

Daylight and Sunlight Report

65 Gresham Street
London
EC2V 7NQ

T: +44 (0)20 7911 2468
F: +44 (0)20 7911 2560



3-4 Percy Mews

Pearl & Coutts

10th September 2018

Contents

1.	Introduction.....	3
2.	Results of the Daylight and Sunlight Assessments.....	6
3.	Conclusion.....	9

Appendices

Appendix 1	Existing Site and Scheme Drawings Numbered BRE/01 to 04
Appendix 2	Principles of Daylight and Sunlight
Appendix 3	Window Maps Numbered BRE/07 to 09
Appendix 4	No Sky Line Drawings Numbered BRE/13
Appendix 5	Technical Spreadsheets (proposed scheme)
Appendix 6	Technical Spreadsheets (cutback scheme)

Prepared By: Mark Kidd
Date: 10th September 2018

For and on behalf of GVA Grimley Limited

1. Introduction

- 1.1 GVA has been instructed by Pearl & Coutts to assess the impact of a proposed scheme at 3-4 Percy Mews (the 'Site') by RGP Architects (the 'Architect') in relation to daylight and sunlight enjoyed by surrounding residential buildings.
- 1.2 GVA's 3D model showing the proposed scheme is shown in green in plan and 3D form on drawings numbered BRE/02 and BRE/04 in Appendix 1 and Figures 1 and 2 below.
- 1.3 The 3D computer model of the existing buildings, surrounding context and the proposed scheme is based on the information cited on the above-mentioned drawings.
- 1.4 The proposed scheme differs to that of the planning application scheme. As will be noted from Figure 1, the proposed scheme assessed included a proposed massing upon 2 Percy Mews in addition to that at 3-4 Percy Mews.
- 1.5 The analysis in this report may therefore be deemed a worst case scenario, as the proposed massing at 2 Percy Mews is not included in the planning application for the proposed scheme at 3-4 Percy Mews.
- 1.6 Our principles of daylight and sunlight and how guidance should be interpreted can be found in Appendix 2.



Figure 1: Plan view of proposed scheme in green scheme within GVA context model



Figure 2: 3D view of proposed scheme in green scheme within GVA context model

2. Results of the Daylight and Sunlight Assessments

- 2.1 Based on our site visit in June 2018 and a search of the Valuation Office Agency data online, the neighbouring residential buildings in reasonably close proximity to the Site are 26 Rathbone Place and 27 Rathbone Place. The location of both properties is shown on Figures 1 and 2.

26 Rathbone Place



Figure 3: Bing Maps aerial view of 26 Rathbone Place

- 2.2 The assessed windows (first and second floors relevant only) are shown on the window map in Appendix 3. The 'No Sky Line' ('NSL') drawings in Appendix 4, these show the room layout assumptions which have been based on a measured survey by Greenhatch Group. The corresponding technical spreadsheets are located in Appendix 5; these cover all the relevant tests as set out in the BRE Guidelines – *Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice* (see Appendix 2 for further information).
- 2.3 Our assessment has shown that the pertinent bay window on the first floor, which can be seen in Figure 3, would be materially impacted in terms of daylight by the proposed scheme. Sunlight is not relevant due to the orientation of the main window.

- 2.4 In response to the breach, the Architect instructed GVA to carry out a cutback exercise which would result in a BRE Guidelines compliant scheme (Vertical Sky Component ('VSC') and NSL). The cutback, which results in a no more than 20% loss of existing daylight (see technical spreadsheet in Appendix 6) is shown in Figure 4 below. The Architects' subsequent revised scheme is shown in Figure 5.

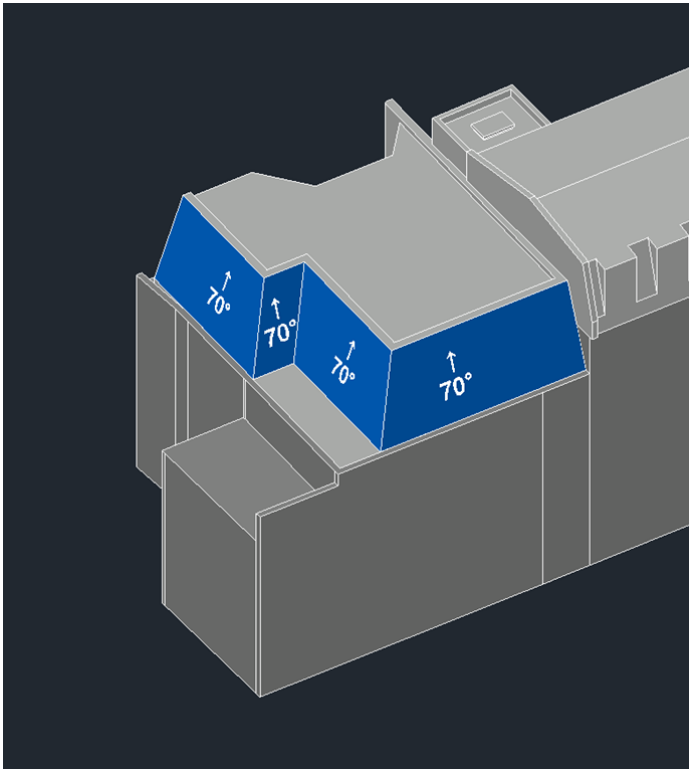


Figure 4: Daylight cutback



Figure 5: Architects' revised scheme taking into account the VSC cutback

- 2.5 It will be noted that the cutback area only related to 2 Percy Mews, and did not affect the proposed massing at 3-4 Percy Mews. The planning application scheme for 3-4 Percy Mews does not include any massing upon 2 Percy Mews and, therefore, it can be concluded that this would also be BRE compliant.
- 2.6 Therefore, we are of the view that the planning application scheme is acceptable in daylight and sunlight terms.

27 Rathbone Place



Figure 6: Bing Maps aerial view of 27 Rathbone Place

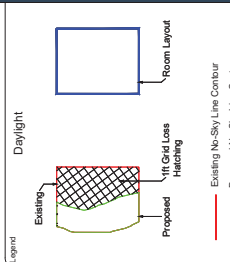
- 2.7 The assessed windows (first and second floors relevant only) are shown on the window map in Appendix 3. The NSL drawings are in Appendix 4. The corresponding technical spreadsheets are located in Appendix 5.
- 2.8 Our assessment demonstrates no breaches of the BRE Guidelines daylight guidance. Sunlight is not relevant as the windows do not face within 90 degrees of due south.
- 2.9 Therefore, it can be concluded that the planning application scheme will also be acceptable in daylight and sunlight terms.

3. Conclusion

- 3.1 We carried out various daylight and sunlight studies in connection with a proposed scheme for the Site in accordance with the BRE Guidelines.
- 3.2 The results of the study demonstrate that the planning application scheme is acceptable in terms of daylight and sunlight.

Appendix I

This drawing is Copyright © GVA Grinley Limited.
Do not reuse this drawing.
All dimensions to be checked.
In conjunction with any specifications, schedules and Consultants drawings and details.



Source of Information

EXISTING BUILDING
INFO 17 MAY 2018
28970_01-05_PES-RGP additional info added
INFO 18 MAY 2018
000251_Rathbone_Place_HD_MASTER

SURROUNDING BUILDINGS
INFO 17 MAY 2018
28970_01-05_PES-RGP additional info added
INFO 18 MAY 2018
000251_Rathbone_Place_HD_MASTER

PROPOSED BUILDINGS
INFO 18 MAY 2018
10307-SK26
10307-SK27
10307-SK28
10307-SK34
10307-SK37



08449 02 03 04
GVA Schatunowski Brooks
66 Gresham Street, London, EC2V 7NQ
www.gva.co.uk

Project Name

1-6 PERCY MEWS
LONDON W1T

Client

PEARL AND COUTTS

Drawing Title

PLAN VIEW FOR
EXISTING

Drawn By

MF

Checked By

N/A

Scale @ A3

-

Date

30 MAY 2018

Project No.

02B812278

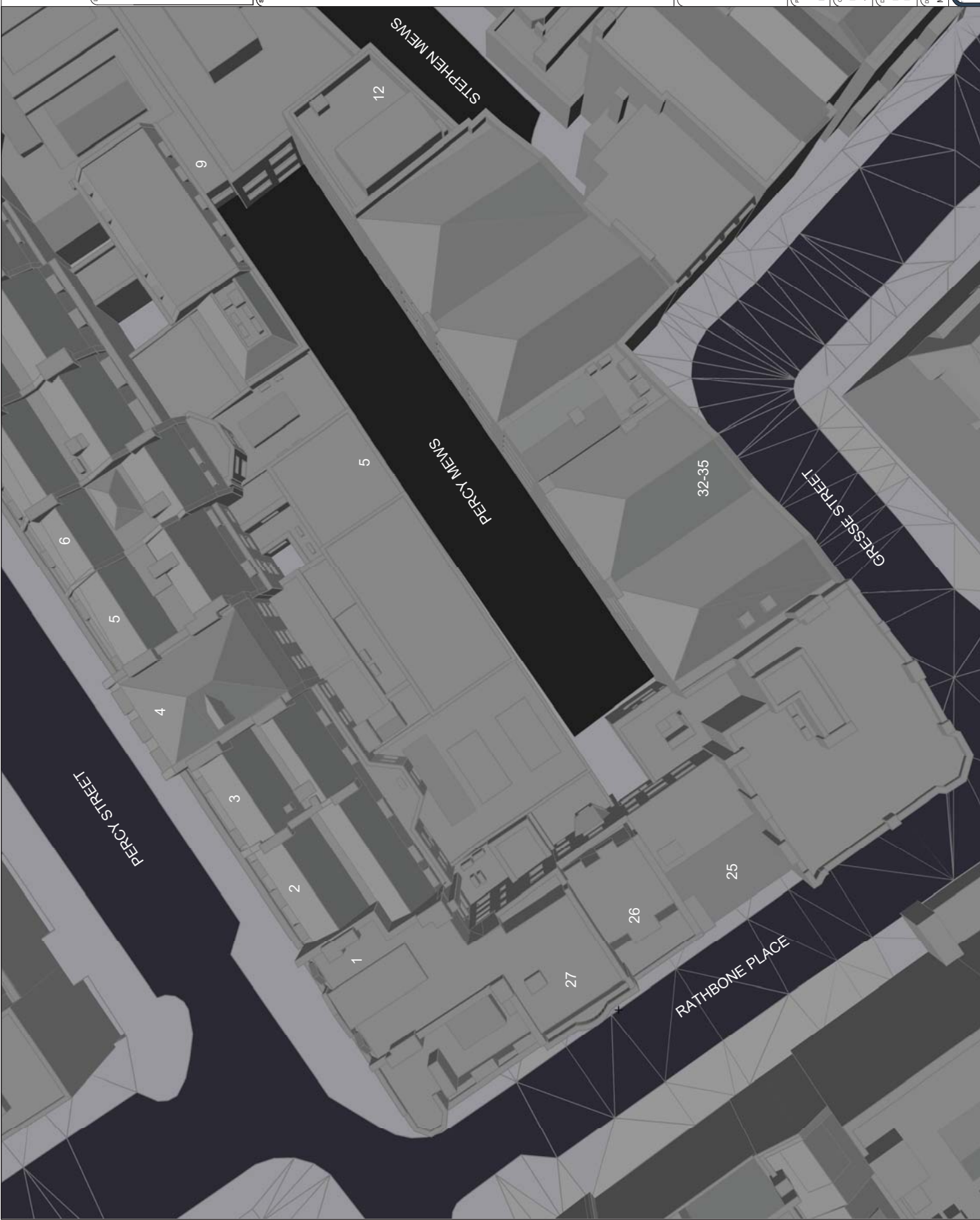
Drawing No.

BRE/01

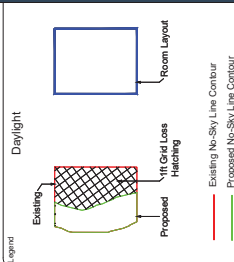
Revision

-

A3



This drawing is Copyright © GVA Grinley Limited.
Do not scale this drawing.
All dimensions to be checked.
In conjunction with any specifications, schedules and Consultants drawings and details.



Source of Information

EXISTING BUILDING
INFO 17 MAY 2018
28970_01-05_PES-RGP additional info added
INFO 18 MAY 2018
000251_Rathbone_Place_HD_MASTER

SURROUNDING BUILDINGS
INFO 17 MAY 2018
28970_01-05_PES-RGP additional info added
INFO 18 MAY 2018
000251_Rathbone_Place_HD_MASTER

PROPOSED BUILDINGS
INFO 18 MAY 2018
10307-SK26
10307-SK27
10307-SK28
10307-SK34
10307-SK37



08449 02 03 04
GVA Schatunowski Brooks
66 Gresham Street, London, EC2V 7NQ
www.gva.co.uk

Project Name

1-6 PERCY MEWS
LONDON W1T

Client

PEARL AND COUTTS

Drawing Title

PLAN VIEW FOR PROPOSED

Drawn By

MF

Checked By

N/A

Scale @ A3

-

Date

30 MAY 2018

Project No.

02B812278

Drawing No.

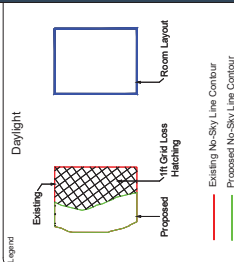
BRE/02

Revision

-



This drawing is Copyright for GVA Giney Limited.
Do not reuse this drawing.
All dimensions to be checked.
In conjunction with any specifications, schedules and Consultants drawings and details.



Source of Information

EXISTING BUILDING
INFO 17 MAY 2018
28970_01-05_PES-RGP additional info added
INFO 18 MAY 2018
000251_Rathbone_Place_HD_MASTER

SURROUNDING BUILDINGS
INFO 17 MAY 2018
28970_01-05_PES-RGP additional info added
INFO 18 MAY 2018
000251_Rathbone_Place_HD_MASTER

PROPOSED BUILDINGS
INFO 18 MAY 2018
10307-SK26
10307-SK27
10307-SK28
10307-SK34
10307-SK37



08449 02 03 04
GVA Schatunowski Brooks
66 Gresham Street, London, EC2V 7NQ
www.gva.co.uk

Project Name
1-6 PERCY MEWS
LONDON W1T

Client
PEARLAND COUTTS

Drawing Title
3D VIEW FOR EXISTING

Drawn By
MF

Check By
N/A

Scale @ A3
N/A

Date
30 MAY 2018

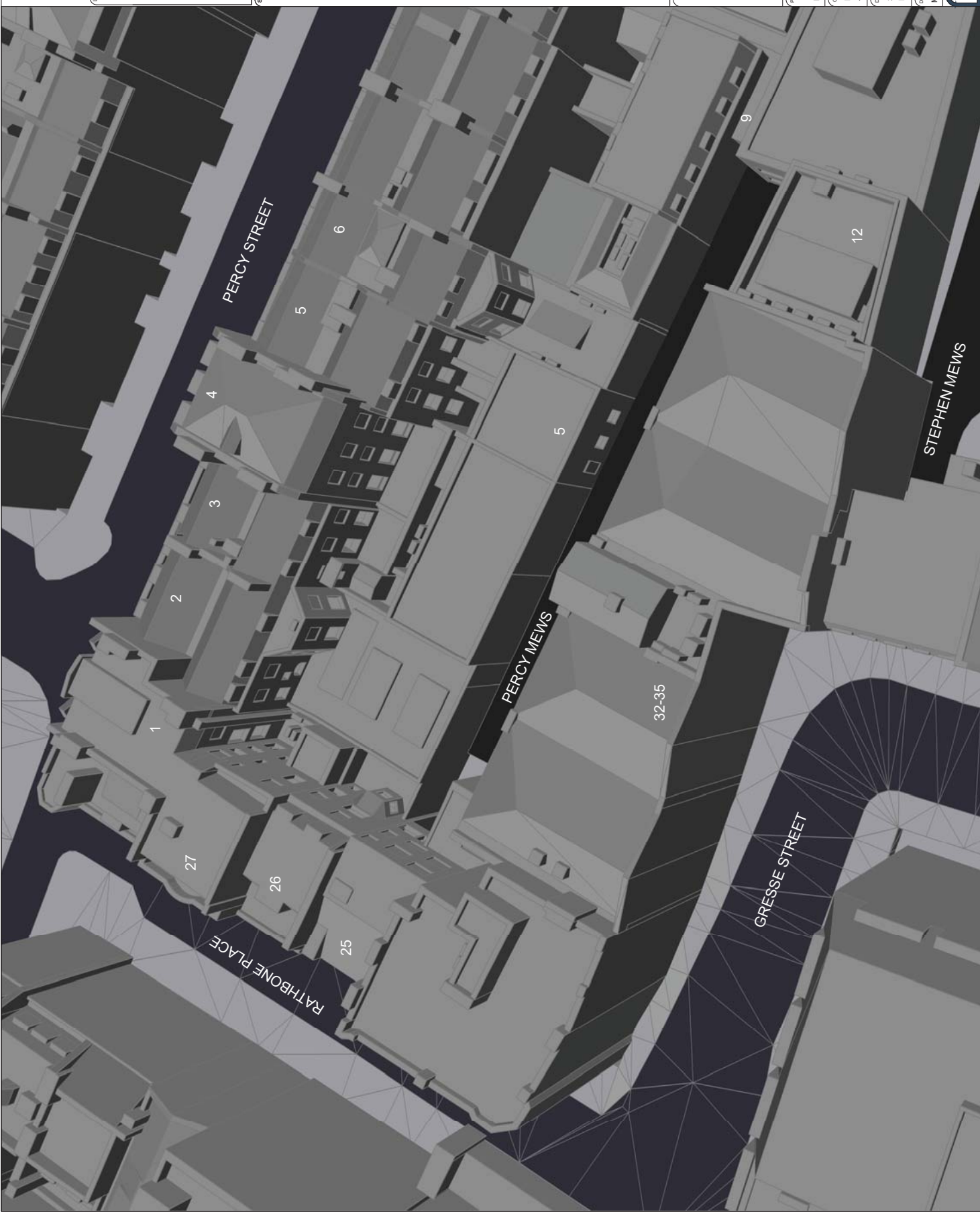
Drawing No.
02B812278

Revision
BRE/03

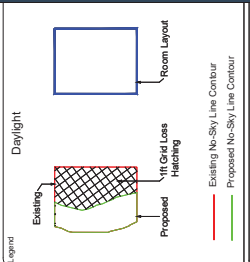
Revision
-

A3

Daylight



This drawing is Copyright for GVA Giney Limited.
Do not reuse this drawing.
All dimensions to be checked.
This drawing is to be used in conjunction with any specifications, schedules and Consultants drawings and details.



Source of Information

EXISTING BUILDING
INFO 17 MAY 2018
28970_01-05_PES-RGP additional info added
INFO 18 MAY 2018
000251_Rathbone_Place_HD_MASTER

SURROUNDING BUILDINGS
INFO 17 MAY 2018
28970_01-05_PES-RGP additional info added
INFO 18 MAY 2018
000251_Rathbone_Place_HD_MASTER

PROPOSED BUILDINGS
INFO 18 MAY 2018
10307-SK26
10307-SK27
10307-SK28
10307-SK34
10307-SK37

GVA
08449 02 03 04
GVA Schatunowski Brooks
66 Gresham Street, London, EC2V 7NQ
www.gva.co.uk

Project Name
1-6 PERCY MEWS
LONDON W1T

Client
PEARLAND COUTTS

Drawing Title
3D VIEW FOR PROPOSED

Drawn By
MF

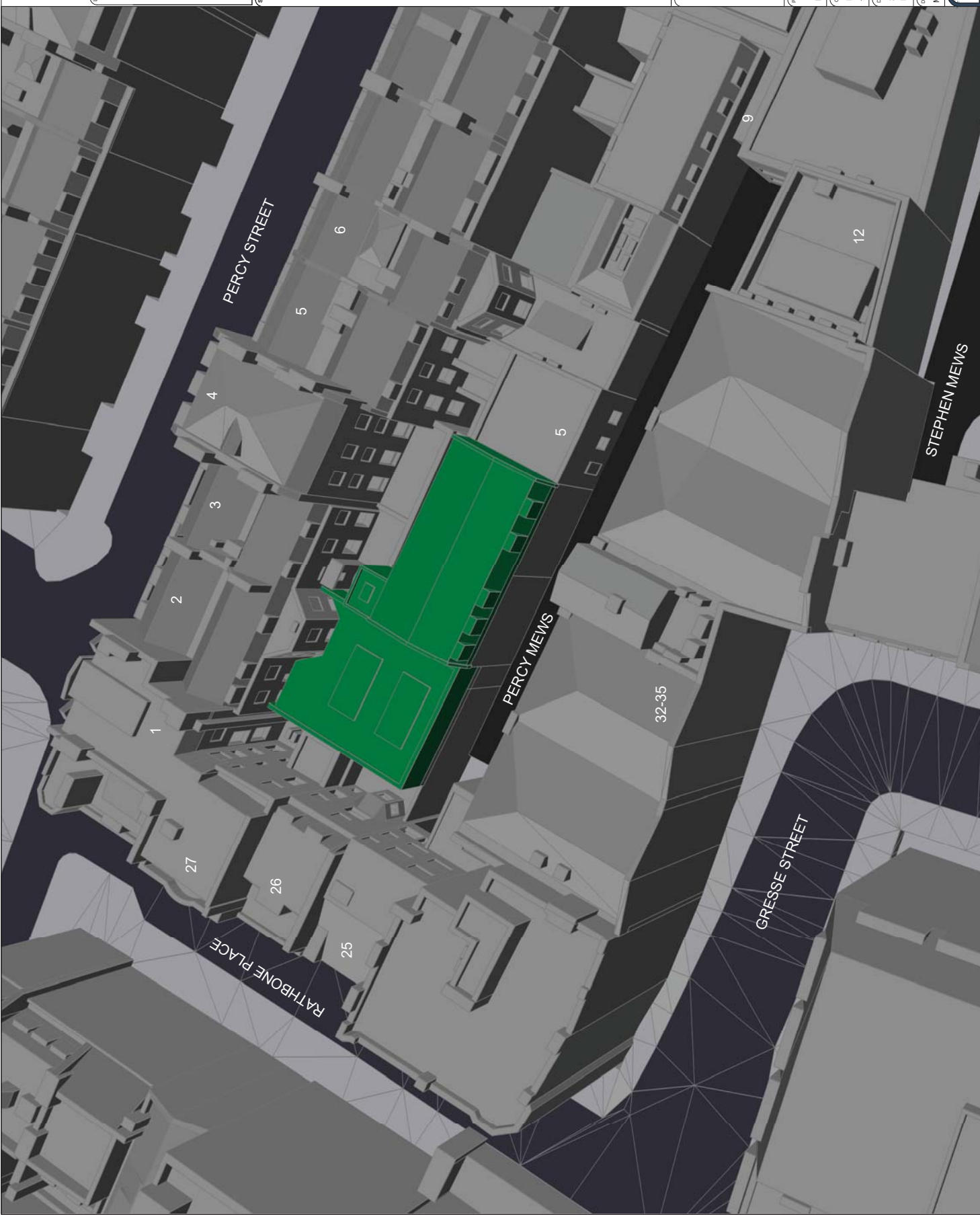
Checked By
N/A

Scale @ A3
N/A

Date
30 MAY 2018

Project No.
02B812278

Revision
BRE/04



Appendix II

Daylight & Sunlight Principles

The BRE Guidelines – Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice are well established and are adopted by most Local Authorities as the appropriate scientific and empirical methods of measuring daylight and sunlight in order to provide objective data upon which to apply their planning policies. The Guidelines are not fixed standards but should be applied flexibly to take account of the specific circumstances of each case.

The Introduction of the Guidelines states:

"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."

The 'flexibility' recommended in the Guidelines should reflect the specific characteristics of each case being considered. For example, as the numerical targets within the Guidelines have been derived on the basis of a low density suburban housing model, it is entirely appropriate to apply a more flexible approach when dealing with higher rise developments in a denser urban environment where the general scale of development is greater. In addition, where existing and proposed buildings have specific design features such as projecting balconies, deep recesses, bay windows etc., it is also equally valid to apply a degree of flexibility to take account of the effect of these particular design features. This does not mean that the recommendations and targets within the Guidelines can be disregarded but, instead, the 'flexibility' that should be applied should be founded on sound scientific principles that can be supported and justified. This requires a certain level of professional value judgement and experience.

Daylighting

In respect of daylighting, the BRE Guidelines adopt different methods of measurement depending on whether the assessment is for the impact on existing neighbouring premises or for measuring the adequacy of proposed new dwellings. For safeguarding the daylight received by existing neighbouring residential buildings around a proposed development, the relevant recommendations are set out in Section 2.2 of the Guidelines.

The adequacy of daylight received by existing neighbouring dwellings is measured using two methods of measurement. First, it is necessary to measure the Vertical Sky Component (VSC) followed by the measurement of internal Daylight Distribution by plotting the position of the 'existing' and 'proposed' no sky line contour.

VSC is measured at the mid-point on the external face of the window serving a habitable room. For the purpose of the Guidelines, a "habitable" room is defined as a Kitchen, Living Room or Bedroom. Bathrooms, hallways and circulation space are excluded from this definition. In addition, many Local Authorities make a further distinction in respect of small kitchens. Where the internal area of a small kitchen limits the use to food preparation and is not of sufficient size to accommodate some other form of "habitable" use such as dining, the kitchen need not be classed as a "habitable" room in its own right.

VSC is a 'spot' measurement taken on the face of the window and is a measure of the availability of light from the sky from over the "existing" and "proposed" obstruction caused by buildings or structures in front of the window. As it is measured on the outside face of the window, one of the inevitable shortcomings is that it does not take account of the size of the window or the size or use of the room served by the window. For this reason, the BRE Guidelines require internal Daylight Distribution to be measured in addition to VSC.

The 'No Sky Line' contour plotted for the purpose of measuring internal Daylight Distribution identifies those areas within the room usually measured on a horizontal working plane set at table top level, where there is direct sky visibility. This therefore represents those parts within the room where the sky can be seen through the window. This second measure therefore takes account of the size of the window and the size of the room but is only more reliable than VSC when the actual room uses, layouts and dimensions are known. When interpreted in conjunction with the VSC value, the likely internal lighting conditions, and hence the quality of lighting within the room, can be assessed.

For VSC, the Guidelines states that:

"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 the occupants of the existing building will notice the reduction in the amount of skylight."

To put this in context, the maximum VSC value that can be received for a totally unobstructed vertical window is 40%. There are however circumstances where the VSC value is already below 27%. In such circumstances, it is permissible to reduce the existing VSC value by a factor of 0.2 (i.e. 20%) so that the value on the 'proposed' conditions remains more than 0.8 times its former value. The scientific reasoning for this permissible margin of reduction is that existing daylight (and sunlight) levels can be reduced by a factor of 20% before the loss becomes materially noticeable. This factor of reduction applies to VSC, daylight distribution, sunlight and overshadowing.

By contrast, the adequacy of daylight for proposed 'New-Build' dwellings is measured using the standards in the British Standard Code of Practice for Daylighting, BS8206 Part 2.

The British Standard relies upon the use of Average Daylight Factors (ADF) rather than VSC and Daylight Distribution. The use of ADF is referred to in the BRE Guidelines (Appendix C) but its use is usually limited as a supplementary 'check' of internal lighting conditions once the VSC and Daylight Distribution tests have been completed.

ADF is sometimes seen as a more accurate and representative measure of internal lighting conditions as it comprises a greater number of design factors and input variables/coefficients. That is, the value of ADF is derived from:

- The actual amount of daylight received by the window(s) serving the room expressed as the "angle of visible sky" which is derived from the VSC value and therefore represents the amount of light striking the face of the window.
- The loss of transmittance through the glazing.
- The size of the window (net area of glazing).
- The size of the room served by the window(s) (net internal surface area of the room).
- The internal reflectance values of the internal finishes within the room.
- The specific use of the room.

One of the main reasons why ADF is more appropriate for New-Build dwellings is that any of the above input variables can be changed during the course of the design process in order to achieve the required internal lighting values. The ability to make such changes is not usually available when dealing with existing neighbouring buildings.

Unlike the application of VSC and daylight distribution, the British Standard differentiates between different room uses. It places the highest ADF standard on Family Kitchens where the minimum target value is 2% df. Living Rooms should achieve 1.5% df, and Bedrooms 1.0% df.

Sunlighting

The requirements for protecting sunlight to existing residential buildings are set out in section 3.2 of the BRE Guidelines.

The availability of sunlight varies throughout the year with the maximum amount of sunlight being available on the summer solstice and the minimum on the winter solstice. In view of this, the internationally accepted test date for measuring sunlight is the spring equinox (21 March), on which day the United Kingdom has equal periods of daylight and darkness and sunlight is available from approximately 08:30hrs to 17:30hrs. In addition, on that date, sunlight received perpendicular to the face of a window would only be received where that window faces within 90° of due south. The BRE Guidelines therefore limit the extent of testing for sunlight where a window faces within 90° of due south.

The sunlight standards are normally applied to the principal Living Room within each dwelling rather than to kitchens and bedrooms.

The recommendation for sunlight is:

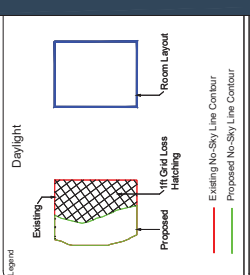
"If this window reference point can receive more than one quarter of annual probable sunlight hours, including at least 5% of annual probable sunlight hours during the winter months of 21 September and 21 March, then the room should still receive enough sunlight .

Any reduction in sunlight access below this level should be kept to a minimum. If the availability of sunlight hours are both less than the amounts 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."

A good level of sunlight will therefore be achieved where a window achieves more than 25% APSH, of which 5% should be in the winter months. Where sunlight levels fall below this suggested recommendation, a comparison with the existing condition should be undertaken and if the reduction ratio is less than 0.2, i.e. the window continues to receive more than 0.8 times its existing sunlight levels, the impact on sunlight will be acceptable.

Appendix III

This drawing is Copyright of GVA Giney Limited.
Do not scale this drawing.
All dimensions to be checked.
In conjunction with any specifications, schedules and Consultants drawings and details.



Source of Information

EXISTING BUILDING
INFO 17 MAY 2018
28970_01-05_PES-RGP additional info added
INFO 18 MAY 2018
000251_Rathbone_Place_HD_MASTER

SURROUNDING BUILDINGS
INFO 17 MAY 2018
28970_01-05_PES-RGP additional info added
INFO 18 MAY 2018
000251_Rathbone_Place_HD_MASTER

PROPOSED BUILDINGS
INFO 18 MAY 2018
10307-SK26
10307-SK27
10307-SK28
10307-SK34
10307-SK37

GVA
08449 02 03 04
GVA Schatunowski Brooks
66 Gresham Street, London, EC2V 7NQ
www.gva.co.uk

Project Name
1-6 PERCY MEWS
LONDON W1T

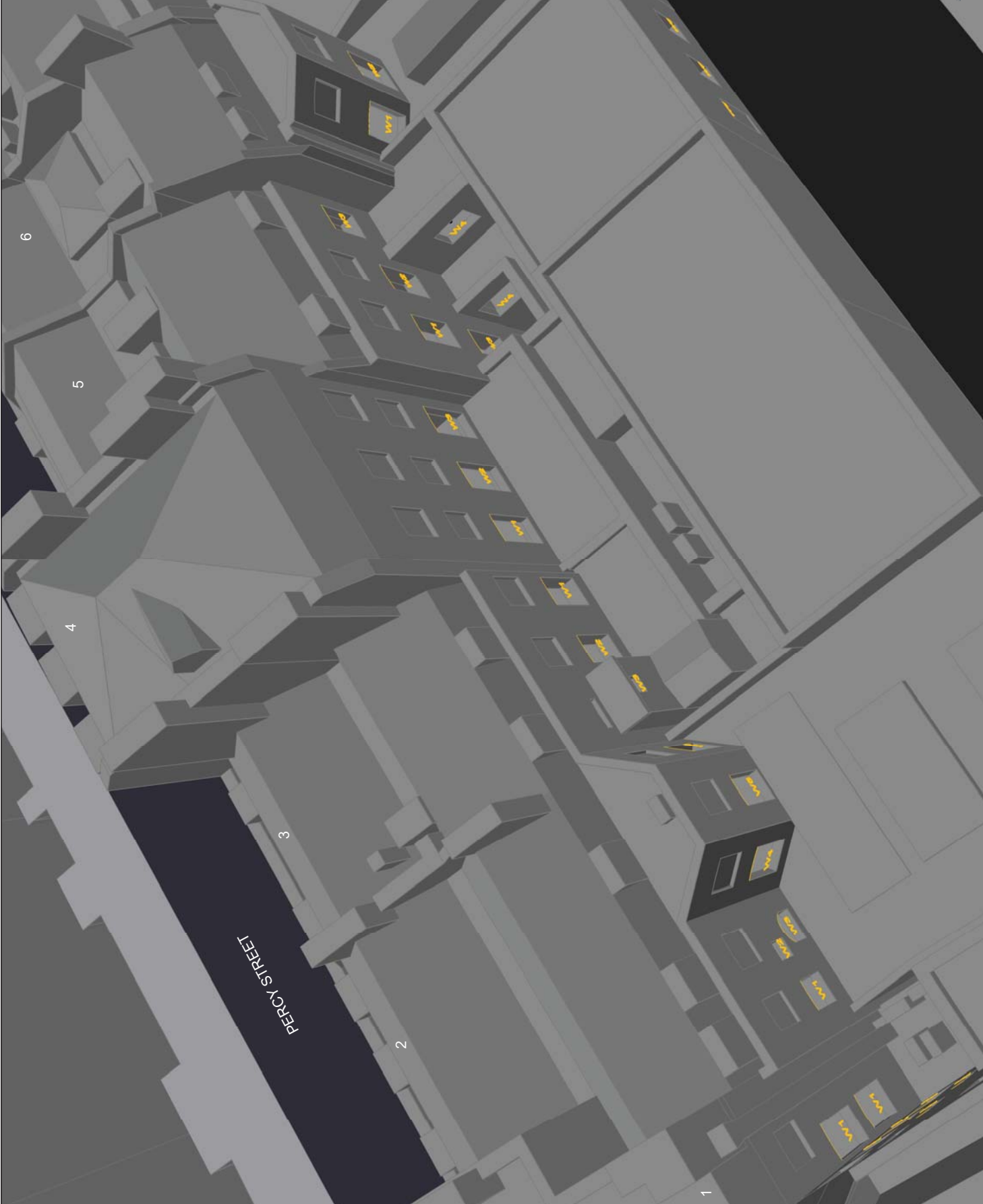
Client
PEARLAND COUTTS

Drawing Title
WINDOW MAP FOR
PERCY STREET

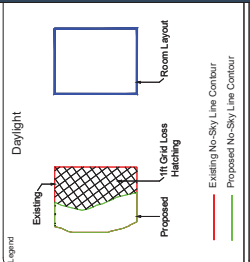
Drawn By	Checked By	Scale @ A3	Date
MF	N/A		30 MAY 2018

Project No.
02B812278

Revision
BRE/07



This drawing is Copyright for GVA Giney Limited.
Do not scale this drawing.
All dimensions to be checked.
In conjunction with any specifications, schedules and Consultants drawings and details.



Source of Information

EXISTING BUILDING
INFO 17 MAY 2018
28970_01-05_PES-RGP additional info added
INFO 18 MAY 2018
000251_Rathbone_Place_HD_MASTER

SURROUNDING BUILDINGS
INFO 17 MAY 2018
28970_01-05_PES-RGP additional info added
INFO 18 MAY 2018
000251_Rathbone_Place_HD_MASTER

PROPOSED BUILDINGS
INFO 18 MAY 2018
10307-SK26
10307-SK27
10307-SK28
10307-SK34
10307-SK37

GVA
08449 02 03 04
GVA Schatunowski Brooks
66 Gresham Street, London, EC2V 7NQ
www.gva.co.uk

Project Name
1-8 PERCY MEWS
LONDON W1T

Client
PEARLAND COURTTS

Drawing Title
WINDOW MAP FOR
PERCY STREET & RATHBONE PLACE

Drawn By
MF

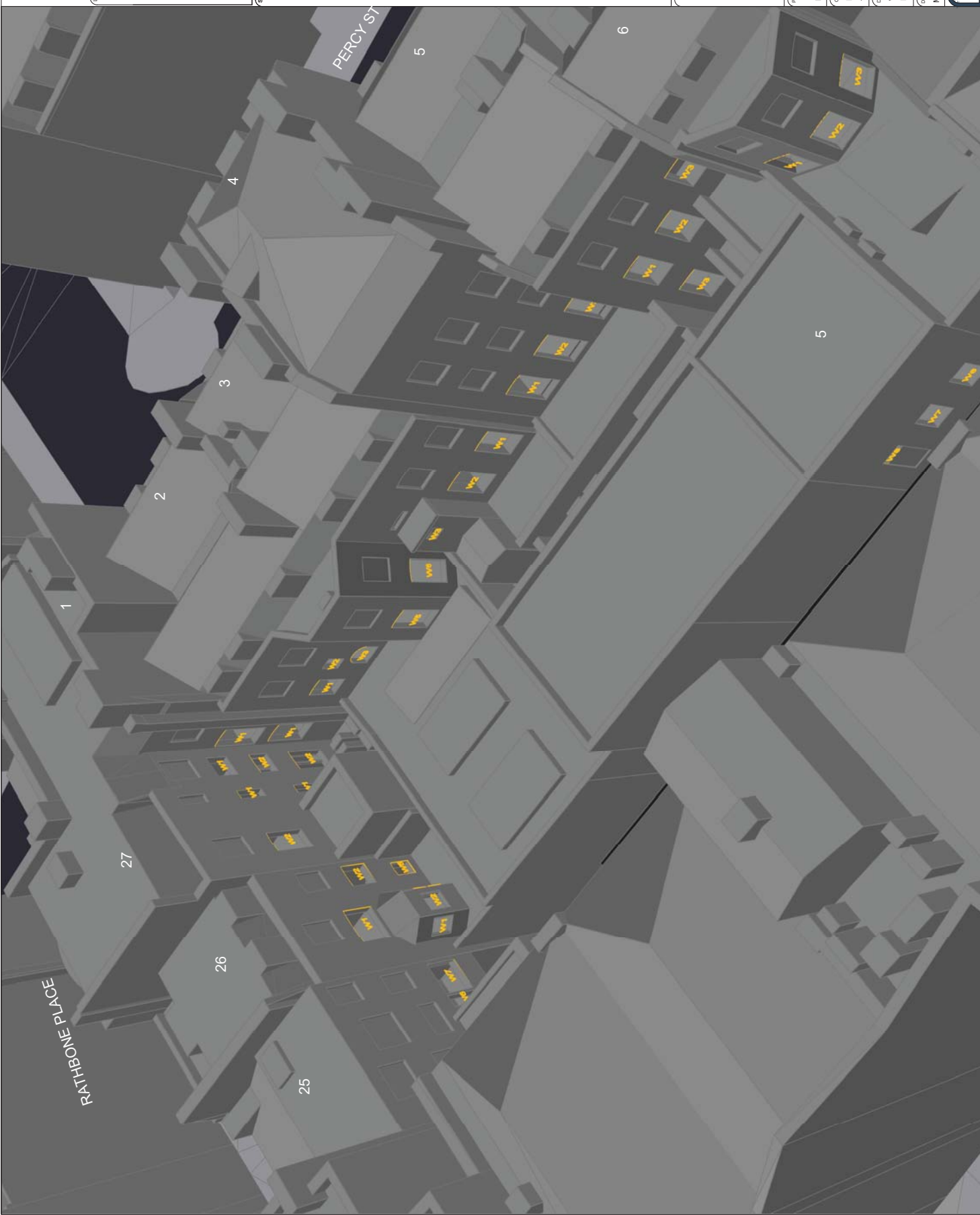
Checked By
N/A

Scale @ A3
-

Date
30 MAY 2018

Project No.
02B812278

Revision
BRE/08



RATHBONE PLACE

27

26

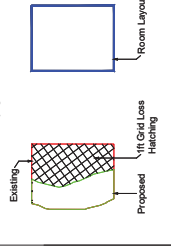
25

1

PERCY MEWS

This drawing is Copyright © GVA Grimley Limited. Do not scale this drawing. All dimensions to be checked in conjunction with any specifications, schedules and Consultants drawings and details.

Legend Daylight



Existing No-Sky Line Contour
Proposed No-Sky Line Contour

Source of Information

EXISTING BUILDING
INFO 17 MAY 2018
28970_01-05_PES-RGP additional info added
INFO 18 MAY 2018
000251_Rathbone_Place_HD_MASTER

SURROUNDING BUILDINGS
INFO 17 MAY 2018
28970_01-05_PES-RGP additional info added
INFO 18 MAY 2018
000251_Rathbone_Place_HD_MASTER

PROPOSED BUILDINGS
INFO 18 MAY 2018
10307-SK26
10307-SK27
10307-SK28
10307-SK34
10307-SK37

GVA
08449 02 03 04
GVA Schatunowski Brooks
66 Gresham Street, London, EC2V 7NQ
www.gva.co.uk

Project Name
1-6 PERCY MEWS
LONDON W1T

Client
PEARLAND COUTTS

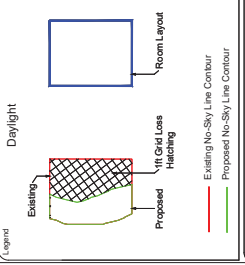
Drawing Title
WINDOW MAP FOR
RATHBONE PLACE

Drawn By MF	Checked By N/A	Scale @ A3 N/A	Date 30 MAY 2018
Project No. 02B812278	Revision BRE/09		



Appendix IV

This drawing is Copyright of GVA Giney Limited. Do not scale this drawing. All dimensions to be checked in conjunction with any specifications, schedules and Consultants drawings and details.



Source of Information

EXISTING BUILDING
INFO 17 MAY 2018
28970_01-05_PES-RGP additional info added
INFO 18 MAY 2018
000251_Rathbone_Place_HD_MASTER

SURROUNDING BUILDINGS
INFO 17 MAY 2018
28970_01-05_PES-RGP additional info added
INFO 18 MAY 2018
000251_Rathbone_Place_HD_MASTER

PROPOSED BUILDINGS
INFO 18 MAY 2018
10307-SK26
10307-SK27
10307-SK28
10307-SK34
10307-SK37



08449 02 03 04
GVA Schatunowski Brooks
65 Gresham Street, London, EC2V 7NQ
www.gva.co.uk

Project Name
1-8 PERCY MEWS
LONDON W1T

Client
PEARL AND COUTTS

Drawing Title
NO SKY LINE CONTOUR PLOT FOR
26 & 27 RATHBONE PLACE

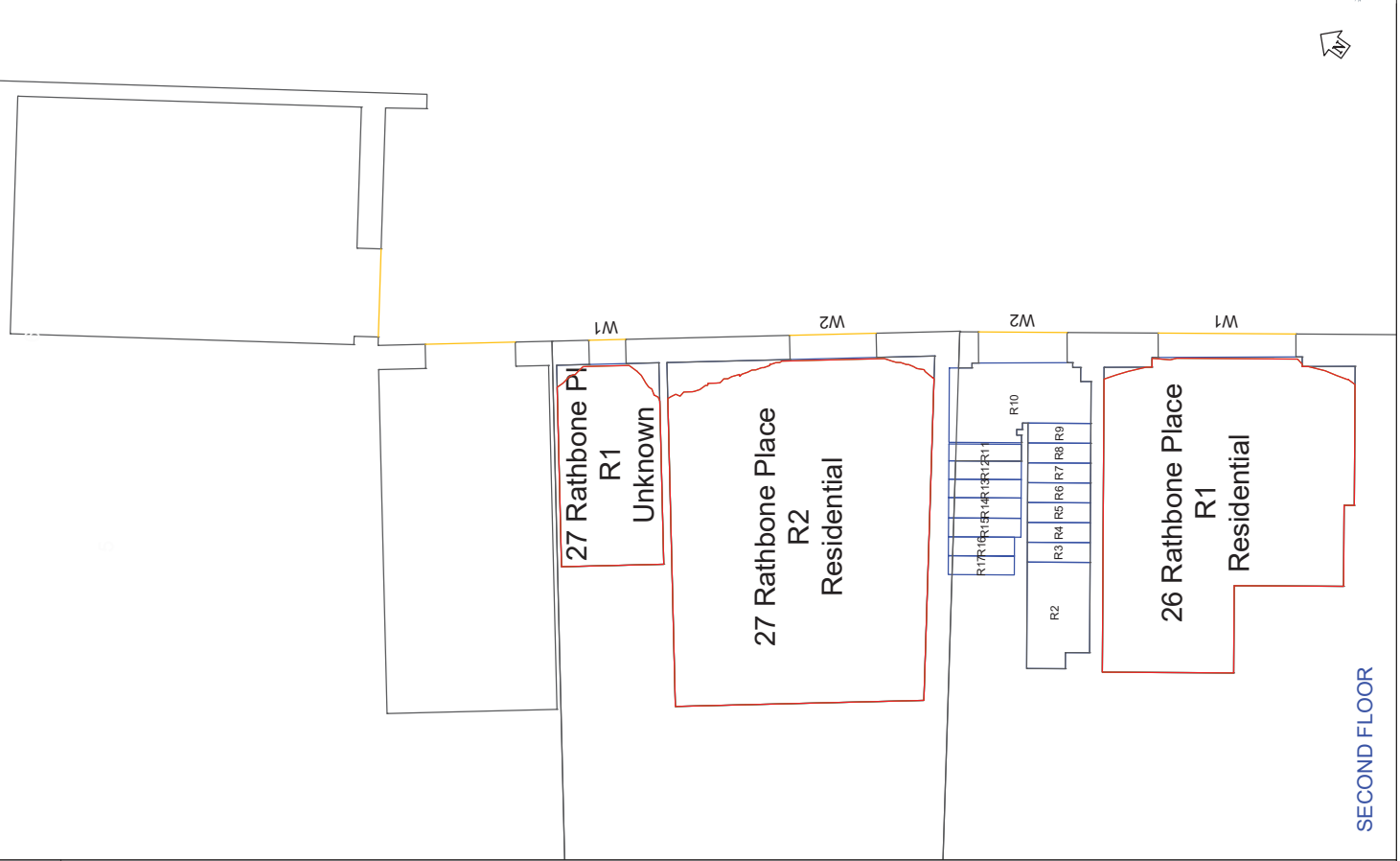
Drawn By
MF

Scale @ A3
N/A

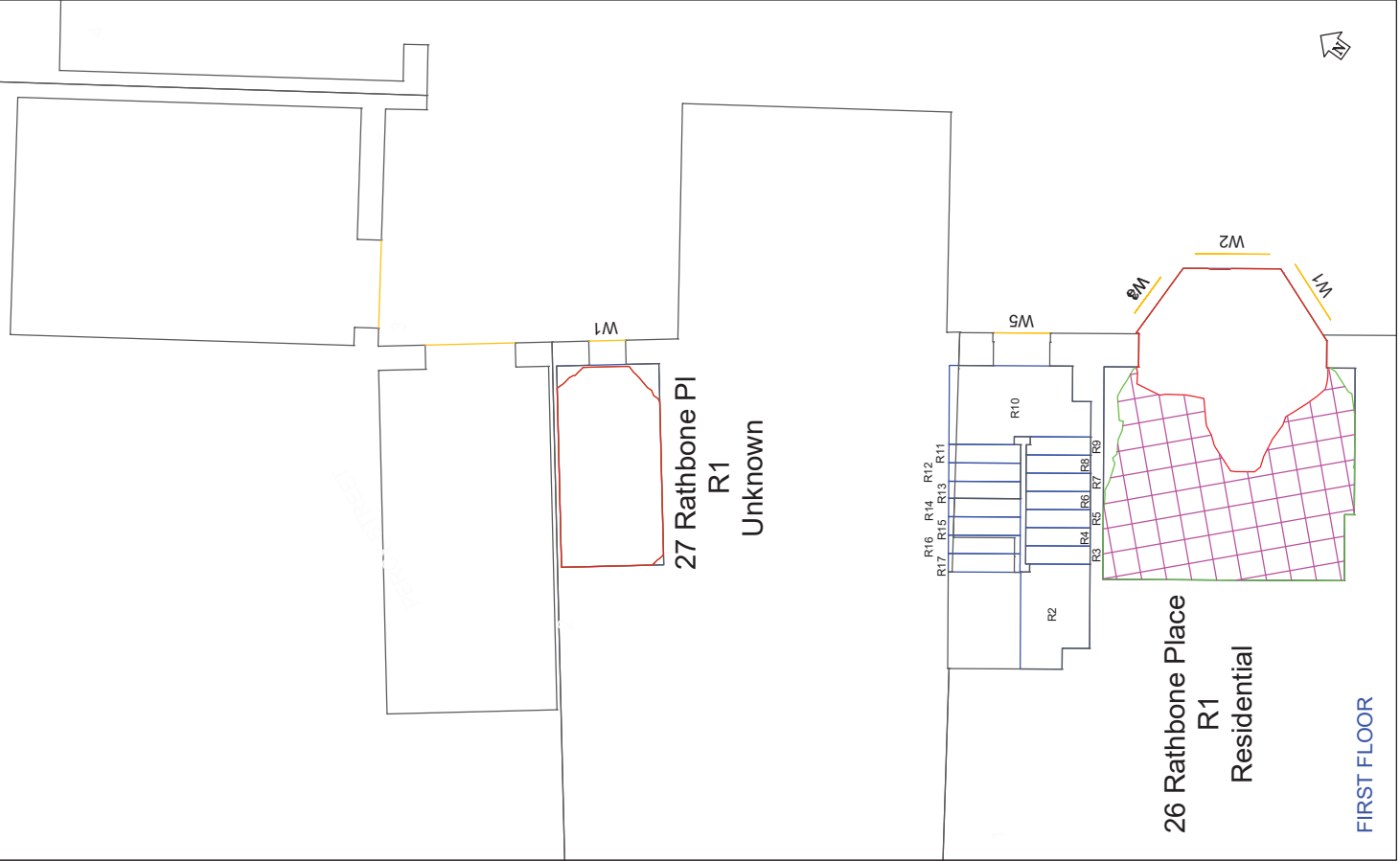
Date
30 MAY 2018

Project No.
028812278

Revision
BRE/13



SECOND FLOOR



FIRST FLOOR



Appendix V

Project Name: 1-6 Percy Mews
 Project No.: 02B812278
 Report Title: Daylight Distribution Analysis - Neighbour Existing v Proposed
 Date of Analysis: 07-Jun-18

Floor Ref.	Room Ref.	Room Attribute	Property Type	Room Use.		Room Area	Lit Area Existing	Lit Area Proposed	Pr/Ex	Meets BRE Criteria
26 Rathbone Place										
First	R1		Residential	Residential	Area m2 % of room	10.53	10.18 97%	3.98 38%	0.39	NO
Second	R1		Residential	Residential	Area m2 % of room	10.32	10.19 99%	10.19 99%	1.00	YES
27 Rathbone Place										
First	R1		Residential	Unknown	Area m2 % of room	3.17	3.01 95%	3.01 95%	1.00	YES
Second	R1		Residential	Unknown	Area m2 % of room	3.17	3.03 95%	3.03 95%	1.00	YES
	R2		Residential	Residential	Area m2 % of room	13.68	13.25 97%	13.25 97%	1.00	YES

Appendix VI

Project Name: 21 GIA Street
 Project No.: 12345
 Report Title: Daylight & Sunlight - Neighbour Analysis Existing Vs. Proposed
 Date of Analysis: 12-Jul-18

Floor Ref.	Room Ref.	Room Attribute	Property Type	Room Use.	Window Ref.	Window Attribute	VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria	Total Suns per Room Annual	Meets BRE Criteria	Total Suns per Room Winter	Meets BRE Criteria	
26 Rathbone Place																					
First	R1		Residential	Residential	W1		Existing 13.26	0.90	YES	112°	1	1.00	YES	0	0.00	YES	1	YES	0	YES	
						Proposed 12.05			1												
					W2		Existing 22.75	0.80	YES	55°N		*North*									
						Proposed 18.26															
				W3		Existing 14.65	0.82	YES	1°N												
						Proposed 12.03															
				W4		Existing 11.06	0.80	YES	1°N												
						Proposed 8.87															
Second	R1		Residential	Residential	W1		Existing 27.57	0.99	YES	55°N											
						Proposed 27.45															
																	North	*North*	*North*	*North*	