GVA Schatunowski Brooks

Report

6-8 Emerald Street London WC1

Daylight and Sunlight Report

EM05/11/ROL

May 2011

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CONTENTS

Appendices

Model 3d number EM05/BRE/CAD04A

No Sky Line contour plans numbered EM05/BRE/CAD01A, 02A and 03A

Daylight results schedule

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1. Introduction

1.1 GVA Schatunowski Brooks have been instructed by Hague Securities to carry out a daylight and sunlight assessment in respect of their proposed development at 6 – 8 Emerald Street which is the subject of a planning application to the London Borough of Camden.

1.2 The current proposals involve an extension of 4th floor accommodation northwards and this report addresses daylight and sunlight impacts upon existing residential properties to the rear of to the development site in Great James Street.

1.3 Our analysis covers residential elements in 36, 38, 39 and 40 Great James Street. Number 37 Great James Street is used as offices as are the lower levels of number 40. Some parts of 36 and 38 may also contain some commercial uses on the lower floors but as this cannot be confirmed these levels have been included in the analysis.

1.4 The impacts on these properties are shown on drawings numbered EM05/BRE/CAD01A, 02A, and 03A and the results are tabulated on the schedules of daylight and sunlight values. Drawing number EM05/BRE/CAD04A shows the existing and proposed massing on the site. These documents are attached at Appendix 1.

1.5 For the purposes of the technical analysis and this report we have relied upon the information set out below.

2. Sources of Information

- Hugh Broughton Architects Ltd's drawings numbered 180_E01, E02, E03, GA01/P1, GA02/P1 and GA03/P1 which show the redevelopment proposals and the existing buildings on the site.
- Survey elevations of the rear of the Great James Street building prepared by Engineering Surveys Land and Building Ltd in October 2006 numbered B6018/ELEV, ELEVS1, ELEVS2, ROOF, ROOF2 and TOPO2.
- Os Plan
- Site inspection and site photographs

3. BRE Report 1991 Criteria for Existing Buildings

The BRE Report covers requirements for sunlight and daylight to residential buildings around any development site. Whilst the Report is intended for the protection of residential properties the guidelines are intended for use with any non domestic buildings where the occupants have a reasonable expectation of daylight.

Before dealing specifically with the requirements of the report under the various headings, we would note the advice set out in the Introduction to the Report which states the following:-

"While this guide supercedes the 1971 Department of the Environment document 'Sunlight and Daylight' which is now withdrawn, the main aim is the same - to help to ensure good conditions in the local environment, considered broadly, with enough sunlight and daylight on or between buildings for good interior and exterior conditions.

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

DAYLIGHTING

The requirements governing daylighting to existing residential buildings around a development site are set out in Part 2.2 of the Report. The amount of light accessible to any window depends upon the amount of unobstructed sky that can be seen from the centre of the window under consideration. The amount of visible sky and consequently the amount of available skylight is assessed by calculating the vertical sky component at the centre of the window. The Report advises that bathrooms, toilets, storerooms, circulation areas and garages need not be analysed. As regards distribution of

daylight within rooms the report advises that bedrooms are considered to be less important.

The vertical sky component can be calculated by using the skylight indicator provided as part of the Report or by mathematical methods using what is known as a Waldram diagram. The use of the skylight indicator is, in our view, the less accurate and can only be relied upon for indicative results. The mathematical method which actually measures the amount of visible sky gives far more accurate and truly representative results, and this is the method we have used.

The Report states the following:-

"If this vertical sky component is greater than 27% then enough skylight should still be reaching the window of the existing building. Any reduction below this level should be kept to a minimum. If the vertical sky component with the new development in place, is both less than 27% and less than 0.8 times its former value, then occupants of the existing building will notice the reduction in the amount of skylight."

It must be interpreted from this criterion that a 27% vertical sky component (VSC) constitutes adequacy, but where this value cannot be achieved a reduction of up to 20% of the former value would not be noticeable and would not therefore be considered material.

The VSC calculation only measures light reaching the outside plane of the window under consideration. Depending upon the room and window size, the room may still be adequately lit with a lesser VSC value than the target values referred to above.

Appendix C of the BRE Report sets out various more detailed tests that assess the interior day lit conditions of rooms. These include the calculation of the average daylight factors (ADF) and no sky-lines. The ADF value determines the level of interior illumination that can be compared with the British Standard. This recommends a minimum of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms.

The no sky-line contour shows the extent of light penetration into the room at working plane level, 850mm above floor level. If a substantial part of the room falls behind the no sky-line contour, the distribution of light within the room may look poor.

SUNLIGHTING

Requirements for protection of sunlighting to existing residential buildings around a development site are set out in Part 3.2 of the BRE Report. There is a requirement to assess windows of surrounding properties where the main windows face within 90 degrees of due south. The calculations are taken at the window reference point as recommended in British Standard BS8206: Part 2, at the centre of each window on the plane of the inside surface of the wall. The guide further states that kitchens and bedrooms are less important in the context of considering sunlight, although care should be taken not to block too much sun. The Report sets the following standard:-

"If this window reference point can receive more than one quarter of annual probable sunlight hours, including at least 5% of annual probable sunlight hours during the winter months of 21st September and 21st March, then the room should still receive enough sunlight. The sunlight availability indicator in Appendix A can be used to check this.

Any reduction in sunlight access below this level should be kept to a minimum. If the available sunlight hours are both less than the amount given and less than 0.8 times their former value, either over the whole year or just during the winter months then the occupants of the existing building will notice the loss of sunlight."

Our computer software has been designed to calculate the percentage of annual probable sunlight hours on the basis of the sunlight availability indicator, which in this instance is the indicator for London having a latitude of 51.5 degrees north. The total of annual unobstructed sunlight is 1,486 hours.

4. Results of Analysis

4.1 The daylight analysis demonstrates that for all the windows tested the VSC value in the proposed conditon either reduces by less than 20% of the former value, and only exceeds 10% for 2 windows. The area within the no sky line does not significantly change in 50% of the rooms tested. Whilst in 1 room the area reduces by 20.03%, in all the remaining rooms the area reduces by less than 20%.

4.2 Within the context of the BRE daylight guidelines this means that the impacts are not material and will not be noticeable by occupants

4.3 The sunlight analysis generally shows very small reductions to sunlight. As the lowest measureable unit of sunlight is 1% then logic dictates that a reduction of 1% could not be considered material even where this results, mathematically, in a reduction of more than 20%.

4.4 Whilst the tabulated results show a reduction of 66.67% of sunlight to window W1/111 on CAD01A this is a half glazed door. The main window to this lower ground floor room is in the south facing elevation and is not affected. Furthermore it seems unlikely that this rear addition room would be a living room. Elsewhere on the table, where the reduction percentage exceeds 20% this represents a change of only 1% which cannot be considered material.

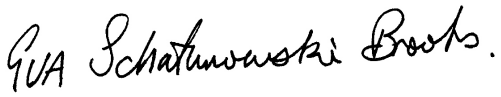
4.5 The analysis demonstrates that the BRE sunlight guidelines are met.

5. Conclusions

5.1 We have undertaken all the relevant tests to assess impact on existing buildings as required under the BRE guidelines.

5.2 The analysis shows that there will be no material impact on daylight and sunlight within the context of the planning policy guidelines and in consequence daylight and sunlight amenity continues to be adequate.

5.3 Should you require any further information or clarification of any matter contained within this report please do not hesitate to contact us.



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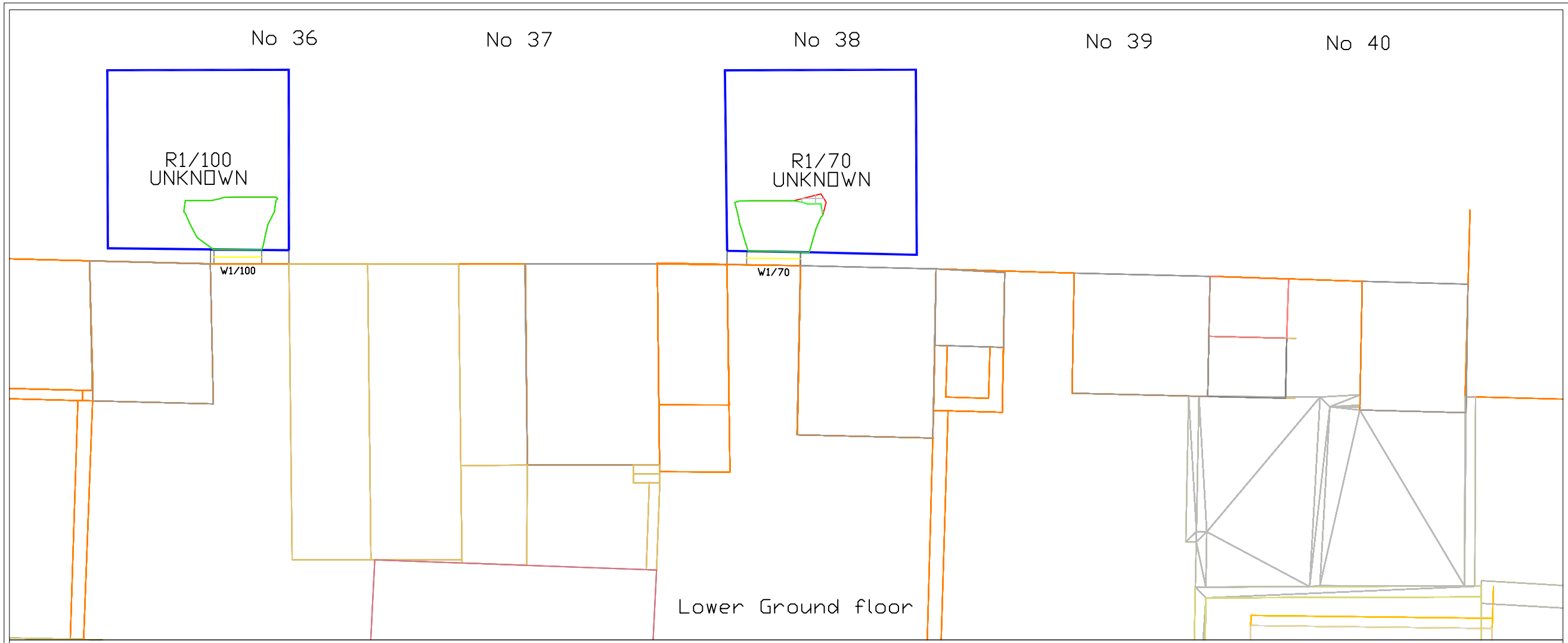
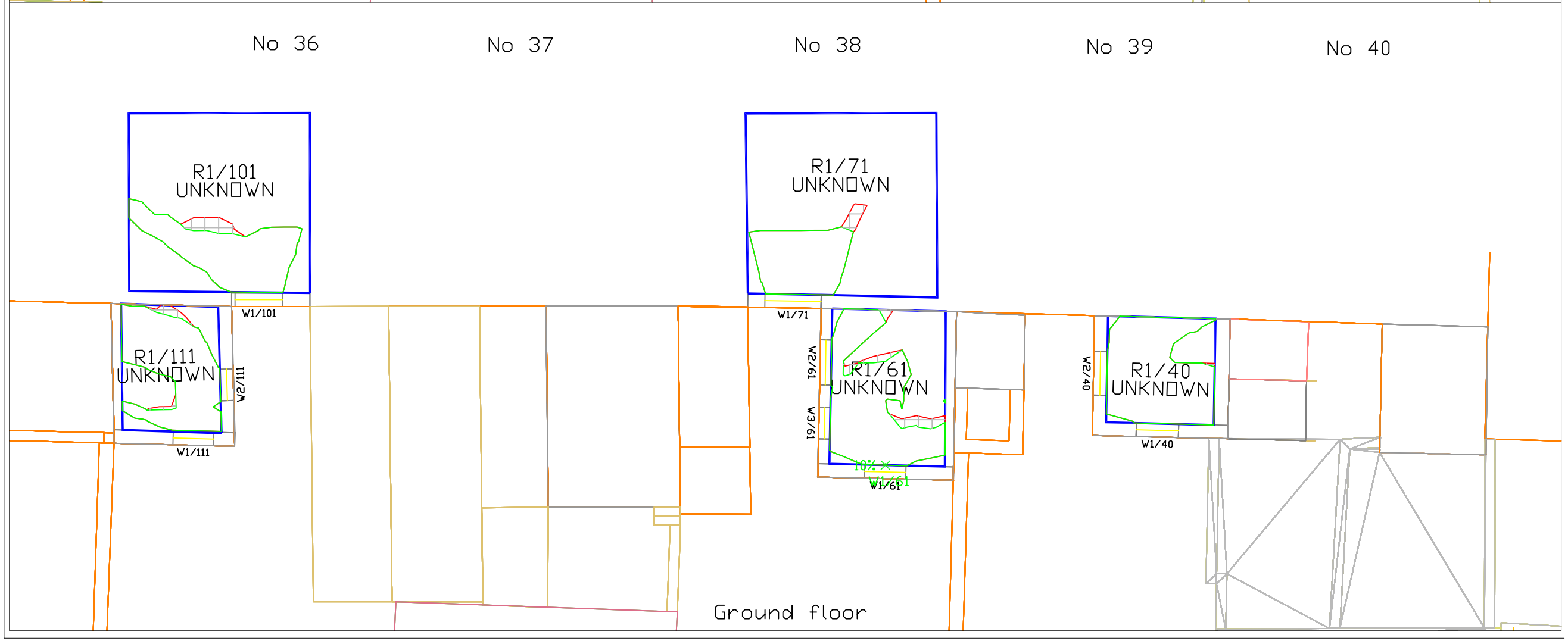
4th May 2011

Do not scale this drawing.
All dimensions to be checked on site. Drawing to be read in conjunction with any specifications, schedules and Consultants drawings and details.





Legend

Daylight

Existing

Proposed

1ft Grid Loss Hatching

Room Layout

Existing No-Sky Line Contour

Proposed No-Sky Line Contour

Sources of Information

Drawings Used:
Proposed:
180_GA01/P1, GA02/P1, GA03/P1

Survey Drawings:
B6018ELEV
B6018ELEVS1
B6037ELEVS2
B6018ROOF
B6018ROOF2
B5767TOPO2

Existing Drawings:
180_E01, E02, E03

08449 02 03 04
GVA Schatunowski Brooks
10 Stratton Street, London, W1J 8JR
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Project Name
6-8 Emerald St
Holborn, London

Client
-
-

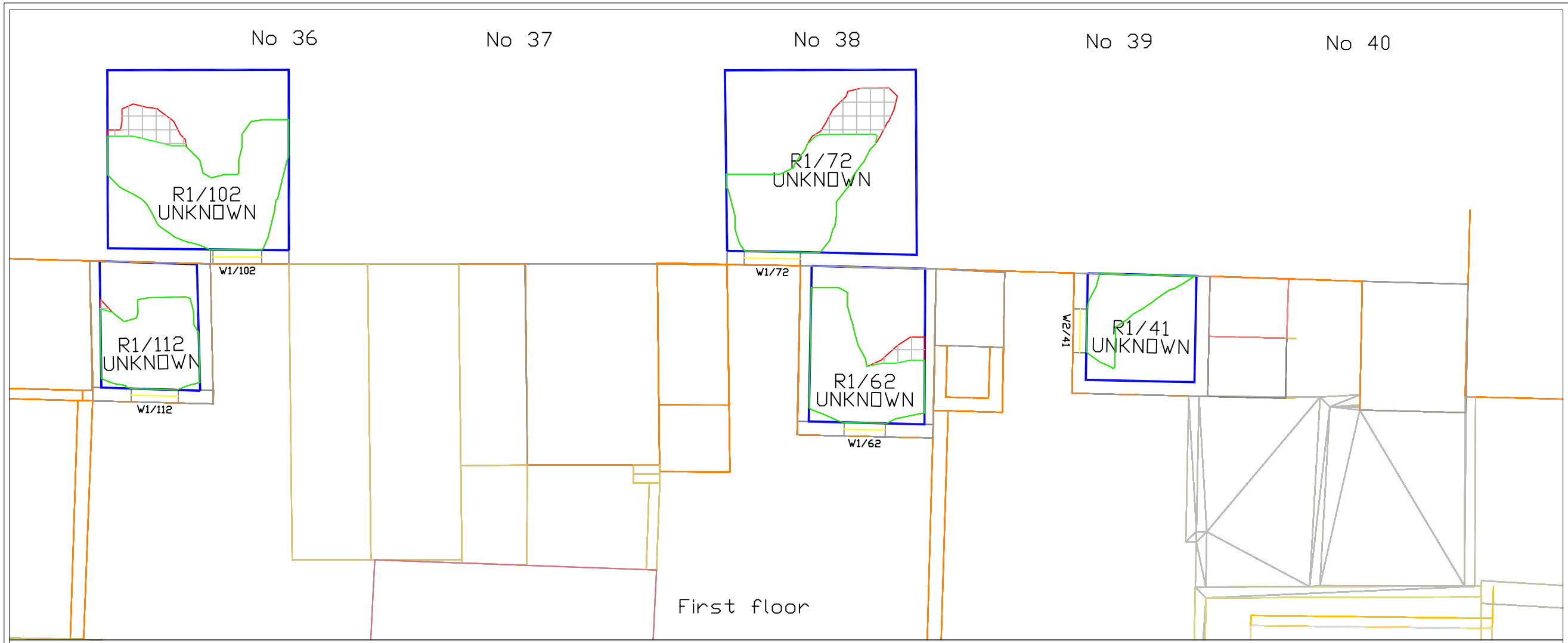
Drawing Title
No Sky Line Contours for Great James St
-

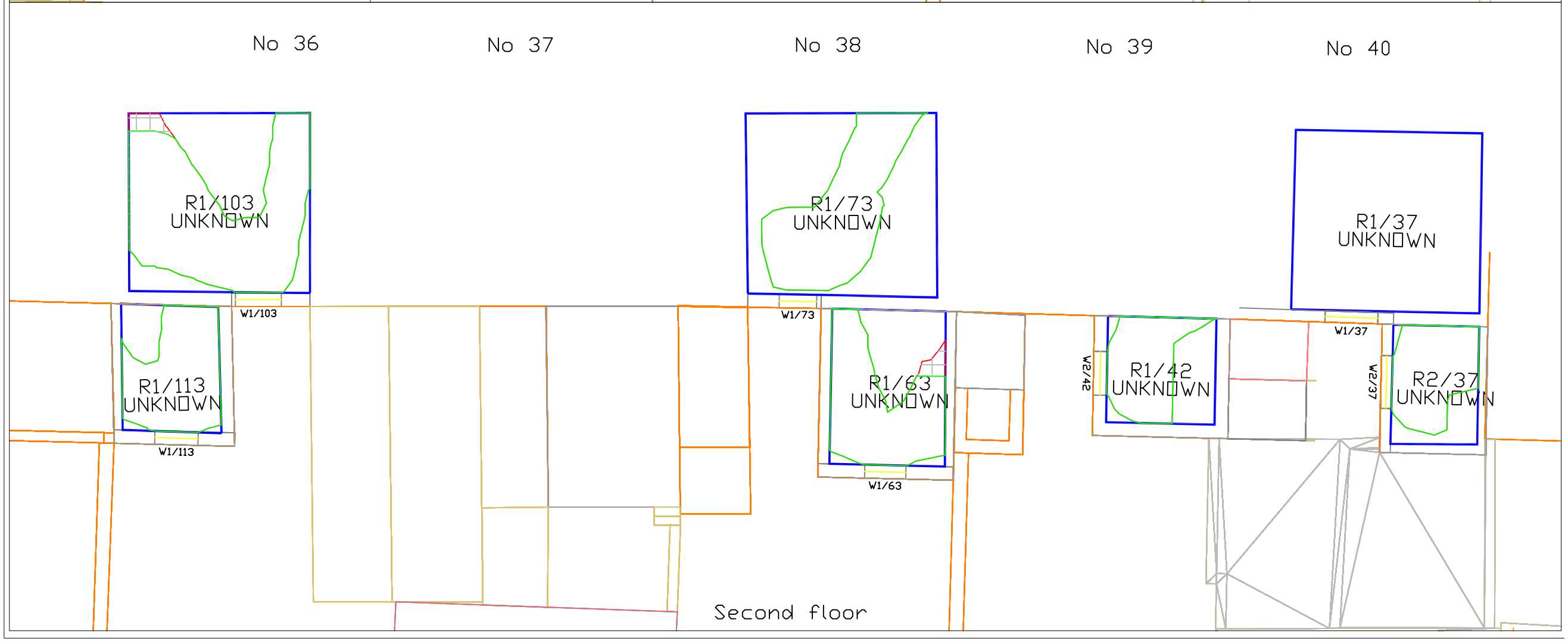
Drawn By	Chk'd By	Scale @ A3	Date
Mike S	-	1:100@A3	May 2011

Project No.	Drawing No.	Revision
EM05	BRE/CAD01A	-

DAYLIGHT

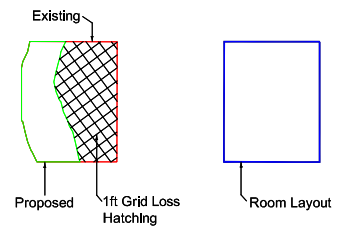
A3





Legend

Daylight



Existing No-Sky Line Contour

Proposed No-Sky Line Contour

Sources of Information

Drawings Used:
Proposed:
180_GA01/P1, GA02/P1, GA03/P1

Survey Drawings:
B6018ELEV
B6018ELEVS1
B6037ELEVS2
B6018ROOF
B6018ROOF2
B5767TOPO2

Existing Drawings:
180_E01, E02, E02

GVA

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Project Name
6-8 Emerald St
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Drawing Title
No Sky Line Contours for Great James St
-

Drawn By	Chk'd By	Scale @ A3	Date
Mike S	-	1:100@A3	May 2011

Project No.	Drawing No.	Revision
EM05	BRE/CAD02A	-

DAYLIGHT

A3

No 36 No 37 No 38 No 39 No 40

R1/104 UNKNOWN

R1/74 UNKNOWN

R1/38 UNKNOWN

R1/114 UNKNOWN

R2/38 UNKNOWN

W1/104 W1/74 W1/38 W2/38 W1/114

Third floor

Legend

Daylight

Existing

Proposed 1ft Grid Loss Hatching Room Layout

Existing No-Sky Line Contour

Proposed No-Sky Line Contour

Sources of Information

Drawings Used:
Proposed:
180_GA01/P1, GA02/P2, GA03/P1

Survey Drawings:
B6018ELEV
B6018ELEVS1
B6037ELEVS2
B6018ROOF
B6018ROOF2
B5767TOPO2

Existing Drawings:
180_E01, E02, E03

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6-8 Emerald St
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No Sky Line Contours for Great James St
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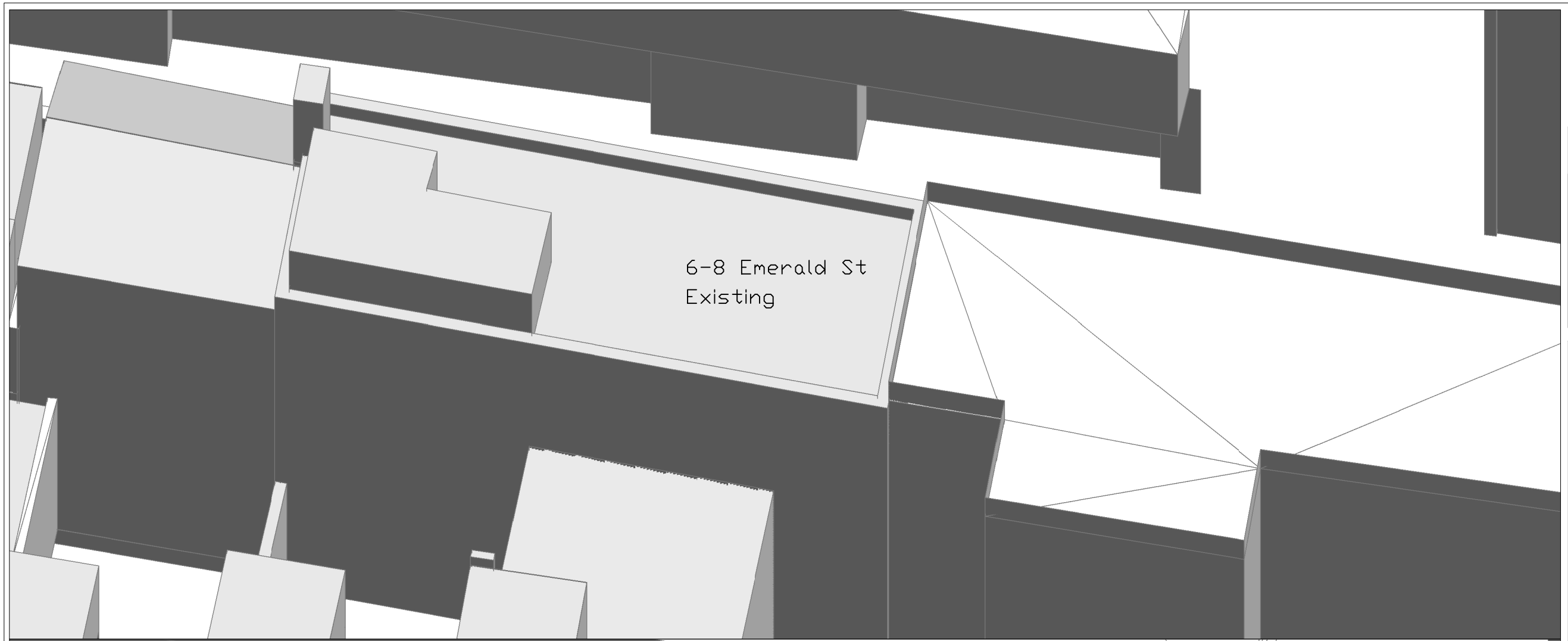
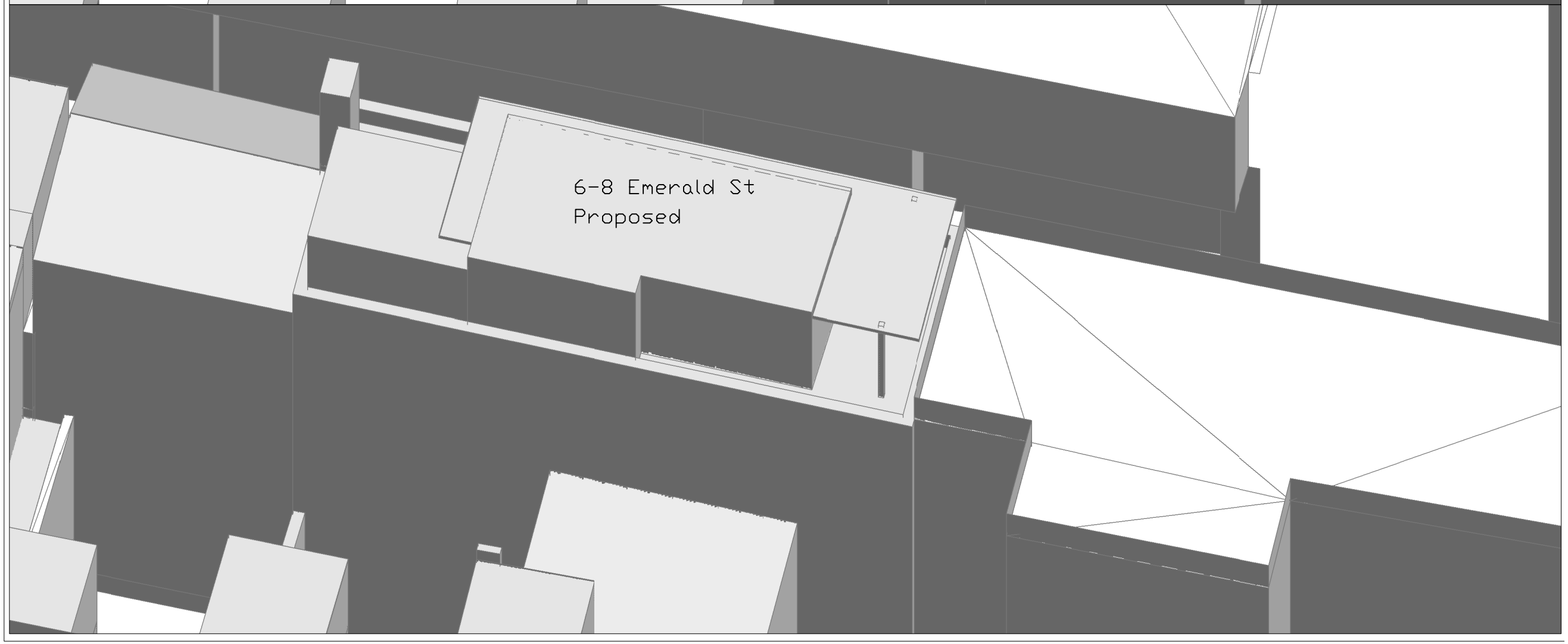
Drawn By	Chk'd By	Scale @ A3	Date
Mike S	-	1:100@A3	May 2011

Project No.	Drawing No.	Revision
EM05	BRE/CAD03A	-

DAYLIGHT

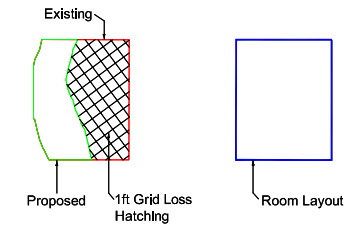
A3





Legend

Daylight



Existing No-Sky Line Contour

Proposed No-Sky Line Contour

Sources of Information

Drawings Used:
Proposed:
18-_GA01/P1, GA02/P1, GA03/P1

Survey Drawings:
B6018ELEV
B6018ELEVS1
B6037ELEVS2
B6018ROOF
B6018ROOF2
B5767TOPO2

Existing Drawings:
180_E01, E02, E03

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Project Name
6-8 Emerald St
Holborn, London

Client
-
-

Drawing Title
View of rear of Emerald St showing
Existing and Planned development

Drawn By	Chk'd By	Scale @ A3	Date
Mike S	-	N/A	May 2011

Project No.	Drawing No.	Revision
EM05	BRE/CAD04A	-

DAYLIGHT

A3

6-8 EMERALD STREET

BRE DAYLIGHT ANALYSIS

May 2011

Room/Floor	Room Use	Window	%VSC			% Daylight Factor			Proposed No Sky	
			Exist	Prop	% Loss	Exist	Prop	% Loss	% of Room Area	% Loss of Existing
36 Great James St										
Lower Ground floor - CAD01A										
R1/100	UNKNOWN	W1/100	2.65	2.51	5.28%	0.61	0.59	2.47%	12.09%	0.00%
Ground floor - CAD01A										
R1/101	UNKNOWN	W1/101	5.53	5.34	3.44%	0.99	0.97	2.11%	22.79%	8.20%
R1/111	UNKNOWN	W1/111	7.33	6.78	7.50%	1.66	1.53	7.59%	66.92%	4.36%
		W2/111	6.26	6.03	3.67%					
First floor - CAD02A										
R1/102	UNKNOWN	W1/102	7.40	7.15	3.38%	1.19	1.17	2.02%	45.29%	11.17%
R1/112	UNKNOWN	W1/112	12.15	11.72	3.54%	2.67	2.60	2.77%	63.72%	0.95%
Second floor - CAD02A										
R1/103	UNKNOWN	W1/103	10.19	9.91	2.75%	1.20	1.18	1.67%	64.59%	3.14%
R1/113	UNKNOWN	W1/113	17.55	16.96	3.36%	2.91	2.84	2.54%	80.79%	0.00%
Third floor - CAD03A										
R1/104	UNKNOWN	W1/104	14.90	14.64	1.74%	1.20	1.19	1.25%	71.92%	0.00%
R1/114	UNKNOWN	W1/114	24.39	23.77	2.54%	3.09	3.03	1.98%	78.51%	0.00%
38 Great James St										
Lower Ground floor - CAD01A										
R1/70	UNKNOWN	W1/70	1.43	1.31	8.39%	0.67	0.64	4.05%	10.93%	5.63%
Ground floor - CAD01A										
R1/61	UNKNOWN	W1/61	9.35	8.84	5.45%	2.19	2.04	6.54%	57.52%	7.97%
		W2/61	1.55	1.35	12.90%					
		W3/61	2.80	2.41	13.93%					
R1/71	UNKNOWN	W1/71	1.96	1.96	0.00%	0.81	0.81	0.00%	16.48%	5.61%
First floor - CAD02A										
R1/62	UNKNOWN	W1/62	14.57	13.75	5.63%	2.10	2.01	4.10%	54.45%	7.39%
R1/72	UNKNOWN	W1/72	3.46	3.46	0.00%	0.87	0.87	0.00%	30.83%	20.03%
Second floor - CAD02A										
R1/63	UNKNOWN	W1/63	20.96	19.74	5.82%	2.21	2.11	4.58%	63.56%	4.61%
R1/73	UNKNOWN	W1/73	6.59	6.22	5.61%	0.59	0.57	2.90%	40.13%	0.00%
Third floor - CAD03A										
R1/74	UNKNOWN	W1/74	12.45	12.11	2.73%	0.89	0.88	1.57%	63.46%	0.00%
39 Great James St										
Ground floor - CAD01A										
R1/40	UNKNOWN	W1/40	8.77	8.49	3.19%	3.32	3.18	4.27%	85.86%	0.19%
		W2/40	2.47	2.26	8.50%					
First floor - CAD02A										
R1/41	UNKNOWN	W2/41	3.85	3.50	9.09%	1.35	1.26	7.24%	37.42%	0.00%
Second floor - CAD02A										
R1/42	UNKNOWN	W2/42	7.21	6.76	6.24%	2.27	2.17	4.45%	60.95%	0.00%

Room/Floor	Room Use	Window	%VSC			% Daylight Factor			Proposed No Sky	
			Exist	Prop	% Loss	Exist	Prop	% Loss	% of Room Area	% Loss of Existing
40 Great James St										
Second floor - CAD02A										
R2/37	UNKNOWN	W2/37	10.50	10.12	3.62%	3.17	3.10	2.21%	74.40%	0.00%
Third floor - CAD03A										
R2/38	UNKNOWN	W2/38	20.14	19.83	1.54%	4.27	4.23	1.03%	96.23%	0.00%

6-8 EMERALD STREET

BRE SUNLIGHT ANALYSIS

May 2011

Available sunlight as a percentage of annual unobstructed total (1486.0 Hrs)

		Existing %			Proposed %					
Room use	Window Ref	Summer	Winter	Total	Summer	Winter	Total	% Loss of Summer	% Loss of Winter	% Loss of Total
36 Great James St										
Lower Ground floor - CAD01A										
UNKNOWN	W1/100	0	0	0	0	0	0	0.00%	0.00%	0.00%
Ground floor - CAD01A										
UNKNOWN	W1/101	6	0	6	6	0	6	0.00%	0.00%	0.00%
UNKNOWN	W1/111	3	0	3	1	0	1	66.67%	0.00%	66.67%
UNKNOWN	W2/111	9	3	12	9	3	12	0.00%	0.00%	0.00%
First floor - CAD02A										
UNKNOWN	W1/102	10	2	12	9	2	11	10.00%	0.00%	8.33%
UNKNOWN	W1/112	7	1	8	7	0	7	0.00%	100.00%	12.50%
Second floor - CAD02A										
UNKNOWN	W1/103	11	3	14	11	3	14	0.00%	0.00%	0.00%
UNKNOWN	W1/113	9	2	11	9	2	11	0.00%	0.00%	0.00%
Third floor - CAD03A										
UNKNOWN	W1/104	10	4	14	10	4	14	0.00%	0.00%	0.00%
UNKNOWN	W1/114	13	4	17	13	3	16	0.00%	25.00%	5.88%
38 Great James St										
Lower Ground floor - CAD01A										
UNKNOWN	W1/70	0	0	0	0	0	0	0.00%	0.00%	0.00%
Ground floor - CAD01A										
UNKNOWN	W1/61	10	0	10	10	0	10	0.00%	0.00%	0.00%
UNKNOWN	W1/71	0	0	0	0	0	0	0.00%	0.00%	0.00%
First floor - CAD02A										
UNKNOWN	W1/62	13	2	15	13	2	15	0.00%	0.00%	0.00%
UNKNOWN	W1/72	0	0	0	0	0	0	0.00%	0.00%	0.00%
Second floor - CAD02A										
UNKNOWN	W1/63	14	5	19	14	5	19	0.00%	0.00%	0.00%
UNKNOWN	W1/73	1	0	1	0	0	0	100.00%	0.00%	100.00%
Third floor - CAD03A										
UNKNOWN	W1/74	1	0	1	1	0	1	0.00%	0.00%	0.00%
39 Great James St										
Ground floor - CAD01A										
UNKNOWN	W1/40	3	0	3	3	0	3	0.00%	0.00%	0.00%