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Daylight and Sunlight Study

Hadwyn House, Field Road, Reading, Berkshire RG1 6AP

9 February 2015

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DAYLIGHT AND SUNLIGHT STUDY
Hadwyn House, Field Road, Reading, Berkshire RG1 6AP

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1 EXECUTIVE SUMMARY

1.1 Overview

- 1.1.1 Right of Light Consulting has been commissioned to undertake a daylight and sunlight study of the proposed development at Hadwyn House, Field Road, Reading, Berkshire RG1 6AP.
- 1.1.2 The aim of the study is to assess the impact of the development on the light receivable by the neighbouring properties at 1 to 21 Field Road, Sun wood, Holme, 3 to 17 Coley Hill and 115 to 121 Castle Hill. 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' by P J Littlefair 2011.
- 1.1.3 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. The results confirm that all neighbouring windows pass the BRE diffuse daylight and direct sunlight tests. The development also satisfies the BRE overshadowing to gardens and open spaces requirements.
- 1.1.4 In summary, the proposed development will have a low impact on the light receivable by its neighbouring properties. Right of Light Consulting confirms that the development design satisfies all of the requirements set out in the BRE guide 'Site Layout Planning for Daylight and Sunlight'.

2 INFORMATION SOURCES

2.1 Documents Considered

2.1.1 This report is based on drawings:

Day Tanner Partnership Architect

3223/06	As Existing Elevation	Rev –
3223/08	Site & Location Plans	Rev –
3223/07	As Existing Elevation	Rev –
3223/04	As Existing Ground Floor Plan	Rev –
3223/05	As Existing First Floor Plan	Rev –
3223/09	Proposed Drawing	Rev –

3 METHODOLOGY OF THE STUDY

3.1 BRE Guide : Site Layout Planning for Daylight and Sunlight

- 3.1.1 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' by P J Littlefair 2011. In general, the BRE tests are based on the requirements of the British Standard, BS 8206 Part 2.
- 3.1.2 The standards set out in the BRE guide are intended to be used flexibly. The following statement is quoted directly from the BRE guide:
- 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 Daylight to Windows

- 3.2.1 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.

Diffuse daylight calculations should be undertaken to all rooms where daylight is required, including living rooms, kitchens and bedrooms. Usually, if a kitchen is less than 13m² it is considered to be a non-habitable room and the daylight tests need not be applied. The BRE guide states that windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed.

- 3.2.2 The BRE guide contains two tests which measure diffuse daylight:

3.2.3 Test 1 Vertical Sky Component

The percentage of the sky visible from the centre of a window is known as the Vertical Sky Component. 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.

3.2.4 Test 2 Daylight Distribution

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. The no-sky line is a line which separates areas of the working plane that can and cannot 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 Sunlight availability to Windows

3.3.1 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.

3.3.2 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.

3.4 Overshadowing to Gardens and Open Spaces

3.4.1 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.

3.4.2 The BRE guide recommends that at least 50% of the area of each amenity space listed above should receive at least two hours of sunlight on 21st 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 sun on 21st 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 Appendix 1 provides a plan and photographs to indicate the positions of the windows and gardens analysed in this study.

4.2 Numerical Results

- 4.2.1 Appendix 2 lists the detailed numerical daylight and sunlight test results. The results are interpreted below.

4.3 Daylight to Windows

- 4.3.1 All windows pass the Vertical Sky Component test. The proposed development therefore satisfies the BRE daylight requirements.

4.4 Sunlight to Windows

- 4.4.1 All windows which 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.

4.5 Overshadowing to Gardens and Open Spaces

- 4.5.1 The results of the overshadowing test show that sunlight availability after the development will be no less than 0.96 its former value. This is better than the BRE minimum requirement which permits sunlight to be reduced by up to 0.8 times. The proposed development therefore passes the BRE overshadowing to gardens and open spaces test.

4.6 Conclusion

- 4.6.1 The proposed development will have a low impact on the light receivable by its neighbouring properties. Right of Light Consulting confirms that the development design satisfies all of the requirements set out in the BRE guide 'Site Layout Planning for Daylight and Sunlight'.

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 We have undertaken the survey following the guidelines of the RICS publication “Surveying Safely”.
- 5.1.3 We have used our best endeavours to ensure all relevant windows within the neighbouring properties have been identified.
- 5.1.4 Where limited access is available, reasonable assumptions will have been made.
- 5.1.5 We have adopted the conventional approach of assessing all habitable rooms within domestic properties.
- 5.1.6 Right of Light Consulting have endeavoured to include in the report those matters, which they have knowledge of or of which they have been made aware, that might adversely affect the validity of the opinion given.

5.2 Project Specific

- 5.2.1 None

APPENDICES

APPENDIX 1

WINDOW & GARDEN KEY

Window & Garden Key



Key

Window 1 ● Window reference

Development site

Neighbouring Properties

Neighbouring Gardens and Amenity Areas

Project Name: Hadwyn House, Field Road, Reading, Berkshire RG1 6AP

Drawing Title: Appendix 1 – Neighbouring Windows

Scale: Do not scale

Drawing No: 1 of 5

Rev: -

Date: Details of revision



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Window & Garden Key



Key

Window 1 ● Window reference

Development site

Neighbouring Properties

Neighbouring Gardens and Amenity Areas



Project Name: Hadwyn House, Field Road, Reading, Berkshire RG1 6AP

Drawing Title: Appendix 1 – Neighbouring Windows

Scale: Do not scale

Drawing No: 2 of 5

Rev: Details of revision



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Window & Garden Key



Key

Window 1 ● Window reference



Development site



Neighbouring Properties



Neighbouring Gardens and Amenity Areas

Project Name: Hadwyn House, Field Road, Reading, Berkshire RG1 6AP

Drawing Title: Appendix 1 – Neighbouring Windows

Do not scale	
4 of 5	Rev. -
Details of revision	



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Window & Garden Key

Key

Window 1 ● Window reference

Development site

Neighbouring Properties

Neighbouring Gardens and Amenity Areas



Field Road

1 Field Road

Development Site

115 Coley Hill

117 Coley Hill

119 Coley Hill

121 Castle Hill

Window 227 ●

Window 226 ●

Windows 223 to 225 ●

Windows 220 to 222 ●

Window 219 ●
(Roof Light)

Windows 216 to 218 ●

Windows 213 & 214 ●

Windows 211 & 212 ●

Windows 208 & 209 ●

Window 210 ●

Windows 205 to 207 ●

Windows 203 & 204 ●

Windows 201 & 202 ●

G10

G9

G8

G7

Project Name: Hadwyn House, Field Road, Reading, Berkshire RG1 6AP

Drawing Title: Appendix 1 - Neighbouring Windows

Do not scale

5 of 5

Rev. -

Details of revision



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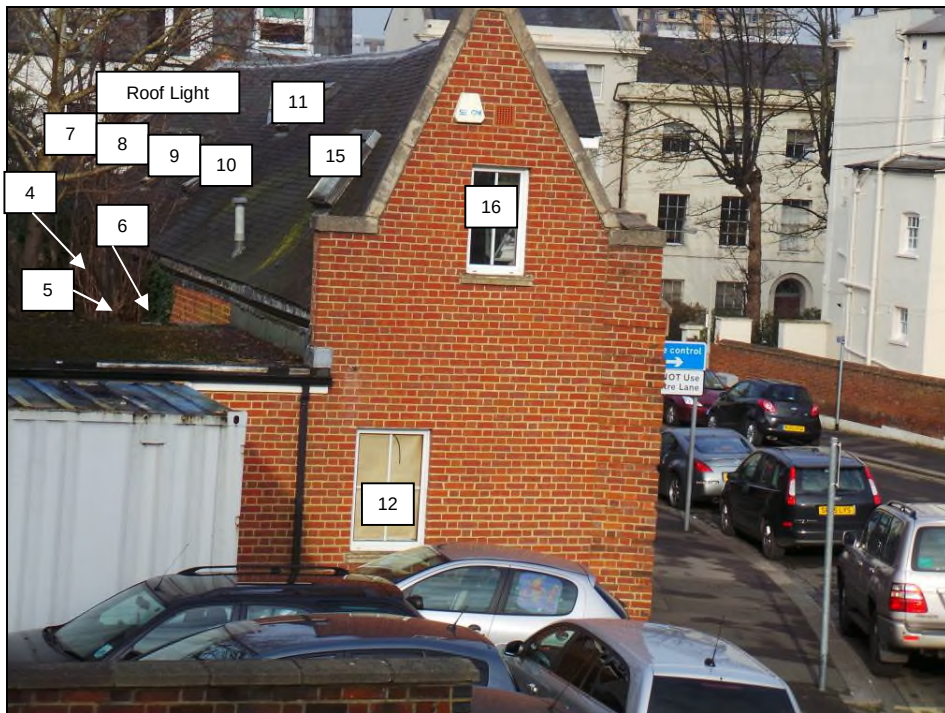
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Neighbouring Windows



1 Field Road



1 Field Road



1 Field Road



3 Field Road



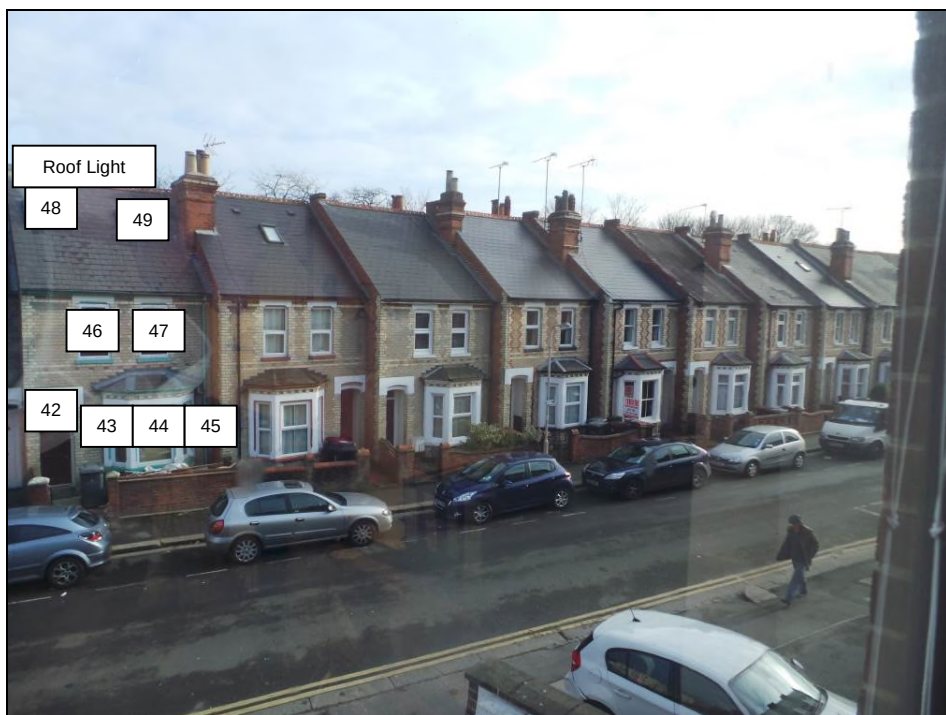
3 Field Road



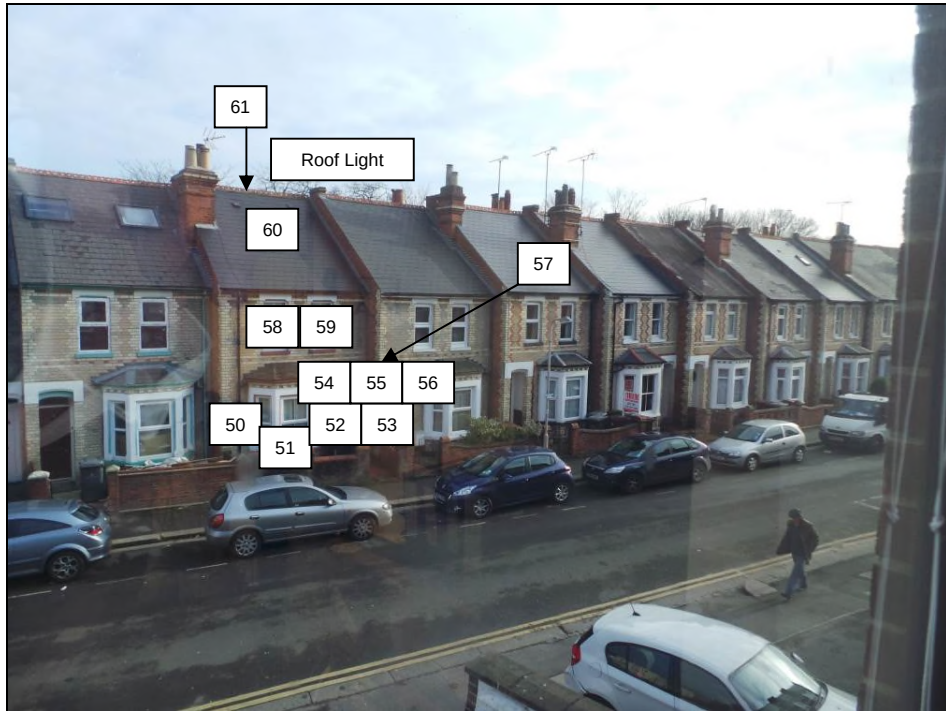
5 Field Road



7 Field Road



9 Field Road



11 Field Road



13 Field Road



15 Field Road



17 Field Road



19 Field Road



21 Field Road



Holme



Sun wood



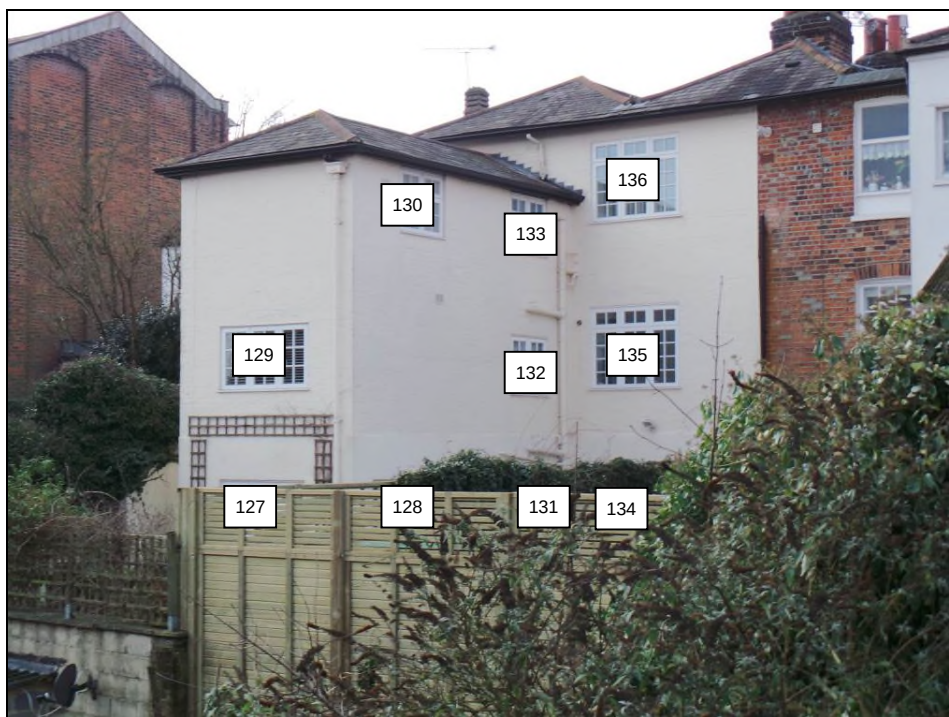
Sun wood



Sun wood



Sun wood



17 Coley Hill



15 Coley Hill



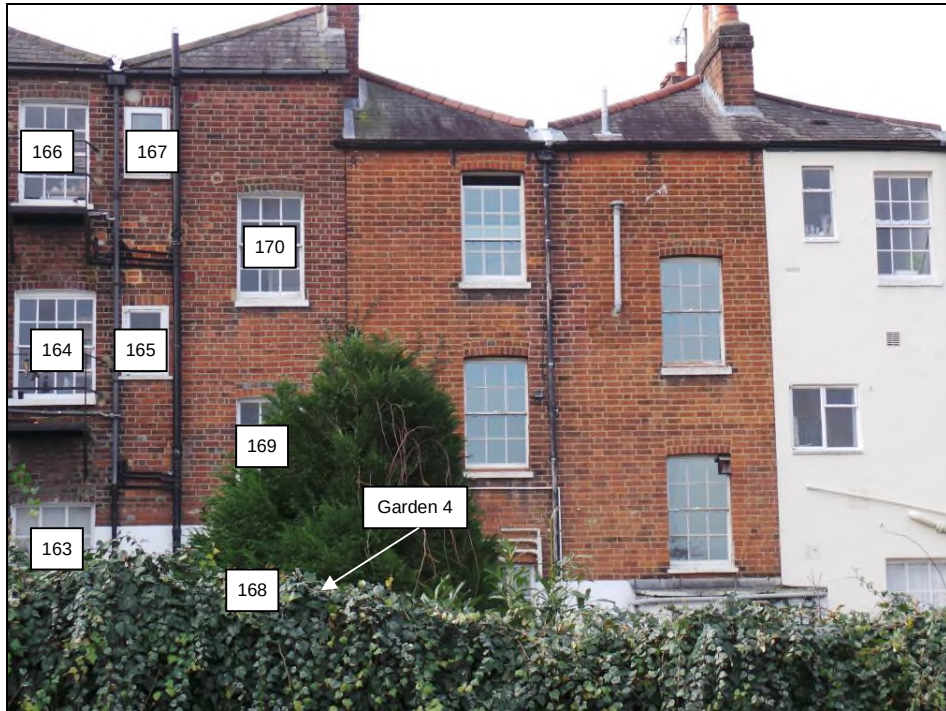
13 Coley Hill



13 Coley Hill



11 Coley Hill



9 Coley Hill



7 Coley Hill



5 Coley Hill



3 Coley Hill



121 Castle Hill



119 Castle Hill



117 Castle Hill



115 Castle Hill

APPENDIX 2

DAYLIGHT AND SUNLIGHT RESULTS

Appendix 2 - Vertical Sky Component**Hadwyn House, Field Road, Reading, Berkshire RG1 6AP**

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
<u>1 Field Road</u>					
Window 1	Habitable	31.7%	31.4%	0.3%	0.99
Window 2	Habitable	32.9%	32.3%	0.6%	0.98
Window 3	Habitable	32.9%	32.2%	0.7%	0.98
Window 4	Habitable	31.6%	30.4%	1.2%	0.96
Window 5	Habitable	29.6%	28.3%	1.3%	0.96
Window 6	Habitable	28.0%	26.3%	1.7%	0.94
Window 7	Habitable	85.0%	84.8%	0.2%	1.0
Window 8	Habitable	86.5%	86.3%	0.2%	1.0
Window 9	Habitable	86.4%	86.0%	0.4%	1.0
Window 10	Habitable	80.2%	79.0%	1.2%	0.99
Window 11	Habitable	75.8%	74.1%	1.7%	0.98
Window 12	Habitable	29.5%	27.8%	1.7%	0.94
Window 13	Habitable	33.7%	33.7%	0.0%	1.0
Window 14	Habitable	34.0%	34.0%	0.0%	1.0
Window 15	Habitable	71.2%	67.5%	3.7%	0.95
Window 16	Habitable	35.8%	33.4%	2.4%	0.93
Window 17	Habitable	34.3%	34.3%	0.0%	1.0
Window 18	Habitable	34.5%	34.5%	0.0%	1.0
<u>3 Field Road</u>					
Window 19	Habitable	32.3%	32.3%	0.0%	1.0
Window 20	Habitable	29.3%	29.0%	0.3%	0.99
Window 21	Habitable	32.1%	30.7%	1.4%	0.96
Window 22	Habitable	22.2%	20.8%	1.4%	0.94
Window 23	Habitable	36.9%	36.9%	0.0%	1.0
Window 24	Habitable	34.0%	32.7%	1.3%	0.96
Window 25	Habitable	33.1%	31.7%	1.4%	0.96
<u>5 Field Road</u>					
Window 26	Habitable	26.2%	24.5%	1.7%	0.94
Window 27	Habitable	19.0%	17.4%	1.6%	0.92
Window 28	Habitable	28.5%	27.9%	0.6%	0.98
Window 29	Habitable	31.8%	30.0%	1.8%	0.94

Appendix 2 - Vertical Sky Component

Hadwyn House, Field Road, Reading, Berkshire RG1 6AP

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 30	Habitable	14.7%	13.3%	1.4%	0.9
Window 31	Habitable	34.3%	32.6%	1.7%	0.95
Window 32	Habitable	32.8%	31.0%	1.8%	0.95
Window 33	Habitable	80.3%	80.0%	0.3%	1.0
Window 34	Habitable	83.4%	83.1%	0.3%	1.0
<u>7 Field Road</u>					
Window 35	Habitable	29.6%	28.7%	0.9%	0.97
Window 36	Habitable	32.4%	30.1%	2.3%	0.93
Window 37	Habitable	23.4%	21.7%	1.7%	0.93
Window 38	Habitable	20.6%	18.8%	1.8%	0.91
Window 39	Habitable	15.4%	13.5%	1.9%	0.88
Window 40	Habitable	34.3%	32.1%	2.2%	0.94
Window 41	Habitable	33.8%	31.6%	2.2%	0.93
<u>9 Field Road</u>					
Window 42	Habitable	19.2%	16.7%	2.5%	0.87
Window 43	Habitable	29.0%	27.6%	1.4%	0.95
Window 44	Habitable	32.4%	29.8%	2.6%	0.92
Window 45	Habitable	20.0%	18.4%	1.6%	0.92
Window 46	Habitable	34.4%	31.9%	2.5%	0.93
Window 47	Habitable	33.5%	31.0%	2.5%	0.93
Window 48	Habitable	86.0%	85.5%	0.5%	0.99
Window 49	Habitable	81.2%	80.7%	0.5%	0.99
<u>11 Field Road</u>					
Window 50	Habitable	29.4%	27.8%	1.6%	0.95
Window 51	Habitable	32.2%	29.5%	2.7%	0.92
Window 52	Habitable	22.4%	21.0%	1.4%	0.94
Window 53	Habitable	21.4%	18.9%	2.5%	0.88
Window 54	Habitable	23.2%	20.8%	2.4%	0.9
Window 55	Habitable	20.6%	18.3%	2.3%	0.89
Window 56	Habitable	23.7%	21.2%	2.5%	0.89
Window 57	Habitable	23.4%	21.0%	2.4%	0.9

Appendix 2 - Vertical Sky Component

Hadwyn House, Field Road, Reading, Berkshire RG1 6AP

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 58	Habitable	17.0%	14.5%	2.5%	0.85
Window 59	Habitable	34.6%	32.0%	2.6%	0.92
Window 60	Habitable	33.6%	31.0%	2.6%	0.92
Window 61	Habitable	84.6%	84.2%	0.4%	1.0
<u>13 Field Road</u>					
Window 62	Habitable	19.0%	16.3%	2.7%	0.86
Window 63	Habitable	28.8%	26.9%	1.9%	0.93
Window 64	Habitable	32.1%	29.5%	2.6%	0.92
Window 65	Habitable	18.5%	17.4%	1.1%	0.94
Window 66	Habitable	34.3%	31.6%	2.7%	0.92
Window 67	Habitable	32.7%	30.2%	2.5%	0.92
<u>15 Field Road</u>					
Window 68	Habitable	26.0%	23.7%	2.3%	0.91
Window 69	Habitable	25.9%	23.6%	2.3%	0.91
Window 70	Habitable	18.9%	16.5%	2.4%	0.87
Window 71	Habitable	28.6%	26.5%	2.1%	0.93
Window 72	Habitable	32.1%	29.9%	2.2%	0.93
Window 73	Habitable	20.0%	19.4%	0.6%	0.97
Window 74	Habitable	34.4%	32.1%	2.3%	0.93
Window 75	Habitable	33.0%	30.9%	2.1%	0.94
<u>17 Field Road</u>					
Window 76	Habitable	29.3%	27.5%	1.8%	0.94
Window 77	Habitable	32.6%	30.9%	1.7%	0.95
Window 78	Habitable	24.2%	23.9%	0.3%	0.99
Window 79	Habitable	20.3%	19.1%	1.2%	0.94
Window 80	Habitable	20.9%	19.5%	1.4%	0.93
Window 81	Habitable	19.7%	18.6%	1.1%	0.94
Window 82	Habitable	21.9%	20.5%	1.4%	0.94
Window 83	Habitable	20.9%	19.5%	1.4%	0.93
Window 84	Habitable	15.7%	14.3%	1.4%	0.91
Window 85	Habitable	34.7%	32.8%	1.9%	0.95

Appendix 2 - Vertical Sky Component

Hadwyn House, Field Road, Reading, Berkshire RG1 6AP

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 86	Habitable	33.4%	31.7%	1.7%	0.95
<u>19 Field Road</u>					
Window 87	Habitable	26.5%	25.2%	1.3%	0.95
Window 88	Habitable	19.3%	17.9%	1.4%	0.93
Window 89	Habitable	28.6%	27.0%	1.6%	0.94
Window 90	Habitable	32.9%	31.7%	1.2%	0.96
Window 91	Habitable	21.7%	21.6%	0.1%	1.0
Window 92	Habitable	35.2%	33.8%	1.4%	0.96
Window 93	Habitable	34.6%	33.4%	1.2%	0.97
<u>21 Field Road</u>					
Window 94	Habitable	28.2%	26.8%	1.4%	0.95
Window 95	Habitable	33.2%	32.2%	1.0%	0.97
Window 96	Habitable	25.0%	24.9%	0.1%	1.0
Window 97	Habitable	23.8%	23.3%	0.5%	0.98
Window 98	Habitable	25.4%	24.7%	0.7%	0.97
Window 99	Habitable	23.1%	22.7%	0.4%	0.98
Window 100	Habitable	25.8%	25.1%	0.7%	0.97
Window 101	Habitable	24.4%	23.7%	0.7%	0.97
Window 102	Habitable	35.2%	34.2%	1.0%	0.97
Window 103	Habitable	34.4%	33.5%	0.9%	0.97
<u>Holme</u>					
Window 104	Habitable	27.8%	27.8%	0.0%	1.0
Window 105	Habitable	26.1%	26.1%	0.0%	1.0
Window 106	Habitable	27.5%	27.5%	0.0%	1.0
Window 107	Habitable	32.3%	32.3%	0.0%	1.0
Window 108	Habitable	19.6%	19.6%	0.0%	1.0
Window 109	Habitable	30.7%	30.6%	0.1%	1.0
Window 110	Habitable	24.4%	24.4%	0.0%	1.0
Window 111	Habitable	30.1%	30.1%	0.0%	1.0
<u>Sun wood</u>					

Appendix 2 - Vertical Sky Component

Hadwyn House, Field Road, Reading, Berkshire RG1 6AP

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 112	Habitable	30.4%	30.3%	0.1%	1.0
Window 113	Habitable	14.7%	13.6%	1.1%	0.93
Window 114	Habitable	30.0%	29.9%	0.1%	1.0
Window 115	Habitable	22.0%	18.7%	3.3%	0.85
Window 116	Habitable	32.1%	31.7%	0.4%	0.99
Window 117	Habitable	7.3%	6.8%	0.5%	0.93
Window 118	Habitable	19.4%	18.3%	1.1%	0.94
Window 119	Habitable	14.4%	13.7%	0.7%	0.95
Window 120	Habitable	16.1%	15.2%	0.9%	0.94
Window 121	Habitable	31.4%	31.4%	0.0%	1.0
Window 122	Habitable	20.3%	17.8%	2.5%	0.88
Window 123	Habitable	33.2%	33.2%	0.0%	1.0
Window 124	Habitable	33.3%	33.3%	0.0%	1.0
Window 125	Habitable	31.2%	31.2%	0.0%	1.0
Window 126	Habitable	33.4%	33.4%	0.0%	1.0
<u>17 Coley Hill</u>					
Window 127	Habitable	25.5%	25.3%	0.2%	0.99
Window 128	Habitable	20.5%	20.4%	0.1%	1.0
Window 129	Habitable	34.3%	33.7%	0.6%	0.98
Window 130	Habitable	31.1%	30.5%	0.6%	0.98
Window 131	Habitable	13.8%	13.7%	0.1%	0.99
Window 132	Habitable	20.2%	19.7%	0.5%	0.98
Window 133	Habitable	25.0%	24.6%	0.4%	0.98
Window 134	Habitable	16.7%	16.5%	0.2%	0.99
Window 135	Habitable	22.4%	21.8%	0.6%	0.97
Window 136	Habitable	36.8%	36.2%	0.6%	0.98
<u>15 Coley Hill</u>					
Window 137	Habitable	16.4%	16.1%	0.3%	0.98
Window 138	Habitable	23.5%	23.2%	0.3%	0.99
Window 139	Habitable	31.3%	31.1%	0.2%	0.99
Window 140	Habitable	22.2%	22.2%	0.0%	1.0
Window 141	Habitable	33.8%	32.8%	1.0%	0.97

Appendix 2 - Vertical Sky Component

Hadwyn House, Field Road, Reading, Berkshire RG1 6AP

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 142	Habitable	20.3%	19.7%	0.6%	0.97
Window 143	Habitable	37.2%	36.4%	0.8%	0.98
Window 144	Habitable	36.9%	35.9%	1.0%	0.97
Window 145	Habitable	32.7%	31.6%	1.1%	0.97
Window 146	Habitable	37.4%	36.4%	1.0%	0.97
<u>13 Coley Hill</u>					
Window 147	Habitable	28.3%	27.2%	1.1%	0.96
Window 148	Habitable	31.6%	30.5%	1.1%	0.97
Window 149	Habitable	37.5%	36.5%	1.0%	0.97
Window 150	Habitable	24.7%	23.7%	1.0%	0.96
Window 151	Habitable	30.3%	29.1%	1.2%	0.96
Window 152	Habitable	26.2%	25.3%	0.9%	0.97
Window 153	Habitable	33.5%	32.3%	1.2%	0.96
Window 154	Habitable	36.6%	35.4%	1.2%	0.97
<u>11 Coley Hill</u>					
Window 155	Habitable	24.2%	23.1%	1.1%	0.95
Window 156	Habitable	28.3%	27.1%	1.2%	0.96
Window 157	Habitable	38.1%	37.1%	1.0%	0.97
Window 158	Habitable	13.3%	12.2%	1.1%	0.92
Window 159	Habitable	33.6%	32.2%	1.4%	0.96
Window 160	Habitable	34.6%	33.1%	1.5%	0.96
Window 161	Habitable	29.9%	28.6%	1.3%	0.96
Window 162	Habitable	38.3%	37.3%	1.0%	0.97
<u>9 Coley Hill</u>					
Window 163	Habitable	30.3%	29.0%	1.3%	0.96
Window 164	Habitable	34.2%	33.0%	1.2%	0.96
Window 165	Habitable	35.5%	34.2%	1.3%	0.96
Window 166	Habitable	37.8%	36.7%	1.1%	0.97
Window 167	Habitable	37.9%	36.9%	1.0%	0.97
Window 168	Habitable	28.1%	26.9%	1.2%	0.96
Window 169	Habitable	34.4%	33.2%	1.2%	0.97

Appendix 2 - Vertical Sky Component

Hadwyn House, Field Road, Reading, Berkshire RG1 6AP

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 170	Habitable	36.9%	35.7%	1.2%	0.97
<u>7 Coley Hill</u>					
Window 171	Habitable	33.7%	32.6%	1.1%	0.97
Window 172	Habitable	35.7%	34.6%	1.1%	0.97
Window 173	Habitable	37.4%	36.4%	1.0%	0.97
Window 174	Habitable	28.3%	27.2%	1.1%	0.96
Window 175	Habitable	34.8%	33.7%	1.1%	0.97
Window 176	Habitable	36.7%	35.6%	1.1%	0.97
<u>5 Coley Hill</u>					
Window 177	Habitable	32.2%	31.3%	0.9%	0.97
Window 178	Habitable	32.5%	31.6%	0.9%	0.97
Window 179	Habitable	34.8%	33.8%	1.0%	0.97
Window 180	Habitable	34.9%	34.0%	0.9%	0.97
Window 181	Habitable	36.3%	35.3%	1.0%	0.97
Window 182	Habitable	36.2%	35.3%	0.9%	0.98
Window 183	Habitable	37.7%	36.9%	0.8%	0.98
Window 184	Habitable	37.5%	36.7%	0.8%	0.98
Window 185	Habitable	37.6%	36.8%	0.8%	0.98
Window 186	Habitable	34.0%	33.2%	0.8%	0.98
Window 187	Habitable	35.5%	34.6%	0.9%	0.97
Window 188	Habitable	36.9%	36.1%	0.8%	0.98
<u>3 Coley Hill</u>					
Window 189	Habitable	31.6%	31.1%	0.5%	0.98
Window 190	Habitable	32.4%	31.7%	0.7%	0.98
Window 191	Habitable	34.3%	33.6%	0.7%	0.98
Window 192	Habitable	34.4%	33.7%	0.7%	0.98
Window 193	Habitable	35.9%	35.1%	0.8%	0.98
Window 194	Habitable	35.8%	35.1%	0.7%	0.98
Window 195	Habitable	37.3%	36.6%	0.7%	0.98
Window 196	Habitable	37.3%	36.7%	0.6%	0.98
Window 197	Habitable	33.4%	32.7%	0.7%	0.98

Appendix 2 - Vertical Sky Component

Hadwyn House, Field Road, Reading, Berkshire RG1 6AP

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 198	Habitable	34.9%	34.2%	0.7%	0.98
Window 199	Habitable	36.4%	35.8%	0.6%	0.98
Window 200	Habitable	37.3%	36.8%	0.5%	0.99
<u>121 Castle Hill</u>					
Window 201	Habitable	34.8%	34.4%	0.4%	0.99
Window 202	Habitable	31.6%	31.2%	0.4%	0.99
Window 203	Habitable	24.5%	24.3%	0.2%	0.99
Window 204	Habitable	37.2%	36.9%	0.3%	0.99
Window 205	Habitable	35.2%	34.9%	0.3%	0.99
Window 206	Habitable	28.1%	28.0%	0.1%	1.0
Window 207	Habitable	31.0%	30.5%	0.5%	0.98
Window 208	Habitable	34.6%	34.1%	0.5%	0.99
Window 209	Habitable	37.1%	36.6%	0.5%	0.99
Window 210	Habitable	38.7%	38.4%	0.3%	0.99
<u>119 Castle Hill</u>					
Window 211	Habitable	33.7%	33.2%	0.5%	0.99
Window 212	Habitable	35.2%	34.7%	0.5%	0.99
Window 213	Habitable	34.5%	34.1%	0.4%	0.99
Window 214	Habitable	36.9%	36.4%	0.5%	0.99
Window 215	Habitable	36.3%	36.1%	0.2%	0.99
<u>117 Castle Hill</u>					
Window 216	Habitable	34.2%	33.7%	0.5%	0.99
Window 217	Habitable	36.7%	36.3%	0.4%	0.99
Window 218	Habitable	39.1%	38.8%	0.3%	0.99
Window 219	Habitable	33.8%	33.4%	0.4%	0.99
Window 220	Habitable	36.6%	36.1%	0.5%	0.99
Window 221	Habitable	38.6%	38.2%	0.4%	0.99
<u>115 Castle Hill</u>					
Window 222	Habitable	28.9%	28.5%	0.4%	0.99
Window 223	Habitable	34.3%	33.9%	0.4%	0.99
Window 224	Habitable	37.4%	37.1%	0.3%	0.99
Window 225	Habitable	27.4%	27.0%	0.4%	0.99
Window 226	Habitable	31.7%	31.3%	0.4%	0.99

Appendix 2 - Sunlight to Windows

Hadwyn House, Field Road, Reading, Berkshire RG1 6AP

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
<u>1 Field Road</u>									
Window 1	Habitable	50%	48%	2%	0.96	19%	17%	2%	0.89
Window 2	Habitable	51%	49%	2%	0.96	17%	15%	2%	0.88
Window 3	Habitable	51%	49%	2%	0.96	17%	15%	2%	0.88
Window 4	Habitable	47%	45%	2%	0.96	11%	9%	2%	0.82
Window 5	Habitable	42%	41%	1%	0.98	7%	7%	0%	1.0
Window 6	Habitable	38%	34%	4%	0.89	5%	5%	0%	1.0
Window 7	Habitable	85%	85%	0%	1.0	27%	27%	0%	1.0
Window 8	Habitable	86%	86%	0%	1.0	27%	27%	0%	1.0
Window 9	Habitable	85%	85%	0%	1.0	27%	27%	0%	1.0
Window 10	Habitable	76%	71%	5%	0.93	24%	19%	5%	0.79
Window 11	Habitable	74%	71%	3%	0.96	22%	19%	3%	0.86
Window 12	Habitable	65%	60%	5%	0.92	16%	14%	2%	0.88
Window 15	Habitable	69%	61%	8%	0.88	20%	14%	6%	0.7
Window 16	Habitable	80%	74%	6%	0.93	25%	20%	5%	0.8
<u>3 Field Road</u>									
Window 21	Habitable	43%	42%	1%	0.98	12%	11%	1%	0.92
Window 22	Habitable	41%	39%	2%	0.95	12%	10%	2%	0.83
Window 24	Habitable	44%	44%	0%	1.0	12%	12%	0%	1.0
Window 25	Habitable	40%	40%	0%	1.0	8%	8%	0%	1.0
<u>5 Field Road</u>									
Window 26	Habitable	33%	31%	2%	0.94	8%	6%	2%	0.75
Window 27	Habitable	25%	23%	2%	0.92	8%	6%	2%	0.75
Window 29	Habitable	39%	39%	0%	1.0	10%	10%	0%	1.0
Window 30	Habitable	25%	24%	1%	0.96	3%	3%	0%	1.0
Window 31	Habitable	44%	43%	1%	0.98	12%	11%	1%	0.92
Window 32	Habitable	40%	38%	2%	0.95	7%	6%	1%	0.86
Window 33	Habitable	83%	81%	2%	0.98	23%	21%	2%	0.91
Window 34	Habitable	71%	69%	2%	0.97	12%	10%	2%	0.83
<u>7 Field Road</u>									
Window 36	Habitable	44%	40%	4%	0.91	11%	10%	1%	0.91

Appendix 2 - Sunlight to Windows

Hadwyn House, Field Road, Reading, Berkshire RG1 6AP

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
Window 37	Habitable	42%	37%	5%	0.88	11%	10%	1%	0.91
Window 38	Habitable	18%	15%	3%	0.83	0%	0%	0%	1.0
Window 39	Habitable	18%	15%	3%	0.83	1%	0%	1%	0.01
Window 40	Habitable	47%	44%	3%	0.94	14%	12%	2%	0.86
Window 41	Habitable	44%	41%	3%	0.93	11%	9%	2%	0.82
<u>9 Field Road</u>									
Window 42	Habitable	26%	22%	4%	0.85	6%	5%	1%	0.83
Window 44	Habitable	45%	40%	5%	0.89	12%	11%	1%	0.92
Window 45	Habitable	34%	29%	5%	0.85	6%	5%	1%	0.83
Window 46	Habitable	47%	45%	2%	0.96	14%	13%	1%	0.93
Window 47	Habitable	42%	39%	3%	0.93	9%	8%	1%	0.89
Window 48	Habitable	81%	79%	2%	0.98	22%	20%	2%	0.91
Window 49	Habitable	68%	66%	2%	0.97	13%	11%	2%	0.85
<u>11 Field Road</u>									
Window 51	Habitable	44%	41%	3%	0.93	12%	12%	0%	1.0
Window 52	Habitable	39%	36%	3%	0.92	9%	9%	0%	1.0
Window 53	Habitable	25%	22%	3%	0.88	3%	3%	0%	1.0
Window 54	Habitable	22%	19%	3%	0.86	2%	2%	0%	1.0
Window 55	Habitable	25%	22%	3%	0.88	3%	3%	0%	1.0
Window 56	Habitable	24%	21%	3%	0.88	3%	3%	0%	1.0
Window 57	Habitable	22%	19%	3%	0.86	2%	2%	0%	1.0
Window 58	Habitable	22%	18%	4%	0.82	3%	3%	0%	1.0
Window 59	Habitable	46%	42%	4%	0.91	12%	11%	1%	0.92
Window 60	Habitable	41%	37%	4%	0.9	8%	7%	1%	0.88
Window 61	Habitable	80%	80%	0%	1.0	22%	22%	0%	1.0
<u>13 Field Road</u>									
Window 62	Habitable	25%	22%	3%	0.88	7%	7%	0%	1.0
Window 64	Habitable	43%	40%	3%	0.93	12%	12%	0%	1.0
Window 65	Habitable	33%	30%	3%	0.91	7%	7%	0%	1.0
Window 66	Habitable	46%	41%	5%	0.89	13%	12%	1%	0.92
Window 67	Habitable	39%	34%	5%	0.87	8%	7%	1%	0.88

Appendix 2 - Sunlight to Windows

Hadwyn House, Field Road, Reading, Berkshire RG1 6AP

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
<u>15 Field Road</u>									
Window 68	Habitable	33%	30%	3%	0.91	7%	7%	0%	1.0
Window 69	Habitable	25%	22%	3%	0.88	4%	4%	0%	1.0
Window 70	Habitable	25%	21%	4%	0.84	7%	7%	0%	1.0
Window 72	Habitable	44%	41%	3%	0.93	13%	13%	0%	1.0
Window 73	Habitable	35%	33%	2%	0.94	9%	9%	0%	1.0
Window 74	Habitable	44%	40%	4%	0.91	12%	11%	1%	0.92
Window 75	Habitable	41%	38%	3%	0.93	9%	9%	0%	1.0
<u>17 Field Road</u>									
Window 77	Habitable	44%	42%	2%	0.95	14%	14%	0%	1.0
Window 78	Habitable	39%	37%	2%	0.95	12%	12%	0%	1.0
Window 79	Habitable	20%	19%	1%	0.95	2%	2%	0%	1.0
Window 80	Habitable	14%	13%	1%	0.93	0%	0%	0%	1.0
Window 81	Habitable	20%	19%	1%	0.95	2%	2%	0%	1.0
Window 82	Habitable	16%	15%	1%	0.94	1%	1%	0%	1.0
Window 83	Habitable	14%	13%	1%	0.93	0%	0%	0%	1.0
Window 84	Habitable	17%	15%	2%	0.88	2%	2%	0%	1.0
Window 85	Habitable	45%	41%	4%	0.91	13%	13%	0%	1.0
Window 86	Habitable	39%	35%	4%	0.9	8%	8%	0%	1.0
<u>19 Field Road</u>									
Window 87	Habitable	31%	29%	2%	0.94	6%	6%	0%	1.0
Window 88	Habitable	24%	22%	2%	0.92	7%	7%	0%	1.0
Window 90	Habitable	45%	43%	2%	0.96	12%	12%	0%	1.0
Window 91	Habitable	37%	37%	0%	1.0	7%	7%	0%	1.0
Window 92	Habitable	48%	44%	4%	0.92	13%	13%	0%	1.0
Window 93	Habitable	43%	41%	2%	0.95	10%	10%	0%	1.0
<u>21 Field Road</u>									
Window 95	Habitable	45%	44%	1%	0.98	12%	12%	0%	1.0

Hadwyn House, Field Road, Reading, Berkshire RG1 6AP

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
Window 98	Habitable	25%	25%	0%	1.0	3%	3%	0%	1.0
Window 99	Habitable	27%	27%	0%	1.0	4%	4%	0%	1.0
Window 100	Habitable	27%	27%	0%	1.0	4%	4%	0%	1.0
Window 101	Habitable	23%	23%	0%	1.0	2%	2%	0%	1.0
Window 102	Habitable	45%	45%	0%	1.0	12%	12%	0%	1.0
Window 103	Habitable	41%	40%	1%	0.98	8%	8%	0%	1.0
<u>Holme</u>									
Window 108	Habitable	41%	41%	0%	1.0	13%	13%	0%	1.0
Window 110	Habitable	56%	56%	0%	1.0	17%	17%	0%	1.0
<u>Sun wood</u>									
Window 121	Habitable	42%	42%	0%	1.0	13%	13%	0%	1.0
Window 123	Habitable	42%	42%	0%	1.0	14%	14%	0%	1.0
Window 124	Habitable	42%	42%	0%	1.0	14%	14%	0%	1.0
Window 125	Habitable	45%	45%	0%	1.0	12%	12%	0%	1.0
Window 126	Habitable	42%	42%	0%	1.0	14%	14%	0%	1.0
<u>15 Coley Hill</u>									
Window 140	Habitable	48%	48%	0%	1.0	12%	12%	0%	1.0
<u>121 Castle Hill</u>									
Window 201	Habitable	71%	71%	0%	1.0	28%	28%	0%	1.0
Window 202	Habitable	63%	63%	0%	1.0	26%	26%	0%	1.0
Window 203	Habitable	51%	51%	0%	1.0	22%	22%	0%	1.0
Window 204	Habitable	76%	76%	0%	1.0	28%	28%	0%	1.0
Window 205	Habitable	70%	70%	0%	1.0	26%	26%	0%	1.0
Window 206	Habitable	55%	55%	0%	1.0	22%	22%	0%	1.0
Window 207	Habitable	64%	64%	0%	1.0	24%	24%	0%	1.0
Window 208	Habitable	80%	80%	0%	1.0	25%	25%	0%	1.0
Window 209	Habitable	87%	87%	0%	1.0	30%	30%	0%	1.0
Window 210	Habitable	84%	84%	0%	1.0	29%	29%	0%	1.0
<u>119 Castle Hill</u>									

Appendix 2 - Sunlight to Windows

Hadwyn House, Field Road, Reading, Berkshire RG1 6AP

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
Window 211	Habitable	68%	68%	0%	1.0	22%	22%	0%	1.0
Window 212	Habitable	74%	74%	0%	1.0	24%	24%	0%	1.0
Window 213	Habitable	78%	78%	0%	1.0	26%	26%	0%	1.0
Window 214	Habitable	82%	82%	0%	1.0	28%	28%	0%	1.0
Window 215	Habitable	75%	75%	0%	1.0	27%	27%	0%	1.0
<u>117 Castle Hill</u>									
Window 216	Habitable	72%	72%	0%	1.0	25%	25%	0%	1.0
Window 217	Habitable	77%	77%	0%	1.0	27%	27%	0%	1.0
Window 218	Habitable	82%	82%	0%	1.0	28%	28%	0%	1.0
Window 219	Habitable	75%	74%	1%	0.99	24%	23%	1%	0.96
Window 220	Habitable	80%	80%	0%	1.0	26%	26%	0%	1.0
Window 221	Habitable	82%	82%	0%	1.0	28%	28%	0%	1.0
<u>115 Castle Hill</u>									
Window 222	Habitable	62%	61%	1%	0.98	22%	21%	1%	0.95
Window 223	Habitable	68%	68%	0%	1.0	23%	23%	0%	1.0
Window 224	Habitable	75%	75%	0%	1.0	26%	26%	0%	1.0
Window 225	Habitable	66%	66%	0%	1.0	19%	19%	0%	1.0
Window 226	Habitable	63%	63%	0%	1.0	26%	26%	0%	1.0

Appendix 2 - Overshadowing to Gardens and Open Spaces

Hadwyn House, Field Road, Reading, Berkshire RG1 6AP

Reference	Total Area	Area receiving at least two hours of sunlight on 21st March						
		Before		After		Loss		Ratio
<u>Sun wood</u>								
Garden 1 <u>13 Coley Hill</u>	56.75 m2	39.86 m2	70%	39.86 m2	70%	0.0 m2	0%	1.0
Garden 2 <u>11 Coley Hill</u>	87.72 m2	49.17 m2	56%	49.17 m2	56%	0.0 m2	0%	1.0
Garden 3 <u>9 Coley Hill</u>	89.49 m2	58.5 m2	65%	58.5 m2	65%	0.0 m2	0%	1.0
Garden 4 <u>7 Coley Hill</u>	93.36 m2	56.1 m2	60%	56.1 m2	60%	0.0 m2	0%	1.0
Garden 5 <u>5 Coley Hill</u>	86.49 m2	70.95 m2	82%	70.95 m2	82%	0.0 m2	0%	1.0
Garden 6 <u>121 Castle Hill</u>	90.33 m2	60.68 m2	67%	60.68 m2	67%	0.0 m2	0%	1.0
Garden 7 <u>119 Castle Hill</u>	248.84 m2	232.02 m2	93%	232.02 m2	93%	0.0 m2	0%	1.0
Garden 8 <u>117 Castle Hill</u>	132.05 m2	114.45 m2	87%	112.53 m2	85%	1.92 m2	2%	0.98
Garden 9	142.83 m2	109.66 m2	77%	106.25 m2	74%	3.41 m2	3%	0.96

APPENDIX 3

OVERSHADOWING TO GARDENS AND OPEN SPACES

Appendix 3 : Overshadowing to Gardens and Open Spaces



Key



Receives under two hours sunlight on 21st March before and after the development.



Receives under two hours sunlight on 21st March before the development; but will receive at least two hours sunlight on 21st March after the development (light improved).



Receives at least two hours sunlight on 21st March before the development; but will receive under two hours sunlight after the development (light loss).



Receives at least two hours sunlight on 21st March before and after the development.

Notes:

- 1. Contours derived in accordance with BRE Guide : Site Layout Planning for Daylight and Sunlight

Project Name: 4 Christopher Mews, London W11 4BX

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

Scale: Do not scale

Drawing No: 1 of 2

Rev. -

Date

Details of revision



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Appendix 3 : Overshadowing to Gardens and Open Spaces



Key



Receives under two hours sunlight on 21st March before and after the development.



Receives under two hours sunlight on 21st March before the development; but will receive at least two hours sunlight on 21st March after the development (light improved).



Receives at least two hours sunlight on 21st March before the development; but will receive under two hours sunlight after the development (light loss).



Receives at least two hours sunlight on 21st March before and after the development.

Notes:

- 1. Contours derived in accordance with BRE Guide : Site Layout Planning for Daylight and Sunlight

Project Name: 4 Christopher Mews, London W11 4BX

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

Scale: Do not scale

Drawing No: 2 of 2

Rev

Date

Details of revision



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