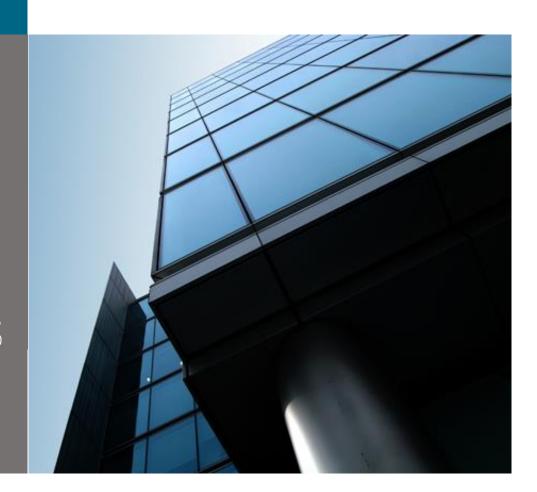


Daylight and Sunlight Report

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# The Hope Project, Camden

# **London NW1**

Vevil International Limited

November 2016

Vevil International Limited Contents

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## 1. Introduction and Scope of Report

- 1.1 GVA Schatunowski Brooks has been retained by Vevil International Limited to assess the performance and impact of The Hope Project Camden, London W4 in respect of daylight and sunlight.
- 1.2 The nature of the works is fairly modest in terms of increase in height and massing to the property.
- 1.3 The purpose of this report is to assess the impact of the proposed development on the daylight and sunlight enjoyed by existing neighbouring dwellings in according with the Building Research Establishment (BRE) Guidelines "Site Layout Planning for Daylight and Sunlight A Guide to Good Practice", 2011, to demonstrate that the proposed development satisfies the objectives of the Council's policy to ensure that existing neighbouring residents will continue to enjoy a reasonable level of amenity in context with the general character of this part of the Borough.
- 1.4 The buildings with the potential to be impacted are as follows:
  - 48-56 Bayham Place
  - 4 Bayham Place
  - 2 Bayham Place
  - 31-41 Crowndale Road
  - 43-55 Crowndale Road
- 1.5 Drawings HO81/15/BRE/120-129 give plan and 3-d views of the scheme and assessed neighbours.

Subsequent to this report being completed minor alterations have been made to the scheme as per the application drawings in drawing numbered AHA-KKC-GA-001 [H], AHA-KKC-GA-098 [M], AHA-KKC-GA-099 [S], AHA-KKC-GA-100 [T], AHA-KKC-GA-101 [Q], AHA-KKC-GA-102 [T], AHA-KKC-GA-103 [T], AHA-KKC-GA-104 [T], AHA-KKC-GA-105 [S], AHA-KKC-PR-200 [M], AHA-KKC-PR-201 [R], AHA-KKC-PR-202 [S], AHA-KKC-PR-203 [T], in our view these make no material difference to the conclusions of this report.

# 2. Sources of Information and Limitations

- 2.1 No-Skyline Contours Drawing had been created using the following information:
  - Existing & Surrounding Buildings
  - On Centre Surveys drawings 23745A,7 and 8-1 to 8-8
  - 48-56 Bayham Place Ambigram Architect' drawings PL-0101, PL-0102, PL-0103, PL-0104, PL-0105, PL-0106, PL-0200, PL-0201, PL-0202, PL-0203, PL-0300, PL-0301 and PL-0302.
  - Proposed Scheme Information
     Archer Humpreys drawings AHA/KKC/GA/098E, 099E,100E,101G,102J,104J and 105J

# 3. Daylight and Sunlight Standards

3.1 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.

#### 3.2 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."

3.3 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**

- 3.4 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.
- 3.5 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.

- 3.6 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.
- 3.7 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.
- 3.8 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.
- 3.9 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."
- 3.10 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.
- 3.11 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.
- 3.12 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.
- 3.13 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.
- 3.14 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.
- 3.15 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

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

- 3.17 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 0830hrs to 1730hrs. 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.
- 3.18 The sunlight standards are normally applied to the principal Living Room within each dwelling rather than to kitchens and bedrooms.
- 3.19 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."

3.20 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.

Vevil International Limited Scheme Assessment

## 4. Scheme Assessment

#### **Impact on Neighbouring Dwellings**

4.1 Although the BRE Guidelines contain recommendations for commercial and non-domestic buildings as well as buildings in residential use, for the purpose of Planning, the tests within the Guidelines are usually limited to existing neighbouring residential buildings. Non-domestic and commercial buildings are usually excluded as it is generally accepted that these uses normally rely primarily on supplementary artificial lighting throughout the day and are therefore not fully dependent on natural daylight as the sole source of amenity.

- 4.2 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 and therefore do not require testing.
- 4.3 We set out below our commentary on the assessments for the daylight/sunlight tests, all results are shown graphically on the attached plans and in tabular format.

#### 48-56 Bayham Place - HO81/15/BRE/124 & 125

- 4.4 The drawing referenced as above found in Appendix 1, shows the results on plan of the properties' windows, located from Ground Floor to the Fourth Floor.
- 4.5 At the time of testing the building was in the process of being converted into residential use and our study is therefore assessed applying the Ambigram Architect's drawings which parted of their consented planning application.
- 4.6 The neighbouring units are recently converted and therefore the appropriate test is not the potential difference in VSC but the level of retained light within each unit as compared to BS 8206 for internal daylighting. This therefore means an assessment of the ADF and daylight distribution.
- 4.7 The Daylight Distribution analysis and plans show that there is a level of light within the properties that is in the main at a higher level than the requirements for internal lighting, where this is not the case, at the lower floor the levels are compatible with similar central Urban locations. In respect of the ADF test on average the values retained are far in excess of the minimum target value.
- 4.8 The Sunlight Analysis also depicts similar losses where they exceed a greater loss than 20%, although the proposed percentages remain above 5% for the loss of light during winter, and more than 25% in total for the majority of units.

Vevil International Limited Scheme Assessment

#### 4 Bayham Street - HO81/15/BRE/126

4.9 The drawing referenced as above found in Appendix 1, shows the results on plan of the properties' windows, located from Basement to First Floor.

- 4.10 All rooms see either a less than 20% reduction in VSC or retain in excess of 27% VSC.
- 4.11 This is a fully BRE compliant building.
- 4.12 The Sunlight Analysis also shows the proposed percentages remain above 5% for the sunlight during winter, and retain at least 25%, which should be considered to meet BRE guidance.

#### 2 Bayham Street - HO81/15/BRE/127

- 4.13 The drawing referenced as above found in Appendix 1, shows the results on plan of the properties' windows, located on First Floor only.
- 4.14 All rooms retain in excess of 27% VSC.
- 4.15 This is a fully BRE compliant building.
- 4.16 The Sunlight Analysis also shows the proposed percentages remain above 5% for the sunlight during winter, and retain at least 25%, which should be considered to meet BRE guidance.

#### 31-41 Crowndale Road - HO81/15/BRE/128

- 4.17 The drawing referenced as above found in Appendix 1, shows the results on plan of the properties' windows, located on First Floor only.
- 4.18 All rooms see small reductions in Daylight that are less than 20% of existing.
- 4.19 This is a fully BRE compliant building.
- 4.20 There is no requirement to test these north facing buildings for Sunlight.

#### 43-55 Crowndale Road - HO81/15/BRE/129

- 4.21 The drawing referenced as above found in Appendix 1, shows the results on plan of the properties' windows, located on First Floor only.
- 4.22 All rooms see small reductions in Daylight that are less than 20% of existing.
- 4.23 This is a fully BRE compliant building.

There is no requirement to test these north facing buildings for Sunlight.

Vevil International Limited Summary and Conclusion

# 5. Summary and Conclusion

5.1 We have undertaken a detailed study of the impact of the proposed development on the relevant rooms within the neighbouring buildings.

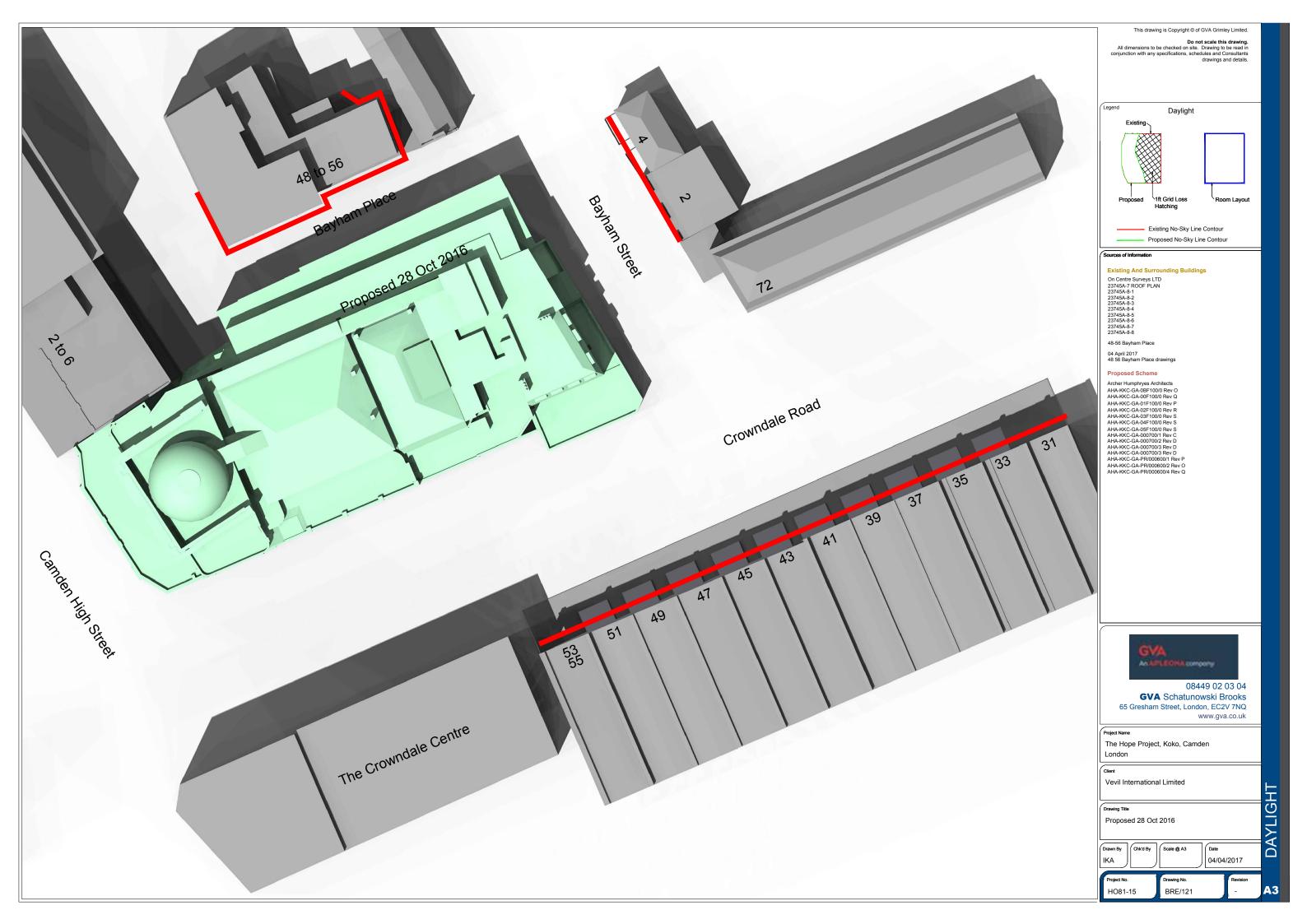
- 5.2 The tests were undertaken in accordance with the BRE Report 209 'Site Layout Planning for Daylight and Sunlight A Guide to Good Practice' (second edition, 2011) and the British Standard BS 8206: Part 2.
- 5.3 The results of the Daylight and Sunlight Analysis demonstrate the impact of the proposed development onto the effected neighbouring properties.
- 5.4 The Daylight Results for Bayham Place do show a reduction as against existing levels but whilst this is noted the retained levels of Daylight and Sunlight are of a similar standard to similar urban locations. Otherwise the development is fully BRE compliant.

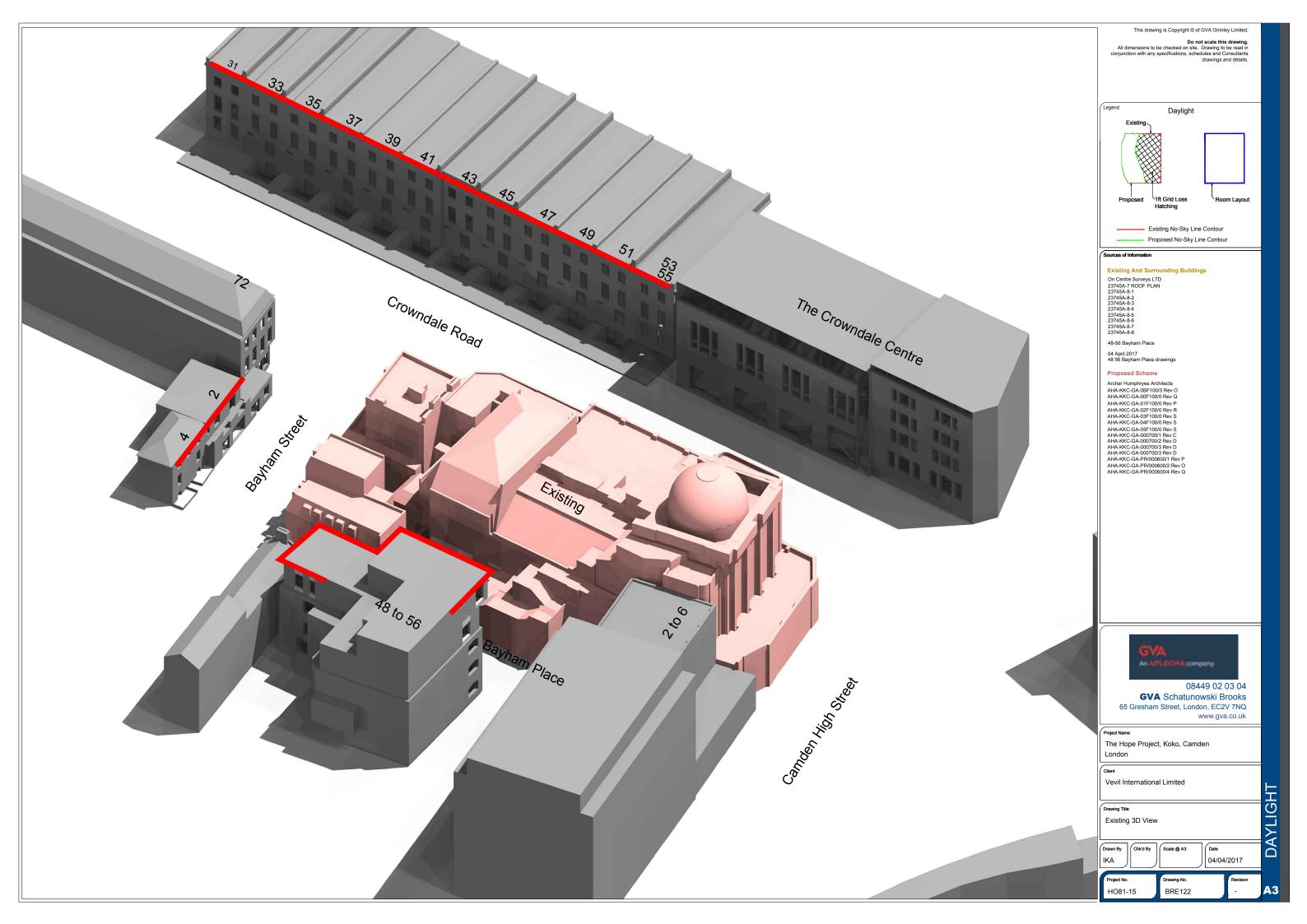


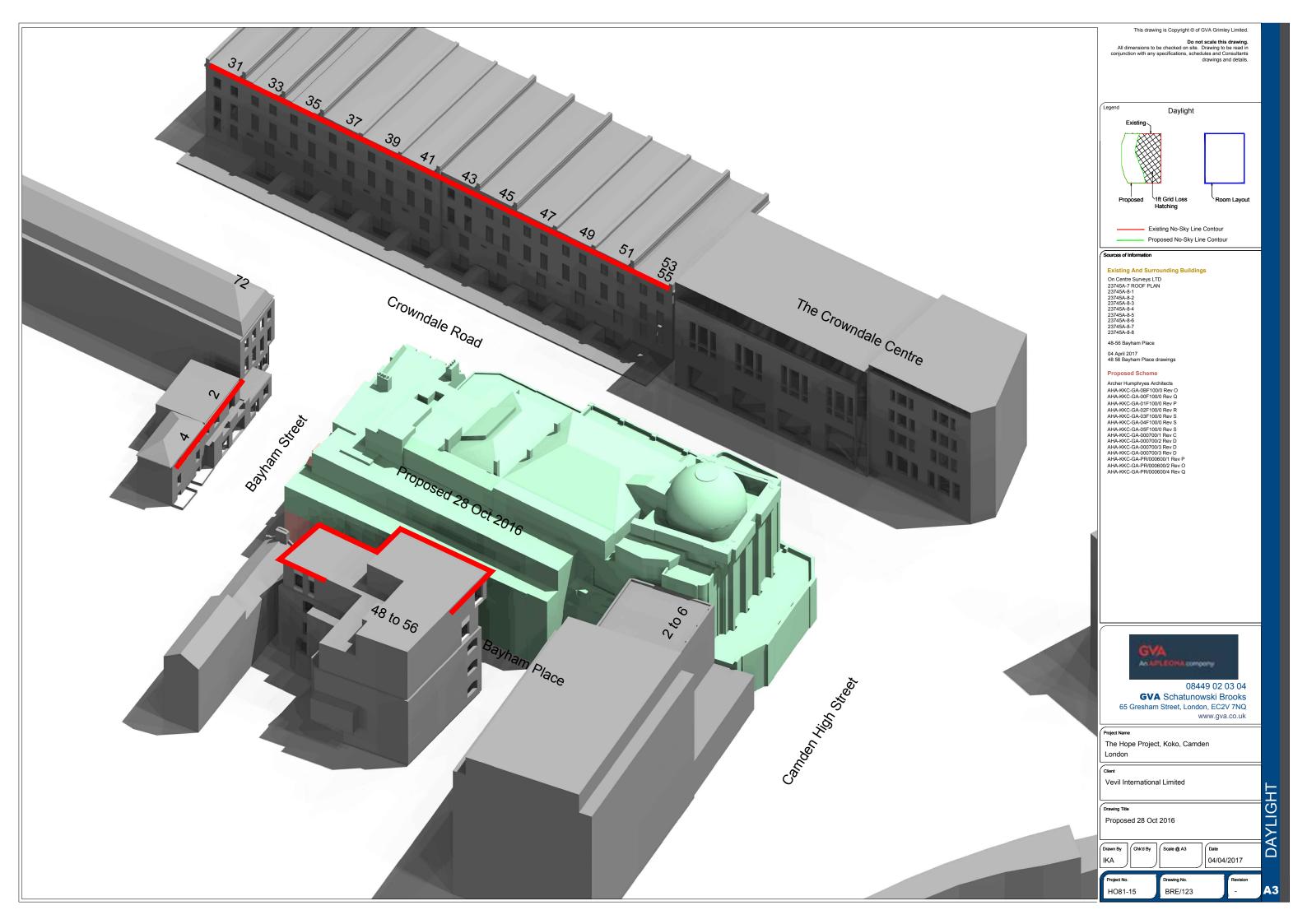


Appendix I



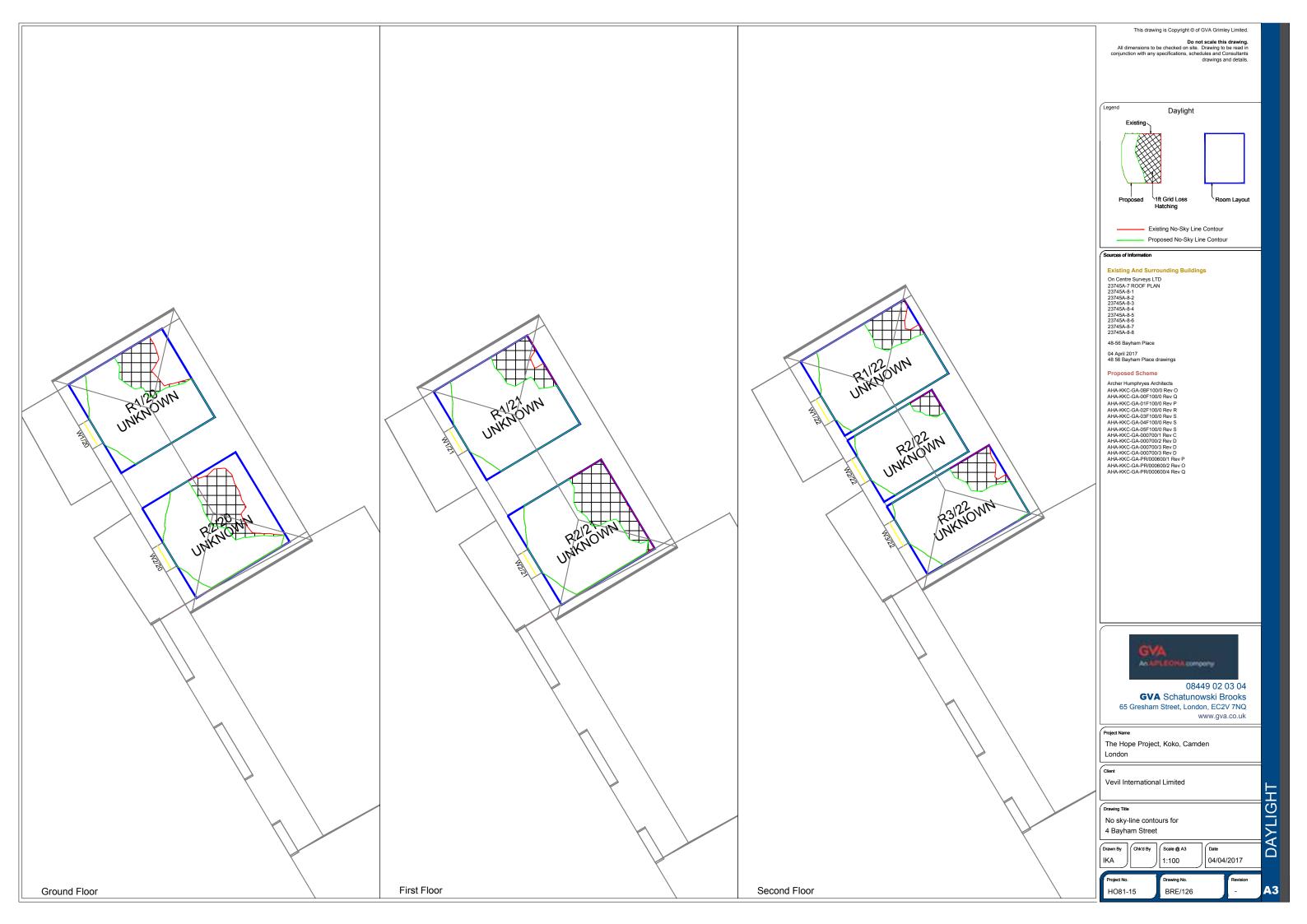




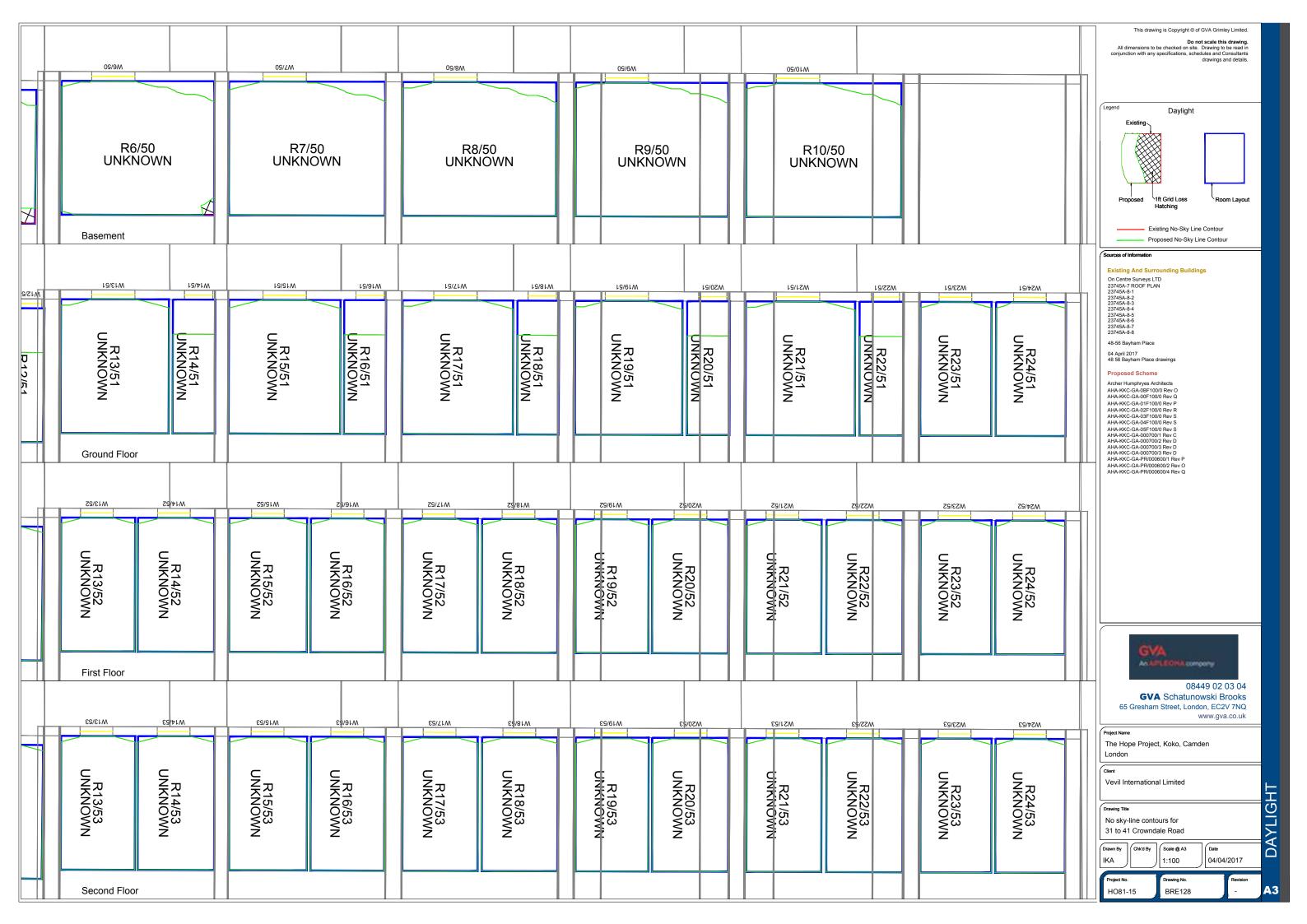


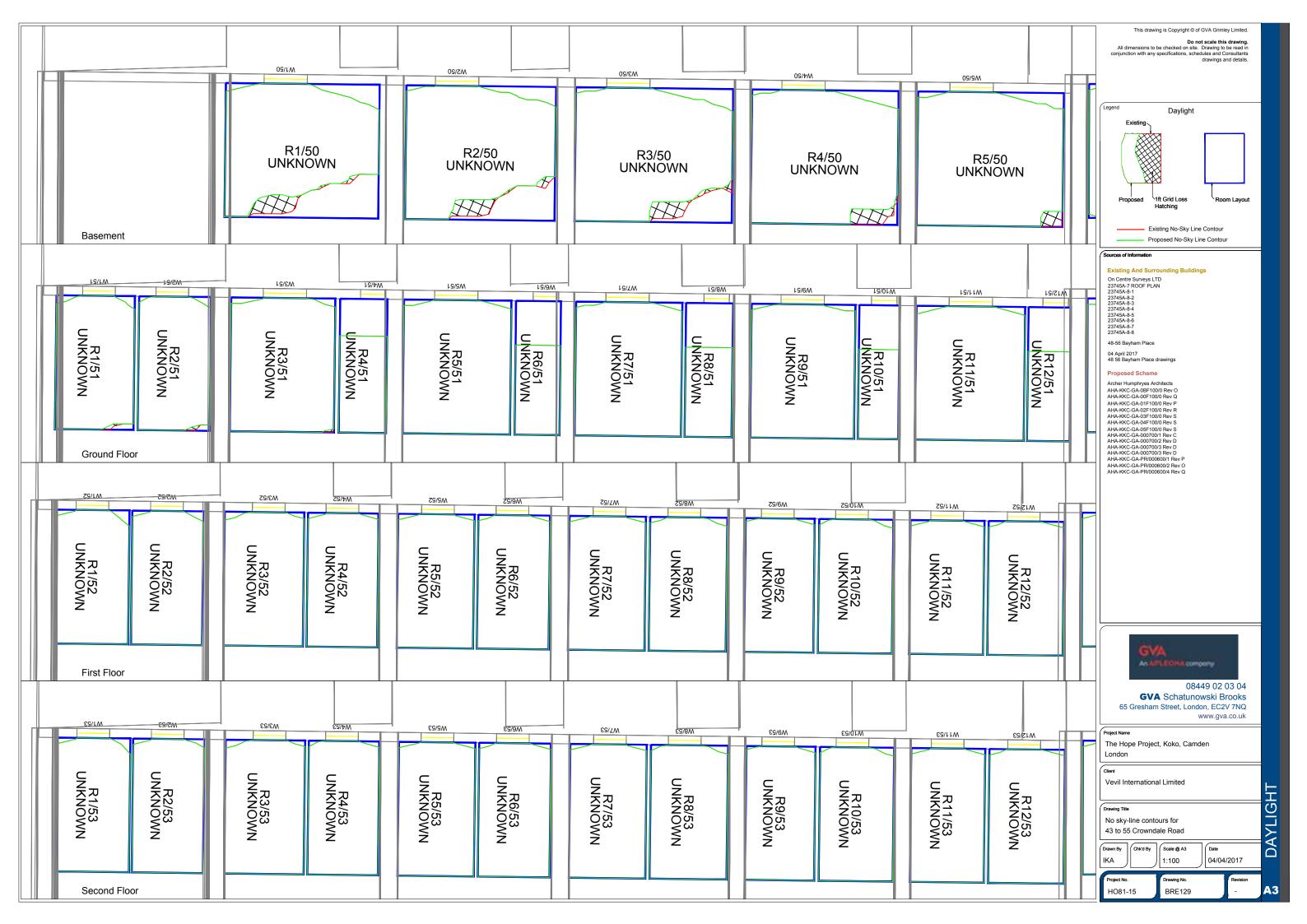
















Appendix II



## The Hope Project, Koko, Camden

## Daylight analysis results Job 15 04-Apr-17

				%VSC %			ayligh	t Factor	Proposed No Sky				
Room/Floor	Poom Hea	Window	Eviet	Prop	% loss	Eviet	Prop	% loss	Room	% Loss of Existing			
					/o LU33	EXISI	гюр	/0 LO33	Aleu	LAISING			
	18 to 56 Bayham Place - BRE/124, 125 Gnd Floor												
Glid Floor		W1/10	13.98	13.64	2.43%								
R1/10	UNKNOWN	W1/10 W2/10	18.83	12.20	35.21%	4.57	3.69	19.41%	62.15%	24.62%			
R2/10	UNKNOWN	W3/10	19.41	12.31	36.58%	3.66	2.23	39.08%	43.17%	55.99%			
K2/10	ONKINOWIN	W4/10	19.78			5.00	2,20	37.00/6	45.1770	33.7770			
R3/10	UNKNOWN	W5/10	19.97	12.48		2.10	1.27	39.29%	23.87%	64.08%			
KO/10	ONKINOWIN	W7/10	19.92	12.50	37.25%	2.10	1.2/	07.2770	20.07 70	04.0070			
R4/10	UNKNOWN	W8/10	18.57	11.99	35.43%	2.64	1.19	54.85%	26.89%	63.61%			
R5/10	UNKNOWN	W9/10	18.04	12.15	32.65%	_		52.09%					
		W10/10	17.41	12.36									
R6/10	UNKNOWN	W11/10	33.82	33.82	>27	1.68	1.43	15.26%	85.72%	0.48%			
1st Floor		111/10	00.02	00.02	- 2/					Y			
		W1/11	17.93	17.61	1.78%								
		W2/11	23.81	17.77	25.37%								
R1/11	UNKNOWN	W3/11	24.28			4.40	3.69	16.15%	55.72%	36.34%			
		W4/11		18.15		1							
R2/11	UNKNOWN	W5/11	25.13		26.42%	3.07	2.42	21.02%	47.36%	50.77%			
		W6/11	25.29										
R3/11	UNKNOWN	W7/11	25.41	19.14		5.75	4.60	19.94%	80.77%	17.83%			
		W8/11	25.45	19.44					1111				
D 4/11	III IKNIOWAL	W9/11	25.67	19.75	23.06%	2.84	0.57	0.70%	/7 7007	10.000			
R4/11	UNKNOWN	W10/11	23.51	23.51	0.00%	2.84	2.56	9.79%	67.72%	13.20%			
2nd Floor													
		W1/12	22.70	22.45	1.10%								
R1/12	UNKNOWN	W2/12	27.85	22.68	18.56%	4.99	4.40	11.73%	76.87%	22.45%			
K1/12	DINKINOWIN	W3/12	27.99	22.59	19.29%	4.77	4.40	11./3/0	/0.0//	22.43/0			
		W4/12	28.22	22.68	19.63%								
R2/12	UNKNOWN	W5/12	29.10	23.37	19.69%	3.44	2.91	15.27%	78.29%	19.83%			
esset swepter		W6/12	30.26		19.07%			HISS SECRE	Maria de la companio				
R3/12	UNKNOWN	W7/12	31.12	25.20	19.02%	6.73	5.68	15.67%	98.31%	0.00%			
		W8/12	31.88	25.80	19.07%								
R4/12	UNKNOWN	W9/12	32.42	26.31	18.85%	3.38	3.11	8.19%	78.53%	9.92%			
114/12	DIAKIAOWIA	W10/12	30.39	30.39	>27	5.56	0.11	0.17/6	70.55/6	7.72/0			



				%VS	-	% Da	% Daylight Factor			Proposed No Sky	
				7010	Ī	70 0	47 II 911	racio	70 OI		
									Room	% Loss of	
Room/Floor	Room Use	Window	Exist	Prop	% Loss	Exist	Prop	% Loss	Area	Existing	
3rd Floor				124	×-						
R1/13	BEDROOM	W1/13	27.58	27.45	>27	4.04	3.85	4.83%	99.31%	0.00%	
K1/13	BEDROOM	W2/13	21.44	17.82	16.88%	4.04	3.03	4.00%	77.31/6	0.00%	
R2/13	BEDROOM	W3/13	21.00	17.00	19.05%	3.40	2.93	13.99%	99.24%	0.00%	
R3/13	BEDROOM	W4/13	22.02	17.95	18.48%	3.90	3.36	13.77%	99.34%	0.00%	
		W5/13	34.87	30.48	>27						
		W6/13	36.48	32.08	>27	1		5.19%			
R4/13	LKD	W7/13	39.46	38.97	>27	6.67	6.32		99.90%	0.00%	
		W8/13	38.16	38.16	>27				10.740.000.000.000.000.000		
		W9/13	37.50	37.50	>27	1					
4th Floor			AD 34								
D1 /1 /	LVD	W1/14	33.54	33.42	>27	E 00 4 00	0.700	100.00%	0.000		
R1/14	LKD	W2/14	37.70	35.65		5.03	4.89	2.78%	100.00%	0.00%	
DO /1 /	DEDDOOL	W3/14	38.18	36.18		7.,,	7.11	0.707	00.040	0.000	
R2/14	BEDROOM	W4/14	39.61	39.25	>27	7.64	7.44	2.72%	99.94%	0.00%	
4 Bayham S	treet - BRE/	126									
Base Floor											
R1/20	UNKNOWN	W1/20	24.89	22.83	8.28%	0.73	0.67	8.09%	66.99%	19.31%	
R2/20	UNKNOWN	W2/20	21.46	18.73	12.72%	0.69	0.61	11.14%	50.91%		
<b>Gnd Floor</b>											
R1/21	UNKNOWN	W1/21	28.84	26.61	7.73%	0.81	0.75	7.50%	77.06%	16.82%	
R2/21	UNKNOWN	W2/21	26.90	24.09	10.45%	0.79	0.71	9.66%	67.46%	27.41%	
1st Floor											
R1/22	UNKNOWN	W1/22	32.12	29.81	>27	0.80	0.74	7.17%	79.05%	15.64%	
R2/22	UNKNOWN	W2/22		29.30		1.03			88.90%		
R3/22	UNKNOWN	W3/22		28.97		0.83	0.76	8.31%	80.19%	14.55%	
2 Bayham S	treet - BRE/	127			•					•	
1st Floor											
R1/31	UNKNOWN	W1/31	30.67	27.86	>27	0.50	0.45	9.94%	54.87%	28.46%	
R2/31	UNKNOWN	W2/31		27.51		1.13	1.04		61.91%		
R3/31	UNKNOWN	W3/31		27.07		1.44	1.33		61.19%		



				%VS0	_	% Da	avliah	t Factor	Propose	d No Sky
				70 7 3 4	Ĭ	70 D	ay iigii	racio		d No Sky
									Room	% Loss of
Room/Floor	Room Use	Window	Exist	Prop	% Loss	Exist	Prop	% Loss	Area	Existing
31 to 41 Cro	wndale Roc	ad - BRE/	128							
Base Floor										
R6/50	UNKNOWN	W6/50	25.43	25.22	0.83%	1.19	1.18	0.76%	95.03%	0.83%
R7/50	UNKNOWN	W7/50	25.70	25.59	0.43%	1.19	1.18	0.59%	95.91%	0.00%
R8/50	UNKNOWN	W8/50	25.88	25.88	0.00%	1.20	1.20	0.08%	95.67%	0.00%
R9/50	UNKNOWN	W9/50	25.93	25.93	0.00%	1.21	1.21	0.00%	96.03%	0.00%
R10/50	UNKNOWN	W10/50	26.32	26.32	0.00%	1.20	1.20	0.00%	95.54%	0.00%
<b>Gnd Floor</b>										
R13/51	UNKNOWN	W13/51	33.00	32.63	>27	1.78	1.76	0.96%	98.26%	0.00%
R14/51	UNKNOWN	W14/51	33.49	33.13	>27	0.21	0.20	1.94%	74.01%	0.00%
R15/51	UNKNOWN	W15/51	32.75	32.42	>27	1.75	1.73	0.86%	98.19%	0.00%
R16/51	UNKNOWN	W16/51	33.19	32.89	>27	0.20	0.20	1.48%	74.04%	0.00%
R17/51	UNKNOWN	W17/51	32.35	32.08	>27	1.75	1.73	0.74%	98.24%	0.00%
R18/51	UNKNOWN	W18/51	32.84	32.59	>27	0.20	0.20	1.50%	74.03%	0.00%
R19/51	UNKNOWN	W19/51	32.22	31.98	>27	1.78	1.76	0.62%	98.25%	0.00%
R20/51	UNKNOWN	W20/51	32.92	32.71	>27	0.20	0.20	1.01%	74.17%	0.00%
R21/51	UNKNOWN	W21/51	32.47	32.29	>27	1.76	1.75	0.45%	98.22%	0.00%
R22/51	UNKNOWN	W22/51	33.23	33.09	>27	0.20	0.20	1.00%	74.11%	0.00%
R23/51	UNKNOWN	W23/51	32.95	32.82	>27	1.71	1.70	0.35%	98.58%	0.00%
R24/51	UNKNOWN	W24/51	33.25	33.13	>27	1.73	1.73	0.23%	98.75%	0.00%
1st Floor										
R13/52	UNKNOWN	W13/52	35.17	34.77	>27	1.84	1.82	1.03%	98.64%	0.00%
R14/52	UNKNOWN	W14/52	35.12	34.75	>27	1.80	1.79	0.94%	98.59%	0.00%
R15/52	UNKNOWN	W15/52	35.03	34.69	>27	1.80	1.78	0.89%	98.62%	0.00%
R16/52	UNKNOWN	W16/52	34.89	34.58	>27	1.85	1.84	0.76%	98.63%	0.00%
R17/52	UNKNOWN	W17/52	34.75	34.47	>27	1.83	1.81	0.71%	98.66%	0.00%
R18/52	UNKNOWN	W18/52	34.67	34.43	>27	1.82	1.81	0.61%	98.66%	0.00%
R19/52	UNKNOWN	W19/52	34.61	34.40	>27	1.85	1.84	0.49%	98.62%	0.00%
R20/52	UNKNOWN	W20/52	34.63	34.46	>27	1.80	1.80	0.39%	98.67%	0.00%
R21/52	UNKNOWN	W21/52	34.68	34.54	>27	1.81	1.80	0.33%	98.65%	0.00%
R22/52	UNKNOWN	W22/52	34.81	34.69	>27	1.79	1.79	0.28%	98.59%	0.00%
R23/52	UNKNOWN	W23/52	35.01	34.93	>27	1.88	1.88	0.21%	98.77%	0.00%
R24/52	UNKNOWN	W24/52	35.22	35.14	>27	1.91	1.91	0.16%	98.75%	0.00%



				%VSC % Daylight Factor				Propose	Proposed No Sky		
							,				
to the second second second	Part of the Control o	9-1 MOTA 60/8 10 1/4 1		***		Page No. Page	00000		Room	% Loss of	
Room/Floor	Room Use	Window	Exist	Prop	% Loss	Exist	Prop	% Loss	Area	Existing	
2nd Floor											
R13/53	UNKNOWN	W13/53	37.28	36.87	>27	1.43	1.42	1.05%	98.64%	0.00%	
R14/53	UNKNOWN	W14/53	37.26	36.88	>27	1.40	1.39	1.00%	98.59%	0.00%	
R15/53	UNKNOWN	W15/53	37.23	36.92	>27	1.35	1.34	0.81%	98.18%	0.00%	
R16/53	UNKNOWN	W16/53	37.17	36.90	>27	1.40	1.39	0.64%	98.17%	0.00%	
R17/53	UNKNOWN	W17/53	37.10	36.88	>27	1.38	1.37	0.58%	98.30%	0.00%	
R18/53	UNKNOWN	W18/53	37.05	36.88	>27	1.37	1.37	0.44%	98.22%	0.00%	
R19/53	UNKNOWN	W19/53	36.99	36.85	>27	1.40	1.39	0.36%	98.25%	0.00%	
R20/53	UNKNOWN	W20/53	37.00	36.89	>27	1.36	1.36	0.22%	98.23%	0.00%	
R21/53	UNKNOWN	W21/53	37.02	36.94	>27	1.37	1.37	0.15%	98.65%	0.00%	
R22/53	UNKNOWN	W22/53	37.08	37.01	>27	1.36	1.36	0.15%	98.59%	0.00%	
R23/53	UNKNOWN	W23/53	37.16	37.12	>27	1.40	1.40	0.07%	98.77%	0.00%	
R24/53	UNKNOWN	W24/53	37.27	37.23	>27	1.42	1.42	0.07%	98.65%	0.00%	
43 to 55 Cro	wndale Roc	d - BRE/	129	300	24	20 2		2	Č.		
Base Floor			C1 1 1 4		_						
R1/50	UNKNOWN	W1/50	21.82	21.54	1.28%	1.06	1.05	1.13%	76.69%	4.67%	
R2/50	UNKNOWN	W2/50	22.58	22.23	1.55%	1.10	1.09	1.18%	81.36%	4.48%	
R3/50	UNKNOWN	W3/50	23.19	22.83	1.55%	1.09	1.07	1.10%	85.16%	3.81%	
R4/50	UNKNOWN	W4/50	23.64	23.34	1.27%	1.18	1.17	0.85%	92.66%	3.02%	
R5/50	UNKNOWN	W5/50	24.83	24.57	1.05%	1.22	1.21	0.82%	94.70%	1.77%	
<b>Gnd Floor</b>											
R1/51	UNKNOWN	W1/51	25.94	25.51	1.66%	1.35	1.33	1.33%	96.41%	0.18%	
R2/51	UNKNOWN	W2/51	27.89	27.42	>27	1.48	1.46	1.35%	97.76%	0.00%	
R3/51	UNKNOWN	W3/51	29.44	28.93	>27	1.66	1.64	1.56%	98.06%	0.07%	
R4/51	UNKNOWN	W4/51	31.07	30.49	>27	0.14	0.13	4.29%	72.30%	0.00%	
R5/51	UNKNOWN	W5/51	30.87	30.34	>27	1.67	1.64	1.44%	98.25%	0.00%	
R6/51	UNKNOWN	W6/51	32.26	31.67	>27	0.12	0.11	4.35%	67.07%	0.00%	
R7/51	UNKNOWN	W7/51	31.98	31.48	>27	1.72	1.70	1.39%	98.42%	0.00%	
R8/51	UNKNOWN	W8/51	33.21	32.75	>27	0.12	0.12	3.31%	67.05%	0.00%	
R9/51	UNKNOWN	W9/51	32.92	32.47	>27	1.82	1.80	1.21%	98.45%	0.00%	
R10/51	UNKNOWN	W10/51	33.64	33.18	>27	0.13	0.13	3.01%	67.00%	0.00%	
R11/51	UNKNOWN	W11/51	33.10	32.68	>27	1.77	1.76	1.07%	98.14%	0.00%	
R12/51	UNKNOWN	W12/51	30.77	30.37	>27	0.13	0.12	3.20%	66.93%	0.00%	



				%VS	C	% Do	avliah	t Factor	Proposed No Sky		
					Ī	7.	73		70 Of	CALL 15 111 1 22	
									Room	% Loss of	
Room/Floor	Room Use	Window	Exist	Prop	% Loss	Exist	Prop	% Loss	Area	Existing	
1st Floor					00						
R1/52	UNKNOWN	W1/52	28.91	28.20	>27	1.60	1.57	2.00%	97.69%	0.00%	
R2/52	UNKNOWN	W2/52	30.89	30.17	>27	1.69	1.66	2.01%	98.21%	0.00%	
R3/52	UNKNOWN	W3/52	32.37	31.61	>27	1.61	1.58	1.99%	98.39%	0.00%	
R4/52	UNKNOWN	W4/52	32.98	32.23	>27	1.76	1.72	1.99%	98.57%	0.00%	
R5/52	UNKNOWN	W5/52	33.65	32.90	>27	1.70	1.67	2.00%	98.59%	0.00%	
R6/52	UNKNOWN	W6/52	34.08	33.34	>27	1.78	1.75	1.85%	98.69%	0.00%	
R7/52	UNKNOWN	W7/52	34.59	33.91	>27	1.75	1.72	1.77%	98.59%	0.00%	
R8/52	UNKNOWN	W8/52	34.87	34.26	>27	1.75	1.73	1.60%	98.34%	0.00%	
R9/52	UNKNOWN	W9/52	35.09	34.58	>27	1.89	1.86	1.38%	99.03%	0.00%	
R10/52	UNKNOWN	W10/52	35.18	34.67	>27	1.82	1.80	1.27%	98.64%	0.00%	
R11/52	UNKNOWN	W11/52	35.20	34.72	>27	1.83	1.81	1.20%	98.64%	0.00%	
R12/52	UNKNOWN	W12/52	34.80	34.37	>27	1.81	1.79	1.10%	98.75%	0.00%	
2nd Floor	2		98	100	00	20					
R1/53	UNKNOWN	W1/53	32.14	31.14	>27	1.26	1.23	2.61%	97.96%	0.00%	
R2/53	UNKNOWN	W2/53	34.09	33.08	>27	1.33	1.30	2.56%	98.49%	0.00%	
R3/53	UNKNOWN	W3/53	35.37	34.35	>27	1.27	1.24	2.52%	98.39%	0.00%	
R4/53	UNKNOWN	W4/53	35.85	34.86	>27	1.39	1.36	2.52%	98.86%	0.00%	
R5/53	UNKNOWN	W5/53	36.29	35.36	>27	1.34	1.31	2.39%	98.59%	0.00%	
R6/53	UNKNOWN	W6/53	36.54	35.70	>27	1.39	1.37	2.08%	98.69%	0.00%	
R7/53	UNKNOWN	W7/53	36.83	36.08	>27	1.37	1.34	1.90%	98.59%	0.00%	
R8/53	UNKNOWN	W8/53	36.99	36.32	>27	1.37	1.34	1.68%	98.52%	0.00%	
R9/53	UNKNOWN	W9/53	37.12	36.55	>27	1.46	1.44	1.51%	99.03%	0.00%	
R10/53	UNKNOWN	W10/53	37.20	36.64	>27	1.41	1.39	1.42%	98.64%	0.00%	
R11/53	UNKNOWN	W11/53	37.24	36.73	>27	1.42	1.40	1.27%	98.64%	0.00%	
R12/53	UNKNOWN	W12/53	36.84	36.39	>27	1.42	1.40	1.13%	98.75%	0.00%	





Appendix III



### The Hope Project, Koko, Camden

#### Sunlight Analysis Results Job 15 04-Apr-17

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

		Existing % Proposed %		ó						
	Window				al Summer Winter Total			% Loss of	% Loss of Winter	% Loss of Total
Room use	Ref			Total	Summer	Winter	Total	Summer	winier	iolai
48 to 56 Bayl	nam Place -	BRE/124,	125							
Gnd Floor										
UNKNOWN	W1/10	22.00		24.00	21.00		21.00	4.55%		
UNKNOWN	W2/10	47.00	1.00	48.00	28.00		28.00	40.43%	100.00%	
UNKNOWN	W3/10	49.00		51.00	31.00		31.00	36.73%	100.00%	
UNKNOWN	W4/10	48.00	3.00	51.00	31.00	0.00	31.00	35.42%	100.00%	
UNKNOWN	W5/10	49.00		53.00	32.00		32.00	34.69%	100.00%	
UNKNOWN	W7/10	47.00	4.00	51.00	32.00	0.00	32.00	31.91%	100.00%	37.25%
UNKNOWN	W8/10	44.00	4.00	48.00	30.00		31.00	31.82%	75.00%	35.42%
UNKNOWN	W9/10	44.00	3.00	47.00	30.00	1.00	31.00	31.82%	66.67%	34.04%
UNKNOWN	W10/10	44.00	5.00	49.00	32.00	1.00	33.00	27.27%	80.00%	32.65%
UNKNOWN	W11/10	0.00	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%	0.00%
1st Floor		20								
UNKNOWN	W1/11	26.00	5.00	31.00	26.00	2.00	28.00	0.00%	60.00%	9.68%
UNKNOWN	W2/11	54.00	8.00	62.00	48.00	2.00	50.00	11.11%	75.00%	19.35%
UNKNOWN	W3/11	55.00	8.00	63.00	49.00	1.00	50.00	10.91%	87.50%	20.63%
UNKNOWN	W4/11	54.00	9.00	63.00	48.00	2.00	50.00	11.11%	77.78%	20.63%
UNKNOWN	W5/11	52.00	8.00	60.00	47.00	2.00	49.00	9.62%	75.00%	18.33%
UNKNOWN	W6/11	51.00	11.00	62.00	46.00	5.00	51.00	9.80%	54.55%	17.74%
UNKNOWN	W7/11	51.00	11.00	62.00	46.00	5.00	51.00	9.80%	54.55%	17.74%
UNKNOWN	W8/11	52.00	12.00	64.00	45.00	5.00	50.00	13.46%	58.33%	21.88%
UNKNOWN	W9/11	53.00	11.00	64.00	47.00	5.00	52.00	11.32%	54.55%	18.75%
2nd Floor	200									
UNKNOWN	W1/12	27.00	11.00	38.00	27.00	9.00	36.00	0.00%	18.18%	5.26%
UNKNOWN	W2/12	55.00	18.00	73.00	53.00	9.00	62.00	3.64%	50.00%	15.07%
UNKNOWN	W3/12	55.00	17.00	72.00	54.00	9.00	63.00	1.82%	47.06%	12.50%
UNKNOWN	W4/12	50.00	18.00	68.00	49.00	10.00	59.00	2.00%	44.44%	13.24%
UNKNOWN	W5/12	51.00	20.00	71.00	51.00	11.00	62.00	0.00%	45.00%	12.68%
UNKNOWN	W6/12	50.00	20.00	70.00	50.00	12.00	62.00	0.00%	40.00%	
UNKNOWN	W7/12	50.00	20.00	70.00	50.00	12.00	62.00	0.00%	40.00%	
UNKNOWN	W8/12	51.00	21.00	72.00	51.00	12.00	63.00	0.00%	42.86%	12.50%
UNKNOWN	W9/12	53.00	21.00	74.00	53.00	12.00	65.00	0.00%	42.86%	12.16%
3rd Floor	*	<del>0</del> 7.					35.	2		•
BEDROOM	W1/13	30.00	16.00	46.00	30.00	14.00	44.00	0.00%	12.50%	4.35%
BEDROOM	W2/13	29.00		53.00	29.00		48.00	0.00%	20.83%	
BEDROOM	W3/13	21.00	23.00		21.00	17.00	38.00	0.00%	26.09%	
BEDROOM	W4/13	24.00		48.00	24.00		41.00	0.00%	29.17%	
LKD	W5/13	46.00		72.00	46.00		67.00	0.00%	19.23%	102310-000000000000000000000000000000000
LKD	W6/13	53.00		80.00	53.00		76.00	0.00%	14.81%	



	Window Ref	Existing %			i i	Pro	posed %	6			
Room use		Summer	Winter	Total	Summer	Winter	Total	% Loss of Summer	% Loss of Winter	% Loss of Total	
4th Floor	20	-	0.5		25	0	W		v	92	
LKD	W1/14	36.00	19.00	55.00	36.00	19.00	55.00	0.00%	0.00%	0.00%	
LKD	W2/14	55.00	27.00	82.00	55.00	27.00	82.00	0.00%	0.00%	0.00%	
BEDROOM	W3/14	55.00	28.00	83.00	55.00	28.00	83.00	0.00%	0.00%	0.00%	
4 Bayham St	reet - BRE/1	26								•	
Base Floor	59		0			3			25	187	
UNKNOWN	W1/20	34.00	12.00	46.00	31.00	10.00	41.00	8.82%	16.67%	10.87%	
UNKNOWN	W2/20	22.00	3.00	25.00	19.00	2.00	21.00	13.64%	33.33%	16.00%	
<b>Gnd Floor</b>	ŝ.							ů.		•	
UNKNOWN	W1/21	39.00	15.00	54.00	37.00	14.00	51.00	5.13%	6.67%	5.56%	
UNKNOWN	W2/21	36.00	10.00	46.00	35.00	9.00	44.00	2.78%	10.00%	4.35%	
1st Floor										•	
UNKNOWN	W1/22	40.00	19.00	59.00	40.00	16.00	56.00	0.00%	15.79%	5.08%	
UNKNOWN	W2/22	39.00	19.00	58.00	39.00	15.00	54.00	0.00%	21.05%	6.90%	
UNKNOWN	W3/22	40.00	20.00	60.00	39.00	15.00	54.00	2.50%	25.00%	10.00%	
2 Bayham St	reet - BRE/1	27		52	201			å:		i.	
1st Floor				2					11		
UNKNOWN	W1/31	40.00	19.00	59.00	39.00	16.00	55.00	2.50%	15.79%	6.78%	
UNKNOWN	W2/31	40.00	18.00	58.00	37.00	16.00	53.00	7.50%	11.11%	8.62%	
UNKNOWN	W3/31	40.00	18.00	58.00			52.00	12.50%	5.56%		