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Daylight and Sunlight Study  
13 Britannia Street, Greater London WC1X 9BP

21<sup>st</sup> March 2013

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DAYLIGHT AND SUNLIGHT STUDY  
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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 13 Britannia Street, Greater London WC1X 9BP.
- 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 4 to 26 Britannia Street, Derby Lodge at 1 to 36 Britannia Street & 97 to 144 Wicklow Street, 31a, 34, 57 to 67 Wicklow Street and 15 to 27 Britannia Street. 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.
- 1.1.4 The numerical results confirm that the proposed design will have a relatively low impact on the light receivable by its neighbouring properties. In our opinion there is no daylight/sunlight related reason why planning permission should not be granted for this scheme.

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## 2 INFORMATION SOURCES

### 2.1 Documents Considered

2.1.1 This report is based on drawings:

#### Morrison Design Chartered Architects

[P]_120	Site Location Plan	Rev –
[P]_121	Site Plan Survey as Existing	Rev –
[P]_123	Site Plan Indicating Site Demolition	Rev –
[P]_230	Ground Floor Plan as Proposed	Rev C
[P]_231	First Floor Plan as Proposed	Rev D
[P]_232	Second Floor Plan as Proposed	Rev C
[P]_233	Third Floor Plan as Proposed	Rev C
[P]_234	Fourth Floor Plan as Proposed	Rev C
[P]_235	Fifth Floor Plan as Proposed	Rev C
[P]_236	Sixth Floor Plan as Proposed	Rev A
[P]_239	Typical Section	Rev B
[P]_240	Elevations as Proposed 1 of 3	Rev –
[P]_241	Elevations as Proposed 2 of 3	Rev A
[P]_242	Elevations as Proposed 3 of 3	Rev –
[P]_243	GA Section 2-2	Rev –
[P]_244	GA Section 3	Rev –
[P]_245	GA Section 4-4	Rev –
[P]_246	Roof Plans as Proposed	Rev –

#### Green Hatch Group

15351_Ele	Front Elevation Derby Lodge	Rev 1
15351_Ele	Tunnel Profile and Front Elevation Wicklow Road	Rev 2
15351_Tun	Tunnel Profile Britannia Street Bridge	Rev –

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### 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 13m<sup>2</sup> 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.

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### 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.

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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 21<sup>st</sup> 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 21<sup>st</sup> March is less than 0.8 times its former value, then the loss of light is likely to be noticeable.



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## **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 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 Refer to Appendix 2 for the daylight results pertaining to the neighbouring properties. 89% of main habitable room windows tested meet or surpass the standard BRE Vertical Sky Component (VSC) target. 11% of the windows (which are situated at Derby Lodge at 1 to 36 Britannia Street and 97 to 144 Wicklow Street) fall short of the standard targets. Where windows do not meet the standard BRE targets it does not automatically follow that daylight will be adversely affected. As explained below, with reference to the 11% of windows that do not meet the standard BRE targets, the BRE guide contains explanatory notes that can be used to interpret the results.

4.3.2 All windows at Derby Lodge that fall short of the VSC targets are already hampered by projecting wings. The BRE guide acknowledges that where a window has an overhang or projecting wings on one or both sides of it, a larger relative reduction in VSC may be unavoidable, as the building itself contributes to its poor daylighting. Moreover, the guide acknowledges that in a historic city centre, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings. We note that the proposed development is to be of similar height and proportion to that of the existing surrounding buildings. In particular, the proposed block looks to match the height of Derby Lodge to which it adjoins. We are therefore of the opinion that the VSC scores in this case are acceptable.

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#### **4.4 Sunlight to Windows**

4.4.1 Refer to Appendix 2 for the sunlight results pertaining to the neighbouring properties. 91% of the windows tested meet or surpass the direct sunlight requirements. Isolated windows at Derby Lodge fall short of the direct sunlight targets. However, the points made above in connection with the daylight results apply equally to the direct sunlight results. Furthermore, since we have not had access to the neighbouring properties, we are not able to confirm room uses. However, the direct sunlight hours targets stated in the BRE guide are only intended to be applied to main living room windows. From our external observations, it seems unlikely that the windows which fall short serve main living rooms. Given the very high level of compliance, we are of the opinion that the proposed development has an acceptable impact on direct sunlight.

#### **4.5 Overshadowing to Gardens and Open Spaces**

4.5.1 There are no nearby gardens or amenity areas directly to the north of the development. The proposed development will therefore not create any new areas which receive less than two hours of sunlight on 21<sup>st</sup> March. The proposed development satisfies the BRE overshadowing to gardens and open spaces requirements.

#### **4.6 Conclusion**

4.6.1 The numerical results confirm that the proposed design will have a relatively low impact on the light receivable by its neighbouring properties. In our opinion there is no daylight/sunlight related reason why planning permission should not be granted for this scheme.

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## **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

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## **APPENDICES**

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## **APPENDIX 1**

### WINDOW KEY

# Window Key

## Key

- Window 1 ● Window reference
- Development site
- Neighbouring Properties



Project Name: 13 Britannia Street, Greater London  
VC1X 9BP

Drawing Title: Appendix 1 - Neighbouring Windows

Scale: Do not scale

Drawing No: 1 of 4

Rev	Date	Drawn by	Checked by



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Project Name: **13 Britannia Street, Greater London  
WC1X 9BP**

Drawing Title: **Appendix 1 - Neighbouring Windows**

Scale: **Do not scale**

Drawing No: **2 of 4**

Rev: -

Rev: -

Rev: -

Rev: -

Rev: -

Rev: -

Rev: -

Rev: -

**Key**

Window 1 ● Window reference

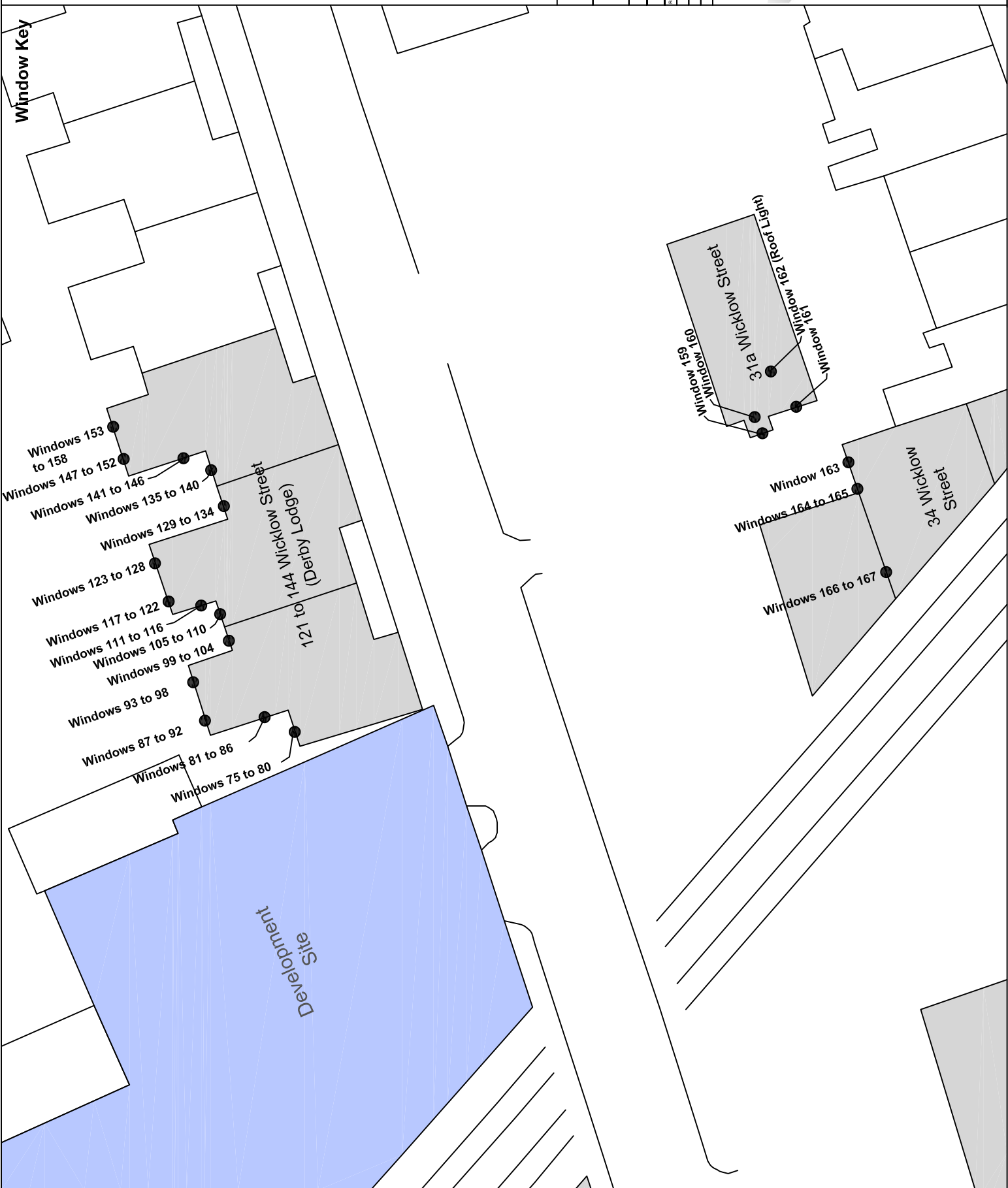


Development site



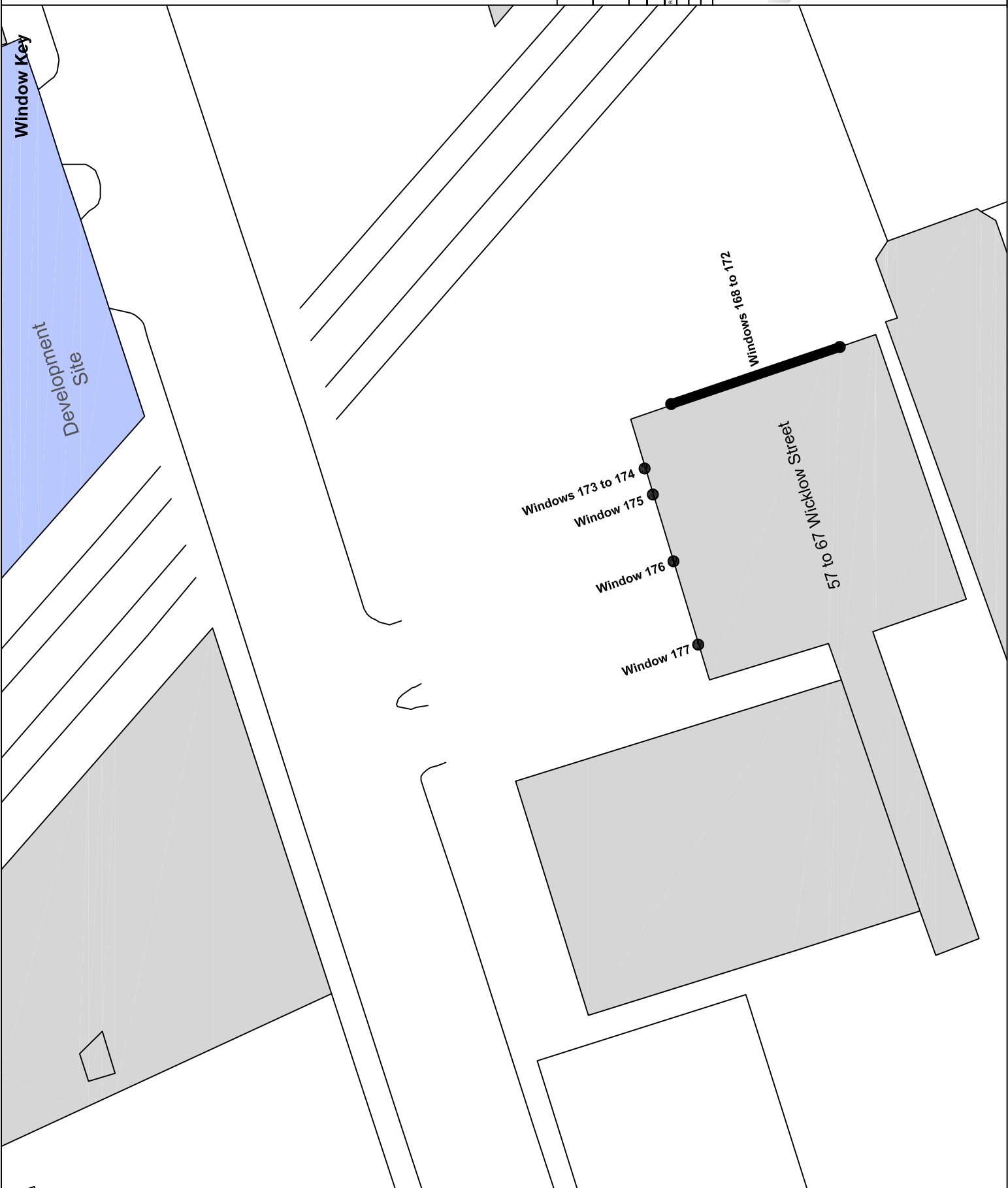
Neighbouring Properties

**Window Key**



**Key**

- Window 1 ● Window reference
- Development site
- Neighbouring Properties



Project Name: 13 Britannia Street, Greater London  
VC1X 9BP

Drawing Title: Appendix 1 - Neighbouring Windows

Scale: Do not scale

Drawing No: 3 of 4

Rev	Date	Drawn by	Checked by

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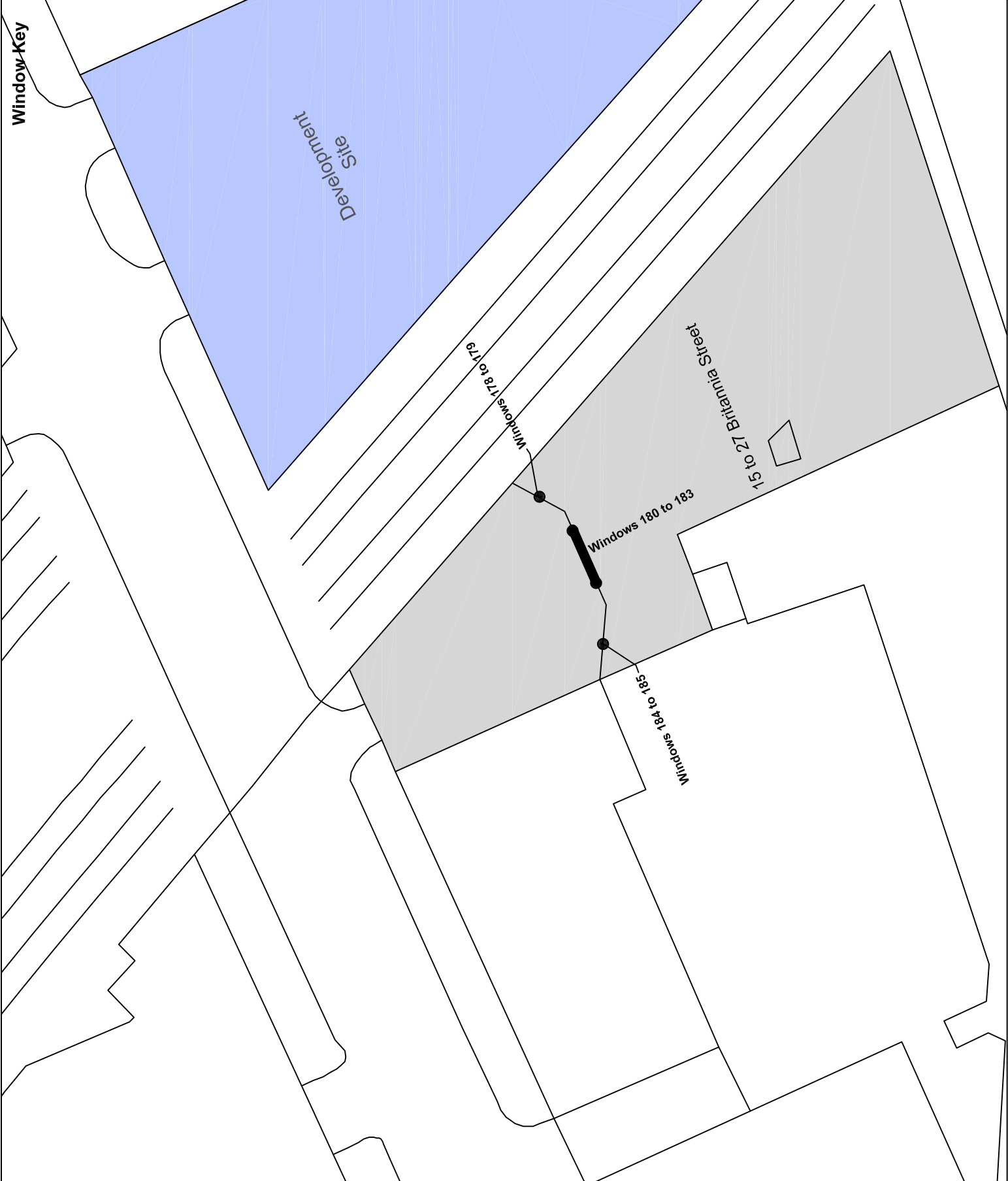


**Window Key**

Window 1 ● Window reference

Development site

Neighbouring Properties



**Window Key**

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Project Name: 13 Britannia Street, Greater London  
VC1X 9BP

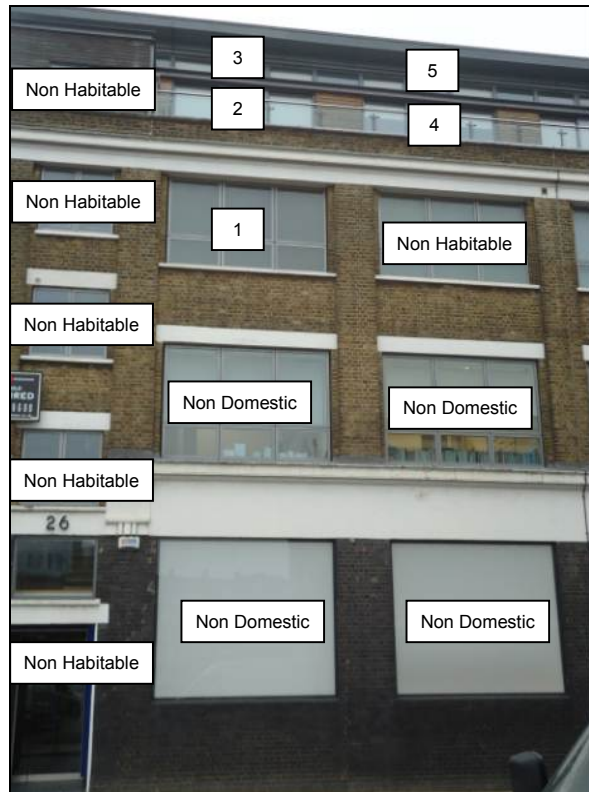
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Scale: Do not scale

Drawing No: 4 of 4

Rev	Date	Details of revision

## Neighbouring Windows



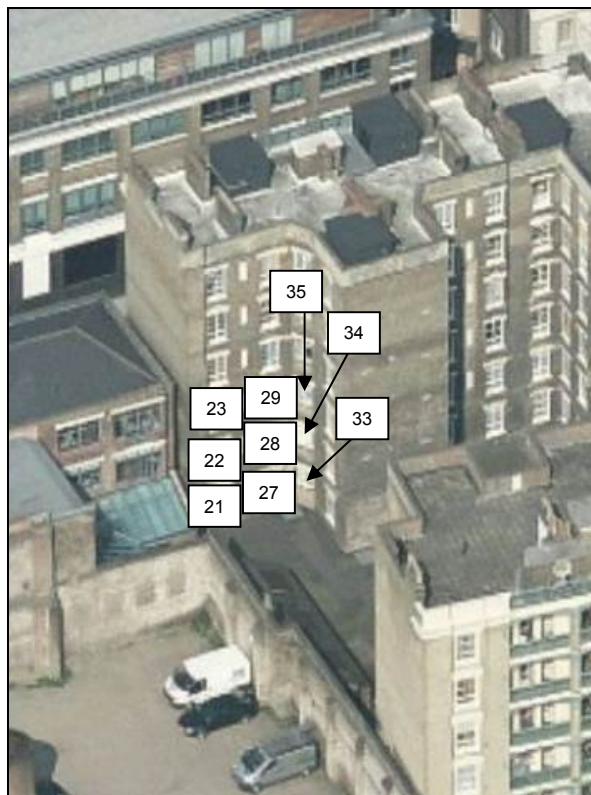
**4 to 26 Britannia Street**



**4 to 26 Britannia Street**



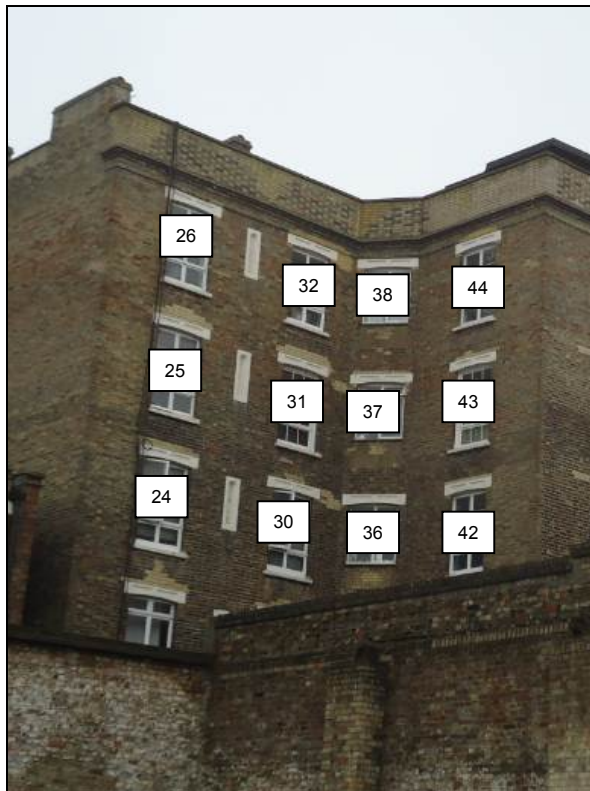
**4 to 26 Britannia Street**



**1 to 36 Britannia Street (Derby Lodge)**



**1 to 36 Britannia Street (Derby Lodge)**



**1 to 36 Britannia Street (Derby Lodge)**



**1 to 36 Britannia Street (Derby Lodge)**



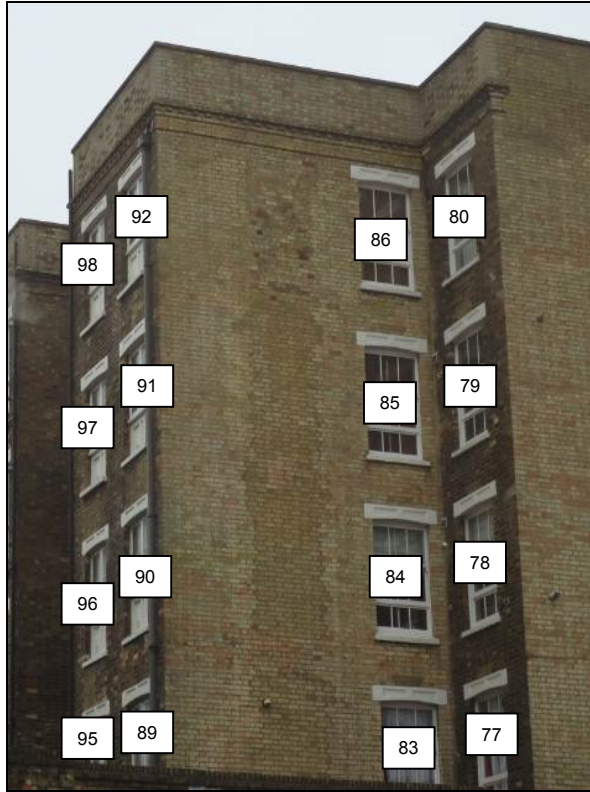
**1 to 36 Britannia Street (Derby Lodge)**



**1 to 36 Britannia Street (Derby Lodge)**



**1 to 36 Britannia Street (Derby Lodge)**



**97 to 144 Wicklow Street (Derby Lodge)**



**97 to 144 Wicklow Street (Derby Lodge)**



**97 to 144 Wicklow Street (Derby Lodge)**



**97 to 144 Wicklow Street (Derby Lodge)**





**97 to 144 Wicklow Street (Derby Lodge)**



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**97 to 144 Wicklow Street (Derby Lodge)**



**97 to 144 Wicklow Street (Derby Lodge)**



97 to 144 Wicklow Street (Derby Lodge)



97 to 144 Wicklow Street (Derby Lodge)



**31a Wicklow Street**



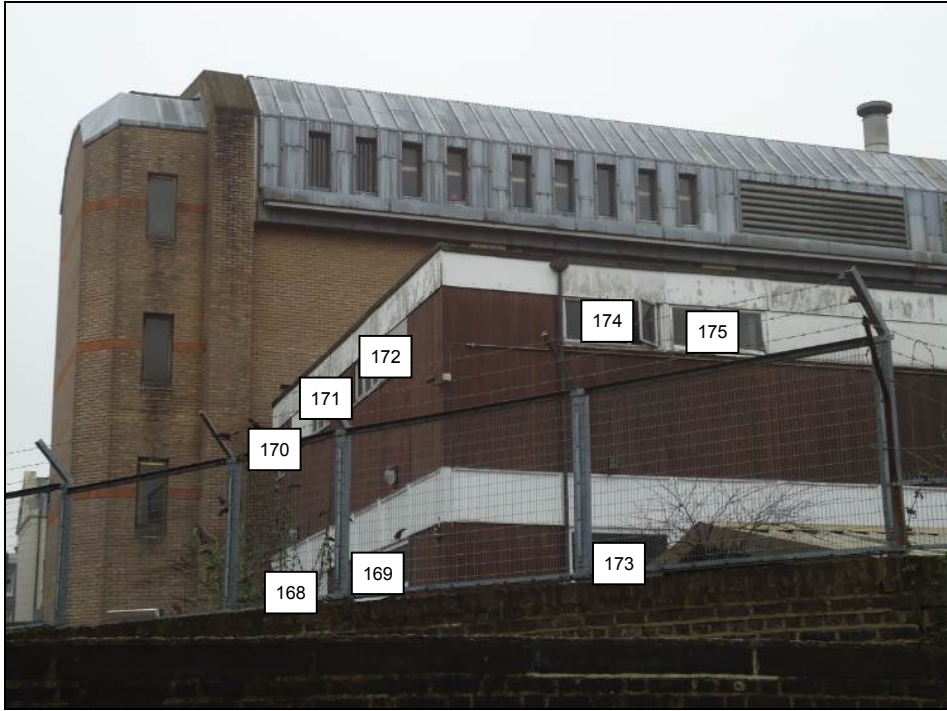
**31a Wicklow Street**



**34 Wicklow Street**



**34 Wicklow Street**



**57 to 67 Wicklow Street**



**57 to 67 Wicklow Street**



**15 to 27 Britannia Street**



**15 to 27 Britannia Street**





**15 to 27 Britannia Street**



**15 to 27 Britannia Street**



**15 to 27 Britannia Street**



**15 to 27 Britannia Street**



**15 to 27 Britannia Street**



**15 to 27 Britannia Street**

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## **APPENDIX 2**

### **DAYLIGHT AND SUNLIGHT RESULTS**

**Appendix 2 - Vertical Sky Component**  
**13 Britannia Street, Greater London WC1X 9BP**

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
<u>4 to 26 Britannia Street</u>					
Window 1	Kitchen/Lounge	36.2%	30.9%	5.3%	0.85
Window 2	Bedroom	34.2%	32.2%	2.0%	0.94
Window 3	Bedroom	28.5%	27.4%	1.1%	0.96
Window 4	Bedroom	35.8%	33.8%	2.0%	0.94
Window 5	Bedroom	28.9%	27.6%	1.3%	0.96
Window 6	Bedroom	34.7%	30.8%	3.9%	0.89
Window 7	Bedroom	33.5%	30.2%	3.3%	0.9
Window 8	Bedroom/Lounge	35.5%	33.5%	2.0%	0.94
Window 9	Bedroom/Lounge	28.6%	27.3%	1.3%	0.95
Window 10	Bedroom/Lounge	34.9%	33.1%	1.8%	0.95
Window 11	Bedroom/Lounge	28.2%	27.0%	1.2%	0.96
Window 12	Lounge	31.9%	29.2%	2.7%	0.92
Window 13	Bedroom	34.2%	32.5%	1.7%	0.95
Window 14	Bedroom	27.7%	26.5%	1.2%	0.96
Window 15	Kitchen/Lounge	30.6%	28.0%	2.6%	0.92
Window 16	Kitchen/Lounge	28.3%	26.5%	1.8%	0.94
Window 17	Bedroom/Lounge	32.1%	31.0%	1.1%	0.97
Window 18	Bedroom/Lounge	26.2%	25.5%	0.7%	0.97
Window 19	Bedroom/Lounge	31.2%	30.4%	0.8%	0.97
Window 20	Bedroom/Lounge	25.6%	25.1%	0.5%	0.98
<u>1 to 36 Britannia Street (Derby Lodge)</u>					
Window 21	Habitable	20.1%	14.5%	5.6%	0.72
Window 22	Habitable	24.7%	17.3%	7.4%	0.7
Window 23	Habitable	27.8%	20.6%	7.2%	0.74
Window 24	Habitable	30.2%	24.5%	5.7%	0.81
Window 25	Habitable	32.9%	28.9%	4.0%	0.88
Window 26	Habitable	36.1%	33.9%	2.2%	0.94
Window 27	Habitable	16.8%	11.6%	5.2%	0.69
Window 28	Habitable	19.9%	13.9%	6.0%	0.7
Window 29	Habitable	22.1%	16.6%	5.5%	0.75
Window 30	Habitable	24.0%	19.6%	4.4%	0.82
Window 31	Habitable	26.2%	23.2%	3.0%	0.89

## Appendix 2 - Vertical Sky Component

13 Britannia Street, Greater London WC1X 9BP

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 32	Habitable	30.2%	28.5%	1.7%	0.94
Window 33	Habitable	19.6%	12.1%	7.5%	0.62
Window 34	Habitable	23.0%	14.6%	8.4%	0.63
Window 35	Habitable	25.4%	17.4%	8.0%	0.69
Window 36	Habitable	27.0%	20.5%	6.5%	0.76
Window 37	Habitable	28.3%	23.9%	4.4%	0.84
Window 38	Habitable	30.5%	28.2%	2.3%	0.92
Window 39	Habitable	18.2%	11.3%	6.9%	0.62
Window 40	Habitable	22.4%	14.1%	8.3%	0.63
Window 41	Habitable	25.6%	17.4%	8.2%	0.68
Window 42	Habitable	27.9%	20.9%	7.0%	0.75
Window 43	Habitable	30.0%	25.3%	4.7%	0.84
Window 44	Habitable	33.7%	31.3%	2.4%	0.93
Window 45	Habitable	11.5%	11.5%	0.0%	1.0
Window 46	Habitable	13.3%	13.3%	0.0%	1.0
Window 47	Habitable	15.3%	15.3%	0.0%	1.0
Window 48	Habitable	17.6%	17.6%	0.0%	1.0
Window 49	Habitable	20.5%	20.5%	0.0%	1.0
Window 50	Habitable	25.2%	25.2%	0.0%	1.0
Window 51	Habitable	14.3%	13.7%	0.6%	0.96
Window 52	Habitable	16.5%	16.0%	0.5%	0.97
Window 53	Habitable	19.1%	18.6%	0.5%	0.97
Window 54	Habitable	22.2%	21.9%	0.3%	0.99
Window 55	Habitable	26.3%	26.1%	0.2%	0.99
Window 56	Habitable	32.3%	32.2%	0.1%	1.0
Window 57	Habitable	11.8%	10.7%	1.1%	0.91
Window 58	Habitable	13.5%	12.4%	1.1%	0.92
Window 59	Habitable	15.3%	14.4%	0.9%	0.94
Window 60	Habitable	17.3%	16.6%	0.7%	0.96
Window 61	Habitable	19.8%	19.4%	0.4%	0.98
Window 62	Habitable	24.0%	23.7%	0.3%	0.99
Window 63	Habitable	9.1%	7.3%	1.8%	0.8
Window 64	Habitable	10.2%	8.6%	1.6%	0.84

**Appendix 2 - Vertical Sky Component**  
**13 Britannia Street, Greater London WC1X 9BP**

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 65	Habitable	11.7%	10.3%	1.4%	0.88
Window 66	Habitable	13.7%	12.7%	1.0%	0.93
Window 67	Habitable	16.7%	16.0%	0.7%	0.96
Window 68	Habitable	21.6%	21.2%	0.4%	0.98
Window 69	Habitable	19.7%	18.4%	1.3%	0.93
Window 70	Habitable	23.0%	21.8%	1.2%	0.95
Window 71	Habitable	26.3%	25.3%	1.0%	0.96
Window 72	Habitable	29.8%	29.0%	0.8%	0.97
Window 73	Habitable	33.3%	32.6%	0.7%	0.98
Window 74	Habitable	36.5%	36.1%	0.4%	0.99
<u>97 to 144 Wicklow Street (Derby Lodge)</u>					
Window 75	Non Habitable Kitchen	10.1%	10.1%	0.0%	1.0
Window 76	Non Habitable Kitchen	16.7%	13.4%	3.3%	0.8
Window 77	Non Habitable Kitchen	21.4%	15.1%	6.3%	0.71
Window 78	Non Habitable Kitchen	23.2%	17.4%	5.8%	0.75
Window 79	Non Habitable Kitchen	25.1%	20.6%	4.5%	0.82
Window 80	Non Habitable Kitchen	29.0%	26.5%	2.5%	0.91
Window 81	Bedroom	8.2%	4.6%	3.6%	0.56
Window 82	Bedroom	17.5%	6.0%	11.5%	0.34
Window 83	Bedroom	22.7%	7.5%	15.2%	0.33
Window 84	Bedroom	23.7%	9.8%	13.9%	0.41
Window 85	Bedroom	24.6%	13.7%	10.9%	0.56
Window 86	Bedroom	26.3%	19.5%	6.8%	0.74
Window 87	Habitable	21.7%	20.4%	1.3%	0.94
Window 88	Habitable	26.0%	23.6%	2.4%	0.91
Window 89	Habitable	29.3%	26.9%	2.4%	0.92
Window 90	Habitable	32.4%	30.3%	2.1%	0.94

**Appendix 2 - Vertical Sky Component**  
**13 Britannia Street, Greater London WC1X 9BP**

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 91	Habitable	35.2%	33.7%	1.5%	0.96
Window 92	Habitable	37.7%	36.9%	0.8%	0.98
Window 93	Habitable	22.0%	20.6%	1.4%	0.94
Window 94	Habitable	25.8%	23.7%	2.1%	0.92
Window 95	Habitable	28.9%	27.0%	1.9%	0.93
Window 96	Habitable	32.1%	30.4%	1.7%	0.95
Window 97	Habitable	35.0%	33.8%	1.2%	0.97
Window 98	Habitable	37.6%	37.0%	0.6%	0.98
Window 99	Habitable	8.4%	8.4%	0.0%	1.0
Window 100	Habitable	10.0%	10.0%	0.0%	1.0
Window 101	Habitable	11.7%	11.7%	0.0%	1.0
Window 102	Habitable	13.6%	13.6%	0.0%	1.0
Window 103	Habitable	16.0%	16.0%	0.0%	1.0
Window 104	Habitable	20.2%	20.2%	0.0%	1.0
Window 105	Habitable	9.7%	9.7%	0.0%	1.0
Window 106	Habitable	11.3%	11.3%	0.0%	1.0
Window 107	Habitable	12.9%	12.9%	0.0%	1.0
Window 108	Habitable	14.7%	14.7%	0.0%	1.0
Window 109	Habitable	17.0%	17.0%	0.0%	1.0
Window 110	Habitable	21.3%	21.3%	0.0%	1.0
Window 111	Habitable	7.3%	6.6%	0.7%	0.9
Window 117	Habitable	22.0%	20.9%	1.1%	0.95
Window 112	Habitable	8.2%	7.4%	0.8%	0.9
Window 118	Habitable	25.4%	24.1%	1.3%	0.95
Window 113	Habitable	9.1%	8.3%	0.8%	0.91
Window 119	Habitable	28.5%	27.4%	1.1%	0.96
Window 114	Habitable	10.2%	9.4%	0.8%	0.92
Window 120	Habitable	31.7%	30.8%	0.9%	0.97
Window 115	Habitable	12.0%	11.5%	0.5%	0.96
Window 121	Habitable	34.7%	34.1%	0.6%	0.98
Window 116	Habitable	17.8%	17.6%	0.2%	0.99
Window 122	Habitable	37.5%	37.2%	0.3%	0.99
Window 123	Habitable	21.9%	20.9%	1.0%	0.95



**Appendix 2 - Vertical Sky Component**  
**13 Britannia Street, Greater London WC1X 9BP**

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 124	Habitable	25.3%	24.3%	1.0%	0.96
Window 125	Habitable	28.5%	27.5%	1.0%	0.96
Window 126	Habitable	31.7%	30.8%	0.9%	0.97
Window 127	Habitable	34.7%	34.1%	0.6%	0.98
Window 128	Habitable	37.5%	37.2%	0.3%	0.99
Window 129	Habitable	7.7%	7.7%	0.0%	1.0
Window 130	Habitable	0.1%	0.1%	0.0%	1.0
Window 131	Habitable	10.5%	10.5%	0.0%	1.0
Window 132	Habitable	12.4%	12.4%	0.0%	1.0
Window 133	Habitable	15.1%	15.1%	0.0%	1.0
Window 134	Habitable	21.0%	21.0%	0.0%	1.0
Window 135	Habitable	7.5%	7.5%	0.0%	1.0
Window 136	Habitable	8.8%	8.8%	0.0%	1.0
Window 137	Habitable	10.4%	10.4%	0.0%	1.0
Window 138	Habitable	12.3%	12.3%	0.0%	1.0
Window 139	Habitable	15.1%	15.1%	0.0%	1.0
Window 140	Habitable	21.2%	21.2%	0.0%	1.0
Window 141	Habitable	3.8%	3.8%	0.0%	1.0
Window 142	Habitable	4.4%	4.4%	0.0%	1.0
Window 143	Habitable	5.3%	5.3%	0.0%	1.0
Window 144	Habitable	6.7%	6.7%	0.0%	1.0
Window 145	Habitable	9.7%	9.7%	0.0%	1.0
Window 146	Habitable	17.1%	17.1%	0.0%	1.0
Window 147	Habitable	21.6%	21.0%	0.6%	0.97
Window 148	Habitable	25.7%	25.1%	0.6%	0.98
Window 149	Habitable	29.0%	28.5%	0.5%	0.98
Window 150	Habitable	32.1%	31.6%	0.5%	0.98
Window 151	Habitable	34.9%	34.6%	0.3%	0.99
Window 152	Habitable	37.6%	37.4%	0.2%	0.99
Window 153	Habitable	21.3%	20.8%	0.5%	0.98
Window 154	Habitable	25.8%	25.3%	0.5%	0.98
Window 155	Habitable	29.3%	28.9%	0.4%	0.99
Window 156	Habitable	32.3%	31.9%	0.4%	0.99

**Appendix 2 - Vertical Sky Component**  
**13 Britannia Street, Greater London WC1X 9BP**

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 157	Habitable	35.0%	34.8%	0.2%	0.99
Window 158	Habitable	37.6%	37.4%	0.2%	0.99
<u>31a Wicklow Street</u>					
Window 159	Habitable	26.3%	25.0%	1.3%	0.95
Window 160	Bedroom	30.2%	29.1%	1.1%	0.96
Window 162	Bedroom	76.4%	76.2%	0.2%	1.0
Window 161	Bedroom	27.1%	26.1%	1.0%	0.96
<u>34 Wicklow Street</u>					
Window 163	Habitable	20.0%	19.1%	0.9%	0.96
Window 164	Habitable	30.2%	28.3%	1.9%	0.94
Window 165	Habitable	33.0%	31.6%	1.4%	0.96
Window 166	Habitable	31.7%	29.6%	2.1%	0.93
Window 167	Habitable	33.8%	32.1%	1.7%	0.95
<u>57 to 67 Wicklow Street</u>					
Window 168	Habitable	25.9%	25.5%	0.4%	0.98
Window 169	Habitable	32.8%	32.0%	0.8%	0.98
Window 173	Habitable	32.2%	30.0%	2.2%	0.93
Window 176	Habitable	31.8%	29.8%	2.0%	0.94
Window 170	Habitable	28.5%	28.2%	0.3%	0.99
Window 171	Habitable	34.3%	33.9%	0.4%	0.99
Window 172	Habitable	35.8%	35.2%	0.6%	0.98
Window 174	Habitable	34.9%	33.1%	1.8%	0.95
Window 175	Habitable	34.8%	33.1%	1.7%	0.95
Window 177	Habitable	34.4%	32.9%	1.5%	0.96
<u>15 to 27 Britannia Street</u>					
Window 178	Habitable	33.9%	32.0%	1.9%	0.94
Window 179	Habitable	36.7%	35.3%	1.4%	0.96
Window 180	Habitable	33.0%	31.4%	1.6%	0.95
Window 181	Habitable	30.3%	29.9%	0.4%	0.99
Window 182	Habitable	35.4%	35.1%	0.3%	0.99
Window 183	Habitable	28.7%	28.3%	0.4%	0.99
Window 184	Habitable	34.1%	33.8%	0.3%	0.99

## Appendix 2 - Sunlight to Windows

13 Britannia Street, Greater London WC1X 9BP

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
<u>4 to 26 Britannia Street</u>									
Window 1	Kitchen/Lounge	81%	75%	6%	0.93	27%	21%	6%	0.78
Window 8	Bedroom/Lounge	77%	77%	0%	1.0	26%	26%	0%	1.0
Window 9	Bedroom/Lounge	58%	58%	0%	1.0	25%	25%	0%	1.0
Window 10	Bedroom/Lounge	77%	77%	0%	1.0	26%	26%	0%	1.0
Window 11	Bedroom/Lounge	58%	58%	0%	1.0	25%	25%	0%	1.0
Window 12	Lounge	75%	72%	3%	0.96	22%	19%	3%	0.86
Window 15	Kitchen/Lounge	73%	71%	2%	0.97	20%	18%	2%	0.9
Window 16	Kitchen/Lounge	70%	68%	2%	0.97	17%	15%	2%	0.88
Window 17	Bedroom/Lounge	73%	73%	0%	1.0	22%	22%	0%	1.0
Window 18	Bedroom/Lounge	58%	58%	0%	1.0	25%	25%	0%	1.0
Window 19	Bedroom/Lounge	73%	73%	0%	1.0	22%	22%	0%	1.0
Window 20	Bedroom/Lounge	58%	58%	0%	1.0	25%	25%	0%	1.0
<u>1 to 36 Britannia Street (Derby Lodge)</u>									
Window 21	Habitable	51%	35%	16%	0.69	10%	1%	9%	0.1
Window 22	Habitable	58%	43%	15%	0.74	16%	4%	12%	0.25
Window 23	Habitable	61%	48%	13%	0.79	19%	7%	12%	0.37
Window 24	Habitable	66%	55%	11%	0.83	24%	13%	11%	0.54
Window 25	Habitable	70%	65%	5%	0.93	26%	21%	5%	0.81
Window 26	Habitable	77%	76%	1%	0.99	28%	27%	1%	0.96
Window 27	Habitable	40%	28%	12%	0.7	9%	2%	7%	0.22
Window 28	Habitable	46%	35%	11%	0.76	14%	4%	10%	0.29
Window 29	Habitable	50%	40%	10%	0.8	18%	9%	9%	0.5
Window 30	Habitable	52%	45%	7%	0.87	20%	13%	7%	0.65
Window 31	Habitable	58%	54%	4%	0.93	24%	20%	4%	0.83

## Appendix 2 - Sunlight to Windows

13 Britannia Street, Greater London WC1X 9BP

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
Window 32	Habitable	61%	60%	1%	0.98	24%	23%	1%	0.96
Window 33	Habitable	40%	25%	15%	0.63	12%	1%	11%	0.08
Window 34	Habitable	42%	29%	13%	0.69	14%	3%	11%	0.21
Window 35	Habitable	46%	36%	10%	0.78	17%	8%	9%	0.47
Window 36	Habitable	49%	41%	8%	0.84	20%	12%	8%	0.6
Window 37	Habitable	52%	49%	3%	0.94	23%	20%	3%	0.87
Window 38	Habitable	56%	56%	0%	1.0	23%	23%	0%	1.0
Window 39	Habitable	40%	23%	17%	0.58	12%	1%	11%	0.08
Window 40	Habitable	46%	32%	14%	0.7	14%	3%	11%	0.21
Window 41	Habitable	48%	36%	12%	0.75	16%	5%	11%	0.31
Window 42	Habitable	50%	42%	8%	0.84	18%	10%	8%	0.56
Window 43	Habitable	51%	46%	5%	0.9	19%	14%	5%	0.74
Window 44	Habitable	53%	52%	1%	0.98	21%	20%	1%	0.95
Window 45	Habitable	24%	24%	0%	1.0	1%	1%	0%	1.0
Window 46	Habitable	25%	25%	0%	1.0	2%	2%	0%	1.0
Window 47	Habitable	28%	28%	0%	1.0	4%	4%	0%	1.0
Window 48	Habitable	31%	31%	0%	1.0	7%	7%	0%	1.0
Window 49	Habitable	39%	39%	0%	1.0	11%	11%	0%	1.0
Window 50	Habitable	48%	48%	0%	1.0	13%	13%	0%	1.0
Window 51	Habitable	28%	26%	2%	0.93	5%	3%	2%	0.6
Window 52	Habitable	31%	30%	1%	0.97	8%	7%	1%	0.88
Window 53	Habitable	33%	32%	1%	0.97	9%	8%	1%	0.89
Window 54	Habitable	39%	39%	0%	1.0	14%	14%	0%	1.0
Window 55	Habitable	49%	49%	0%	1.0	17%	17%	0%	1.0
Window 56	Habitable	67%	67%	0%	1.0	20%	20%	0%	1.0
Window 57	Habitable	22%	21%	1%	0.95	5%	4%	1%	0.8
Window 58	Habitable	26%	25%	1%	0.96	9%	8%	1%	0.89
Window 59	Habitable	30%	30%	0%	1.0	11%	11%	0%	1.0
Window 60	Habitable	36%	36%	0%	1.0	13%	13%	0%	1.0
Window 61	Habitable	44%	44%	0%	1.0	17%	17%	0%	1.0
Window 62	Habitable	51%	51%	0%	1.0	20%	20%	0%	1.0
Window 63	Habitable	23%	21%	2%	0.91	7%	5%	2%	0.71
Window 64	Habitable	26%	23%	3%	0.88	9%	6%	3%	0.67

## Appendix 2 - Sunlight to Windows

13 Britannia Street, Greater London WC1X 9BP

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
Window 65	Habitable	29%	27%	2%	0.93	11%	9%	2%	0.82
Window 66	Habitable	34%	33%	1%	0.97	13%	12%	1%	0.92
Window 67	Habitable	40%	39%	1%	0.98	16%	15%	1%	0.94
Window 68	Habitable	46%	46%	0%	1.0	18%	18%	0%	1.0
Window 69	Habitable	28%	24%	4%	0.86	8%	4%	4%	0.5
Window 70	Habitable	30%	27%	3%	0.9	10%	7%	3%	0.7
Window 71	Habitable	34%	31%	3%	0.91	13%	10%	3%	0.77
Window 72	Habitable	38%	35%	3%	0.92	15%	12%	3%	0.8
Window 73	Habitable	46%	44%	2%	0.96	19%	17%	2%	0.89
Window 74	Habitable	51%	50%	1%	0.98	19%	18%	1%	0.95
<u>97 to 144 Wicklow Street (Derby Lodge)</u>									
Window 111	Habitable	1%	0%	1%	0.1	0%	0%	0%	1.0
Window 112	Habitable	2%	0%	2%	0.05	0%	0%	0%	1.0
Window 113	Habitable	3%	0%	3%	0.03	0%	0%	0%	1.0
Window 115	Habitable	3%	3%	0%	1.0	0%	0%	0%	1.0
Window 116	Habitable	9%	9%	0%	1.0	0%	0%	0%	1.0
Window 141	Habitable	0%	0%	0%	1.0	0%	0%	0%	1.0
Window 142	Habitable	0%	0%	0%	1.0	0%	0%	0%	1.0
Window 143	Habitable	1%	1%	0%	1.0	0%	0%	0%	1.0
Window 144	Habitable	1%	1%	0%	1.0	0%	0%	0%	1.0
Window 145	Habitable	1%	1%	0%	1.0	0%	0%	0%	1.0

## Appendix 2 - Sunlight to Windows

13 Britannia Street, Greater London WC1X 9BP

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
Window 146 <u>31a Wicklow Street</u>	Habitable	9%	9%	0%	1.0	0%	0%	0%	1.0
Window 159 <u>15 to 27 Britannia Street</u>	Habitable	32%	32%	0%	1.0	2%	2%	0%	1.0
Window 178	Habitable	63%	60%	3%	0.95	18%	18%	0%	1.0
Window 179	Habitable	68%	67%	1%	0.99	23%	23%	0%	1.0
Window 180	Habitable	60%	58%	2%	0.97	15%	15%	0%	1.0
Window 181	Habitable	72%	71%	1%	0.99	17%	17%	0%	1.0
Window 182	Habitable	82%	81%	1%	0.99	27%	27%	0%	1.0
Window 183	Habitable	70%	69%	1%	0.99	15%	15%	0%	1.0
Window 184	Habitable	81%	81%	0%	1.0	26%	26%	0%	1.0