% 1.0 Ground Floor Window 48 Domestic 37.8% 37.4% 0.4% 0.99 Window 50 Domestic 35.6% 35.1% 0.5% 0.99 Window 51 Domestic 36.3% 35.6% 0.7% 0.98	Window 38	Unknown	38.6%	37.8%	0.8%	0.98		
Street S	Window 39	Bedroom	38.7%	37.9%	0.8%	0.98		
Section Floor Window 41 Domestic 33.6% 33.1% 0.5% 0.99	Window 40	Bedroom	39.2%	39.2%	0.0%	1.0		
Window 41 Domestic 33.6% 33.1% 0.5% 0.99 Window 42 Domestic 34.0% 33.6% 0.4% 0.99 Window 43 Domestic 34.0% 33.5% 0.5% 0.99 Window 44 Domestic 30.0% 30.0% 0.0% 1.0 First Floor Window 46 Domestic 37.1% 36.6% 0.5% 0.99 T73 Lambourne Road (Hainault Hall) Basement Floor Window 47 Domestic 37.8% 37.4% 0.4% 0.99 Window 48 Domestic 37.8% 37.4% 0.4% 0.99 Window 49 Domestic 35.6% 35.1% 0.5% 0.99 Window 50 Domestic 36.3% 35.6% 0.7% 0.98 Window 51 Domestic 19.9% 19.2% 0.7% 0.98 Window 52 Domestic 13.3% 13.3% 0.0% 1.0 Window 53 <t< td=""><td>175 Lambourne Road</td><td>d (Harsnett)</td><td></td><td></td><td></td><td></td></t<>	175 Lambourne Road	d (Harsnett)						
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Window 42 Domestic 34.0% 33.6% 0.4% 0.99 Window 43 Domestic 34.0% 33.5% 0.5% 0.99 Window 44 Domestic 30.0% 30.0% 0.0% 1.0 First Floor Window 46 Domestic 37.1% 36.6% 0.5% 0.99 173 Lambourne Road (Hainault Hall) Basement Floor Window 47 Domestic 33.7% 33.8% -0.1% 1.0 Ground Floor Window 48 Domestic 37.8% 37.4% 0.4% 0.99 Window 49 Domestic 35.6% 35.1% 0.5% 0.99 Window 50 Domestic 36.3% 35.6% 0.7% 0.98 Window 51 Domestic 19.9% 19.2% 0.7% 0.98 Window 52 Domestic 19.9% 19.2% 0.7% 0.96 Window 53 Domestic 21.8% 21.8% 0.0% 1.0 Window 55	<u> </u>	Domestic	33.6%	33.1%	0.5%	0.99		
Window 43 Domestic 34.0% 33.5% 0.5% 0.99 Window 44 Domestic 33.2% 32.9% 0.3% 0.99 Window 45 Domestic 30.0% 30.0% 0.0% 1.0 First Floor Window 46 Domestic 37.1% 36.6% 0.5% 0.99 Basement Floor Window 47 Domestic 33.7% 33.8% -0.1% 1.0 Ground Floor Window 48 Domestic 37.8% 37.4% 0.4% 0.99 Window 49 Domestic 35.6% 35.1% 0.5% 0.99 Window 50 Domestic 36.3% 35.6% 0.7% 0.98 Window 51 Domestic 19.9% 19.2% 0.7% 0.98 Window 52 Domestic 19.9% 19.2% 0.7% 0.96 Window 53 Domestic 20.4% 20.3% 0.1% 1.0 Window 55 Domestic 21.8% 21.8	Window 42	Domestic						
First Floor Window 46 Domestic 37.1% 36.6% 0.5% 0.99 173 Lambourne Road (Hainault Hall) Basement Floor Window 47 Domestic 33.7% 33.8% -0.1% 1.0 Ground Floor Window 48 Domestic 37.8% 37.4% 0.4% 0.99 Window 49 Domestic 35.6% 35.1% 0.5% 0.99 Window 50 Domestic 36.3% 35.6% 0.7% 0.98 Window 51 Domestic 36.3% 35.6% 0.7% 0.98 Window 52 Domestic 19.9% 19.2% 0.7% 0.98 Window 53 Domestic 20.4% 20.3% 0.1% 1.0 Window 54 Domestic 13.3% 13.3% 0.0% 1.0 Window 55 Domestic 21.8% 21.8% 0.0% 1.0 Window 57 Domestic 39.2% 39.1% 0.1% 1.0 Window 5	Window 43	Domestic	34.0%	33.5%	0.5%	0.99		
First Floor Window 46 Domestic 37.1% 36.6% 0.5% 0.99 173 Lambourne Road (Hainault Hall) Basement Floor Window 47 Domestic 33.7% 33.8% -0.1% 1.0 Ground Floor Window 48 Domestic 37.8% 37.4% 0.4% 0.99 Window 49 Domestic 38.0% 37.5% 0.5% 0.99 Window 50 Domestic 35.6% 35.1% 0.5% 0.99 Window 51 Domestic 36.3% 35.6% 0.7% 0.98 Window 52 Domestic 19.9% 19.2% 0.7% 0.98 Window 53 Domestic 20.4% 20.3% 0.1% 1.0 Window 54 Domestic 13.3% 13.3% 0.0% 1.0 Window 55 Domestic 13.3% 13.3% 0.0% 1.0 Window 56 Domestic 21.8% 21.8% 0.0% 1.0 Window 56 Domestic 22.5% 22.5% 0.0% 1.0 First Floor Window 57 Domestic 39.2% 39.1% 0.1% 1.0 Window 58 Domestic 39.2% 39.1% 0.0% 1.0 Vindow 58 Domestic 39.2% 39.1% 0.0% 1.0 T Maypole Drive Ground Floor Window 59 Domestic 26.5% 26.5% 0.0% 1.0	Window 44	Domestic	33.2%	32.9%	0.3%	0.99		
Window 46 Domestic 37.1% 36.6% 0.5% 0.99 173 Lambourne Road (Hainault Hall) Basement Floor Window 47 Domestic 33.7% 33.8% -0.1% 1.0 Ground Floor Window 48 Domestic 37.8% 37.4% 0.4% 0.99 Window 49 Domestic 38.0% 37.5% 0.5% 0.99 Window 50 Domestic 35.6% 35.1% 0.5% 0.99 Window 51 Domestic 36.3% 35.6% 0.7% 0.98 Window 52 Domestic 19.9% 19.2% 0.7% 0.96 Window 53 Domestic 20.4% 20.3% 0.1% 1.0 Window 54 Domestic 13.3% 13.3% 0.0% 1.0 Window 55 Domestic 21.8% 21.8% 0.0% 1.0 Window 56 Domestic 39.2% 39.1% 0.1% 1.0 Window 57 Domestic <td>Window 45</td> <td>Domestic</td> <td>30.0%</td> <td>30.0%</td> <td>0.0%</td> <td>1.0</td>	Window 45	Domestic	30.0%	30.0%	0.0%	1.0		
Window 46 Domestic 37.1% 36.6% 0.5% 0.99 173 Lambourne Road (Hainault Hall) Basement Floor Window 47 Domestic 33.7% 33.8% -0.1% 1.0 Ground Floor Window 48 Domestic 37.8% 37.4% 0.4% 0.99 Window 49 Domestic 38.0% 37.5% 0.5% 0.99 Window 50 Domestic 35.6% 35.1% 0.5% 0.99 Window 51 Domestic 36.3% 35.6% 0.7% 0.98 Window 52 Domestic 19.9% 19.2% 0.7% 0.96 Window 53 Domestic 20.4% 20.3% 0.1% 1.0 Window 54 Domestic 13.3% 13.3% 0.0% 1.0 Window 55 Domestic 21.8% 21.8% 0.0% 1.0 Window 56 Domestic 39.2% 39.1% 0.1% 1.0 Window 57 Domestic <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
173 Lambourne Road (Hainault Hall)	First Floor							
Basement Floor Window 47 Domestic 33.7% 33.8% -0.1% 1.0 Ground Floor Window 48 Domestic 37.8% 37.4% 0.4% 0.99 Window 49 Domestic 38.0% 37.5% 0.5% 0.99 Window 50 Domestic 36.3% 35.6% 0.7% 0.98 Window 51 Domestic 19.9% 19.2% 0.7% 0.98 Window 52 Domestic 20.4% 20.3% 0.1% 1.0 Window 53 Domestic 20.4% 20.3% 0.1% 1.0 Window 54 Domestic 13.3% 13.3% 0.0% 1.0 Window 55 Domestic 21.8% 21.8% 0.0% 1.0 Window 56 Domestic 39.2% 39.1% 0.1% 1.0 Vindow 57 Domestic 39.2% 39.1% 0.0% 1.0 Vindow 58 Domestic 39.1% 39.1%	Window 46	Domestic	37.1%	36.6%	0.5%	0.99		
Ground Floor Window 48 Domestic 33.7% 33.8% -0.1% 1.0 Window 48 Domestic 37.8% 37.4% 0.4% 0.99 Window 49 Domestic 38.0% 37.5% 0.5% 0.99 Window 50 Domestic 35.6% 35.1% 0.5% 0.99 Window 51 Domestic 36.3% 35.6% 0.7% 0.98 Window 52 Domestic 19.9% 19.2% 0.7% 0.96 Window 53 Domestic 20.4% 20.3% 0.1% 1.0 Window 54 Domestic 13.3% 13.3% 0.0% 1.0 Window 55 Domestic 21.8% 21.8% 0.0% 1.0 Window 56 Domestic 39.2% 39.1% 0.1% 1.0 Window 57 Domestic 39.1% 39.1% 0.0% 1.0 7 Maypole Drive Ground Floor Window 59 Domestic 26.5% 26.5%	173 Lambourne Road	d (Hainault Hall)						
Ground Floor Window 48 Domestic 37.8% 37.4% 0.4% 0.99 Window 49 Domestic 38.0% 37.5% 0.5% 0.99 Window 50 Domestic 35.6% 35.1% 0.5% 0.99 Window 51 Domestic 36.3% 35.6% 0.7% 0.98 Window 52 Domestic 19.9% 19.2% 0.7% 0.96 Window 53 Domestic 20.4% 20.3% 0.1% 1.0 Window 54 Domestic 13.3% 13.3% 0.0% 1.0 Window 55 Domestic 21.8% 21.8% 0.0% 1.0 Window 56 Domestic 22.5% 22.5% 0.0% 1.0 First Floor Window 57 Domestic 39.2% 39.1% 0.1% 1.0 7 Maypole Drive Ground Floor Window 59 Domestic 26.5% 26.5% 0.0% 1.0	Basement Floor							
Window 48 Domestic 37.8% 37.4% 0.4% 0.99 Window 49 Domestic 38.0% 37.5% 0.5% 0.99 Window 50 Domestic 35.6% 35.1% 0.5% 0.99 Window 51 Domestic 36.3% 35.6% 0.7% 0.98 Window 52 Domestic 19.9% 19.2% 0.7% 0.96 Window 53 Domestic 20.4% 20.3% 0.1% 1.0 Window 54 Domestic 13.3% 13.3% 0.0% 1.0 Window 55 Domestic 21.8% 21.8% 0.0% 1.0 Window 56 Domestic 39.2% 39.1% 0.1% 1.0 First Floor Window 58 Domestic 39.2% 39.1% 0.0% 1.0 7 Maypole Drive Ground Floor Window 59 Domestic 26.5% 26.5% 0.0% 1.0	Window 47	Domestic	33.7%	33.8%	-0.1%	1.0		
Window 48 Domestic 37.8% 37.4% 0.4% 0.99 Window 49 Domestic 38.0% 37.5% 0.5% 0.99 Window 50 Domestic 35.6% 35.1% 0.5% 0.99 Window 51 Domestic 36.3% 35.6% 0.7% 0.98 Window 52 Domestic 19.9% 19.2% 0.7% 0.96 Window 53 Domestic 20.4% 20.3% 0.1% 1.0 Window 54 Domestic 13.3% 13.3% 0.0% 1.0 Window 55 Domestic 21.8% 21.8% 0.0% 1.0 Window 56 Domestic 39.2% 39.1% 0.1% 1.0 First Floor Window 58 Domestic 39.2% 39.1% 0.0% 1.0 7 Maypole Drive Ground Floor Window 59 Domestic 26.5% 26.5% 0.0% 1.0								
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Window 50 Domestic 35.6% 35.1% 0.5% 0.99 Window 51 Domestic 36.3% 35.6% 0.7% 0.98 Window 52 Domestic 19.9% 19.2% 0.7% 0.96 Window 53 Domestic 20.4% 20.3% 0.1% 1.0 Window 54 Domestic 13.3% 13.3% 0.0% 1.0 Window 55 Domestic 21.8% 21.8% 0.0% 1.0 Window 56 Domestic 22.5% 22.5% 0.0% 1.0 First Floor Window 57 Domestic 39.2% 39.1% 0.1% 1.0 7 Maypole Drive Ground Floor Window 59 Domestic 26.5% 26.5% 0.0% 1.0	Window 48	Domestic	37.8%	37.4%	0.4%	0.99		
Window 51 Domestic 36.3% 35.6% 0.7% 0.98 Window 52 Domestic 19.9% 19.2% 0.7% 0.96 Window 53 Domestic 20.4% 20.3% 0.1% 1.0 Window 54 Domestic 13.3% 13.3% 0.0% 1.0 Window 55 Domestic 21.8% 21.8% 0.0% 1.0 Window 56 Domestic 22.5% 22.5% 0.0% 1.0 First Floor Window 57 Domestic 39.2% 39.1% 0.1% 1.0 Vindow 58 Domestic 39.1% 39.1% 0.0% 1.0 7 Maypole Drive Ground Floor Window 59 Domestic 26.5% 26.5% 0.0% 1.0	Window 49	Domestic	38.0%	37.5%	0.5%	0.99		
Window 52 Domestic 19.9% 19.2% 0.7% 0.96 Window 53 Domestic 20.4% 20.3% 0.1% 1.0 Window 54 Domestic 13.3% 13.3% 0.0% 1.0 Window 55 Domestic 21.8% 21.8% 0.0% 1.0 Window 56 Domestic 22.5% 22.5% 0.0% 1.0 First Floor Window 57 Domestic 39.2% 39.1% 0.1% 1.0 Window 58 Domestic 39.1% 39.1% 0.0% 1.0 7 Maypole Drive Ground Floor Window 59 Domestic 26.5% 26.5% 0.0% 1.0	Window 50	Domestic	35.6%	35.1%	0.5%	0.99		
Window 53 Domestic 20.4% 20.3% 0.1% 1.0 Window 54 Domestic 13.3% 13.3% 0.0% 1.0 Window 55 Domestic 21.8% 21.8% 0.0% 1.0 Window 56 Domestic 22.5% 22.5% 0.0% 1.0 First Floor Window 57 Domestic 39.2% 39.1% 0.1% 1.0 Window 58 Domestic 39.1% 39.1% 0.0% 1.0 7 Maypole Drive Ground Floor Window 59 Domestic 26.5% 26.5% 0.0% 1.0	Window 51	Domestic	36.3%	35.6%	0.7%	0.98		
Window 54 Domestic 13.3% 13.3% 0.0% 1.0 Window 55 Domestic 21.8% 21.8% 0.0% 1.0 Window 56 Domestic 22.5% 22.5% 0.0% 1.0 First Floor Window 57 Domestic 39.2% 39.1% 0.1% 1.0 Window 58 Domestic 39.1% 39.1% 0.0% 1.0 7 Maypole Drive Window 59 Domestic 26.5% 26.5% 0.0% 1.0	Window 52	Domestic	19.9%	19.2%	0.7%	0.96		
Window 55 Domestic 21.8% 21.8% 0.0% 1.0 Window 56 Domestic 22.5% 22.5% 0.0% 1.0 First Floor Window 57 Domestic 39.2% 39.1% 0.1% 1.0 Window 58 Domestic 39.1% 39.1% 0.0% 1.0 7 Maypole Drive Window 59 Domestic 26.5% 26.5% 0.0% 1.0	Window 53	Domestic	20.4%	20.3%	0.1%	1.0		
Window 56 Domestic 22.5% 22.5% 0.0% 1.0 First Floor Window 57 Domestic 39.2% 39.1% 0.1% 1.0 Window 58 Domestic 39.1% 39.1% 0.0% 1.0 7 Maypole Drive Ground Floor Window 59 Domestic 26.5% 26.5% 0.0% 1.0	Window 54	Domestic	13.3%	13.3%	0.0%	1.0		
First Floor Window 57 Domestic 39.2% 39.1% 0.1% 1.0 Window 58 Domestic 39.1% 39.1% 0.0% 1.0 7 Maypole Drive Ground Floor Window 59 Domestic 26.5% 26.5% 0.0% 1.0	Window 55	Domestic	21.8%	21.8%	0.0%	1.0		
Window 57 Domestic 39.2% 39.1% 0.1% 1.0 Window 58 Domestic 39.1% 39.1% 0.0% 1.0 7 Maypole Drive Ground Floor Window 59 Domestic 26.5% 26.5% 0.0% 1.0	Window 56	Domestic	22.5%	22.5%	0.0%	1.0		
Window 57 Domestic 39.2% 39.1% 0.1% 1.0 Window 58 Domestic 39.1% 39.1% 0.0% 1.0 7 Maypole Drive Ground Floor Window 59 Domestic 26.5% 26.5% 0.0% 1.0								
Window 58 Domestic 39.1% 39.1% 0.0% 1.0 7 Maypole Drive Ground Floor Window 59 Domestic 26.5% 26.5% 0.0% 1.0	First Floor							
7 Maypole Drive Ground Floor Window 59 Domestic 26.5% 26.5% 0.0% 1.0	Window 57		39.2%	39.1%	0.1%			
Ground Floor Window 59 Domestic 26.5% 26.5% 0.0% 1.0	Window 58	Domestic	39.1%	39.1%	0.0%	1.0		
Window 59 Domestic 26.5% 26.5% 0.0% 1.0	7 Maypole Drive							
	Ground Floor							
	Window 59	Domestic	26.5%	26.5%	0.0%	1.0		
	Window 60	Domestic		31.6%	0.0%	1.0		

Appendix 2 - Vertical Sky Component 179 Lambourne Road, Chigwell, Essex IG7 6JU

Reference	Room Use		Vertical Sky	Component	
		Before	After	Loss	Ratio
Window 61	Domestic	33.8%	33.8%	0.0%	1.0
Window 62	Domestic	31.8%	31.8%	0.0%	1.0
First Floor					
Window 63	Domestic	35.4%	35.2%	0.2%	0.99
Window 64	Domestic	38.5%	38.3%	0.2%	0.99
Window 65	Domestic	35.9%	35.7%	0.2%	0.99

Appendix 2 - Daylight Distribution 179 Lambourne Road, Chigwell, Essex IG7 6JU

Reference	Room Use		Daylight D	istribution	
		Before	After	Loss	Ratio
177 Lambourne Road (Sc	chool Cottage)				
Ground Floor					
Windows 20 & 21	Kitchen/Breakfast	91%	91%	0.0%	1.0
Window 22	Bathroom/WC	83%	83%	0.0%	1.0
Windows 23 to 31	Conservatory	100%	100%	0.0%	1.0
Windows 32 to 34	Unknown	100%	100%	0.0%	1.0
First Floor					
Window 35	Bedroom	82%	82%	0.0%	1.0
Window 36	Bathroom/WC	79%	79%	0.0%	1.0
Window 37	Bathroom/WC	80%	80%	0.0%	1.0
Window 38	Unknown	64%	64%	0.0%	1.0
Windows 39 & 40	Bedroom	99%	99%	0.0%	1.0

Appendix 2 - Sunlight to Windows 179 Lambourne Road, Chigwell, Essex IG7 6JU

					Sunlight t	o Window	vs		
Reference	Room Use	Total Sunlight Hours Winter Sunlight Hours						ours	
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
8 Crosby Court Lan	nbourne Road								
Ground Floor									
Window 1	Domestic	0%	0%	0%	1.0	0%	0%	0%	1.0
Window 3	Domestic	23%	23%	0%	1.0	3%	3%	0%	1.0
Window 8	Domestic	28%	28%	0%	1.0	3%	3%	0%	1.0
Window 12	Domestic	41%	41%	0%	1.0	4%	4%	0%	1.0
177 Lambourne Ro	ad (School Cottage)								
Ground Floor									
Window 23	Conservatory	17%	16%	1%	0.94	2%	2%	0%	1.0
Window 24	Conservatory	34%	31%	3%	0.91	3%	3%	0%	1.0
Window 25	Conservatory	48%	45%	3%	0.94	10%	10%	0%	1.0
Window 28	Conservatory	44%	42%	2%	0.95	8%	8%	0%	1.0
Window 31	Conservatory	30%	30%	0%	1.0	5%	5%	0%	1.0
Window 32	Unknown	63%	63%	0%	1.0	13%	13%	0%	1.0
Window 33	Unknown	54%	51%	3%	0.94	16%	16%	0%	1.0
First Floor									
Window 35	Bedroom	53%	53%	0%	1.0	18%	18%	0%	1.0
Window 40	Bedroom	81%	81%	0%	1.0	27%	27%	0%	1.0
173 Lambourne Ro	ad (Hainault Hall)								
Basement Floor									
Window 47	Domestic	61%	62%	-1%	1.02	20%	20%	0%	1.0
Ground Floor									
Window 48	Domestic	66%	65%	1%	0.98	24%	23%	1%	0.96
Window 49	Domestic	64%	63%	1%	0.98	23%	22%	1%	0.96
Window 50	Domestic	56%	56%	0%	1.0	20%	20%	0%	1.0
Window 51	Domestic	57%	55%	2%	0.96	21%	19%	2%	0.9
Window 52	Domestic	19%	18%	1%	0.95	3%	2%	1%	0.67
7 Maypole Drive									
Ground Floor									
Window 59	Domestic	42%	42%	0%	1.0	4%	4%	0%	1.0
Window 60	Domestic	58%	58%	0%	1.0	13%	13%	0%	1.0
Window 61	Domestic	54%	54%	0%	1.0	17%	17%	0%	1.0
Window 62	Domestic	47%	47%	0%	1.0	14%	14%	0%	1.0
First Floor									
Window 63	Domestic	55%	55%	0%	1.0	19%	19%	0%	1.0

Appendix 2 - Sunlight to Windows 179 Lambourne Road, Chigwell, Essex IG7 6JU

		Sunlight to Windows							
Reference	Room Use	Total Sunlight Hours			ırs	Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
Window 64	Domestic	63%	63%	0%	1.0	24%	24%	0%	1.0
Window 65	Domestic	53%	53%	0%	1.0	17%	17%	0%	1.0

Appendix 2 - Overshadowing to Gardens and Open Spaces 179 Lambourne Road, Chigwell, Essex IG7 6JU

Reference	Total Area	Area receiving at least two hours of sunlight on 21st March							
Reference	Total Alea	Before		After		Loss		Ratio	
6 Crosby Court Laml	bourne Road								
Ground Floor									
Garden 1	52.14 m2	27.76 m2	53%	27.76 m2	53%	0.0 m2	0%	1.0	
7 Crosby Court Lambourne Road									
Ground Floor									
Garden 2	58.35 m2	29.66 m2	51%	29.66 m2	51%	0.0 m2	0%	1.0	
8 Crosby Court Lambourne Road									
Ground Floor									
Garden 3	102.0 m2	86.61 m2	85%	85.15 m2	83%	1.46 m2	2%	0.98	
177 Lambourne Road (School Cottage)									
Ground Floor									
Garden 4	61.95 m2	37.65 m2	61%	37.65 m2	61%	0.0 m2	0%	1.0	
175 Lambourne Road (Harsnett)									
Ground Floor									
Garden 5	94.42 m2	70.87 m2	75%	70.9 m2	75%	-0.03 m2	0%	1.0	
7 Maypole Drive									
Ground Floor									
Garden 6	98.83 m2	66.8 m2	68%	66.8 m2	68%	0.0 m2	0%	1.0	

	A	APPENDIX 3		
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C	OVERSHADOWING T	O GARDENS AND OF	PEN SPACES	
AYLIGHT AND SUNLIG	EUT DEDOPT			
ATLIGITE AND SUNLIG	III KEFUKI			

