DAYLIGHT & SUNLIGHT REPORT

relating to the

PROPOSED DEVELOPMENT

of

10 GATE STREET, LONDON WC1

on behalf of

CROFTLAR HOLDINGS LTD

APRIL 2013

Ref 1065/B

Prepared by:

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1.0 OVERVIEW

1.1 The proposals are to construct an additional storey on the roof of the existing building and to construct within the storey a duplex flat. The offices on the lower floors are also to be converted into flats and the footprint of the building will be increased to the rear to create an internal lift shaft..

2.0 INSTRUCTIONS

2.1 Our instructions were confirmed by email on 6th March 2013 (relating to our fee proposal dated 23rd January 2013 and are to assess the effects of the proposed new building on the surrounding properties, to calculate the ADFs in the surrounding rooms where possible and to report on our findings for submission to the local planning authority

2.2 Our inspections have been made without access to the interiors of any of the surrounding buildings. Accordingly, our report is subject to the limitations highlighted within our fee proposal.

3.0 EXECUTIVE SUMMARY

The findings detailed in this daylight and sunlight report shows that while there are some surrounding properties which are residential in use and therefore should be considered for daylight and sunlight, there are no adverse effects caused to them by the proposals.

The proposed new accommodation will have excellent levels of daylight and sunlight and of average daylight factor such that they will form satisfactory living accommodation for future occupants in terms of daylight and sunlight.

There will be no effect by the proposals on any outdoor areas of public or private resort such as gardens, play areas, paddling or swimming pools, public squares and gardens, monuments or other sitting-out areas.

Taken overall, the proposals satisfy the provisions of the BRE Guide and provide satisfactory standards of daylight and sunlight.

4.0 DAYLIGHT & SUNLIGHT

4.1 BACKGROUND

Daylight and sunlight amenities are considerations that the local planning authority can take into account when determining planning applications. The London Borough of Camden, the local planning authority's policies on sunlight and daylight set out within its UDP as follows;

AMENITY
SD6 - Amenity for occupiers and neighbours
The Council will not grant planning permission for development that it considers causes harm to the amenity of occupiers and neighbours. The factors the Council will consider include:
a) visual privacy and overlooking;
b) sunlight and daylight levels;
c) artificial light levels;
d) noise and vibration levels;
e) odour, fumes and dust;
f) the adequacy of facilities for storage, recycling and disposal of waste; and
g) microclimate.

On sunlight and daylight, the Council will apply the standards recommended in the Building Research Establishment's 'Site Layout Planning for Daylight and Sunlight - A Guide to Good Practice' (1991). Policy SD7A deals further with light pollution, and noise and vibration are addressed in policy SD7B. Policies SD8A and SD8B address amenity disturbance due to the specific harm that can be caused by plant and machinery, and demolition and construction. Policy SD12A addresses the sorting and storage of waste. Supplementary guidance contains further information on microclimate.

In Planning Guide 6, the Council state: "*We expect all buildings to receive adequate daylight and sunlight ….. We will base our considerations on the Average Daylight Factor and Vertical Sky Component".*
In its reference to "all buildings" the application of the BRE Guide is extended only to residential accommodation rather than commercial and industrial buildings.

The Building Research Establishment's 'Site Layout Planning for Daylight and Sunlight - A Guide to Good Practice' (1991) (The BRE Guide) enables an objective assessment to be made as to whether the proposals will adversely affect the daylight and sunlight reaching existing habitable rooms and also allows an objective assessment to be made of the average daylight factors within the proposed new accommodation to gauge the degree of satisfactory natural lighting available. Since the Planning requirements were written, the BRE Guide has been withdrawn and replaced by the 2011 edition of the document. We have, therefore, used this edition of the BRE Guide within this report.

When considering the Guide's requirements, it is important to remember that the Guide is not a set of planning rules, which are either passed or failed. Numerical values are given and used, not as proscriptive or prescriptive values but as a way of comparing situations and coming to a judgement. The Guide is conceived as an aid to planning officers and designers by giving objective means of making assessments. The values given as desirable in the Guide may not be obtainable in dense urban areas where the grain of development is tight while higher values might well be desirable in suburban or rural areas where the grain is contrastingly open.

We have examined the surrounding buildings to determine their uses as far as can be done from the exterior. Africa House is clearly commercial in use and the new sloping glass elevation replaces the pervious stepped arrangement which is retained at the two ends.

The buildings in New Turnstile and facing onto High Holborn are also commercial in use as can be seen in the photographs below.

The only building which appears to be residential in use is 14 Gate Street, next door to The Ship public house. These buildings are visible in the photograph below:

As is visible in this photograph, the windows to No 14 Gate Street are set in the leaded dormers and face the street and the rear of the building so that they are completely unaffected by the proposals.

The residential accommodation serving the Ship PH is completely obscured by the existing bulk and massing of No 10 Gate Street and the proposed mansard storey will not be visible from the plane of the windows serving this residential occupancy.

Within Little Turnstile, as can be seen from the photograph above, the properties are all shops and most of the accommodation on the upper floors is commercial in use except for No 9 which has a flat on the 1st floor and a maisonette on the 2nd and 3rd floors. The windows of the flat face 242 – 246 High Holborn rather than the development site and the existing tank enclosure and head of the stairs to No 10 obscures any visibility of the proposed new storey from view, even obliquely, from No 9 Little Turnstile. The proposed new lift shaft extends slightly towards this building and the additional massing makes no difference to the VSC at

the 1st floor, which remains at 2.5% and makes no difference to the VSC at 2nd floor level which remains at 5%.

No 242-246, on the left side of the photograph above, has its fenestration facing over Little Turnstile and the proposed new massing of the building to accommodate the lift shaft will not affect the VSC reaching these windows. As the windows face within 90° of North, they would not fall to be considered for sunlight were they to be residential rather than commercial in use.

Descartes House at 8 Gate Street is entirely commercial in use. At present its lower storeys are obstructed by BAM's site accommodation in connection with the refurbishment of Africa House as can be seen in the photograph below.

Beyond Descartes House can be seen Holborn Chambers, which is, again, commercial in use while beyond that is Nos 2, and 4 Gate Street which are retail at ground floor level and with residential accommodation above. No 6 is also to be converted to residential use from Bar chambers. The construction of the proposed Mansard roof has no effect whatever on the VSC or sunlight reaching the windows to these three buildings.

4.2 METHODOLOGY

We have carried out an analysis of the proposed situations following the methodology set out in the BRE Guide on Sunlight and Daylight. We have considered daylight by means of the vertical sky component analysis and have then calculated the sunlight by the method set out in the Guide to determine the proportion of the annual probable sunlight hours that the surrounding windows will benefit from. The daylight distribution calculations have been done by means of computer-generated spherical geometry and the average daylight factor calculations follow the method set down in Appendix C of the BRE Guide, BS 8206 and BRE Information Paper 15/88. We have worked from the drawings prepared by Michael Lynas Architecture and as these are the planning drawings submitted separately, they are not reproduced here. The drawings studied are those set out in Part 12.0 of the Pre-Application document as follows: P.23 Ground floor plan, P24 1st, 2nd, 3rd and 4th floor plan, P25 5th floor Duplex plan, P26 6th floor Duplex plan, and the proposed elevation drawings at Section 9.0 on Pages 16 and 17 of the Pre-Application document. We have also utilised information from the Ordnance Survey, a copy of which is attached.

4.3 SURROUNDING BUILDINGS - DAYLIGHT

It is evident from our inspection that there are limited residential properties surrounding the development site to be affected by the proposals. The residential accommodation to No 14 Gate Street is unaffected by the proposals since the windows face away from the proposal site. The Ship PH cannot see the proposed additional massing from its windows so is unaffected by the proposals, No 9 Little Turnstile will see no variance to its already very poor levels of VSC at 1st floor level of 2.5% and 2nd floor of 5%. Nos 2 and 4 Gate Street will sustain no variance to the levels of VSC or sunlight to their windows as a result of the proposals.

We have examined the building at 242-246 High Holborn which has an extended ground, 1st and 2nd floor podium with the remainder of the building above and set back The ground floor is configured as a restaurant onto Little Turnstile and a branch of Waitrose on the High Holborn façade. The upper parts appear to be commercial in use and our calculations are that the 1st floor has a VSC of 8% and this remains unaltered by the proposals. The second floor will be significantly more since it is not obstructed by the properties along the opposite side of Little Turnstile but only the buildings on New Turnstile and High Holborn itself. We have then examined the effect on the lowest storey of the main block where we find that the present VSC of 22% will remain the same in the proposed situation. The VSC will rise as one measures the upper storeys, rapidly exceeding 27%.

4.4 EXISTING ACCOMMODATION – ADF

Since there are no variations in VSC to the residential occupancies listed above, there will be no variation to their levels of ADF since θ, the angle of visible sky, remains unaltered and the physical characteristics of the rooms remain unaltered. We have not, therefore, assessed the existing accommodation to determine whether or not the proposed spaces will be provided with adequate daylight by reference to Average Daylight Factors (ADFs).

4.5 SURROUNDING BUILDINGS – DAYLIGHT DISTRIBUTION

Since there are no variations in VSC to the residential occupancies listed above, there will be no variation to their levels of daylight distribution. We have, therefore, not assessed the existing accommodation to determine whether there will be effects on the position of the no-sky line.

4.6 SURROUNDING BUILDINGS – SUNLIGHT

The effect on No 9 Little Turnstile for sunlight is not measurable since the present level of 4% of annual probable hours at 1st floor level with no winter sun at all, remains unchanged At 2nd floor, the level of 8.5% of annual probable hours, again with none during the winter, remains unchanged. As the proposals lie to the North of Nos 2 and 4 Gate Street, there is no effect at all on the sunlight reaching the windows to those buildings as a result of the proposals. No 14 Gate Street is similarly unaffected since its sunlight availability is severely limited by Africa House.

Although the windows to the 1st and 2nd floors of No 242 High Holborn face within 90° of North, the windows to the main block face just south of the East-West line so fall to be considered for sunlight if they serve residential rather than commercial spaces. Our analysis shows that at 3rd floor level, the sunlight penetration is 27.5% of annual probable hours with 1.5% in the winter. This will be reduced by the proposals to 26.5% of annual probable hours with, again 1.5% in the winter. Thus, the annual sunlight penetration is now compliant with the BRE Guide and will remain so as a result of the proposals.

4.7 SUN ON THE GROUND AND SHADOWING

There are no specific gardens to residential properties nor any public squares, sitting-out areas, monuments or fountains as described in the BRE Guide which can be affected by the proposals, we have not produced shadow diagrams. The public gardens in Lincoln's Inn Fields and the monument in Fickets Field are sufficiently distant from the site and lie to the south of the site so that they cannot be affected by the proposals in terms of sunlight.

4.8 PROPOSED NEW ACCOMMODATION – DAYLIGHT DISTRIBUTION

We have assessed the proposed new accommodation to determine whether or not the proposed spaces will be provided with adequate daylight by reference to the daylight distribution or no-sky line within the proposed new rooms. As noted above, the BRE Guide does not set any numerical value as a target for the daylight distribution figure but the rule-of-thumb referred to above is that 50% should be achieved.

Examination of **Table 1 – New Accommodation Daylight Distribution** in Appendix 1 shows that the proportions of the floor area of the accommodation at 1st, 2nd, 3rd, 4th, 5th and 6th floor levels in front of the no-sky line will vary between 91% and 100%. All the residential parts of the building will, therefore have greater than 80% of their respective areas with direct light from the sky.

4.9 PROPOSED NEW ACCOMMODATION – AVERAGE DAYLIGHT FACTORS

We have assessed the proposed new accommodation to determine whether or not the proposed spaces will be provided with adequate daylight by reference to Average Daylight Factors (ADFs). The average daylight factor is a measurement of the VSC at the window face combined with the average reflectances of the surfaces inside the room, the area of the glazing and size of the room. This gives a more detailed assessment for the light that will be available in the space than the more simplistic measure of VSC which gives details of the potential for reasonable daylighting within the space rather than an actual measure of the internal effects. BS 8206 Pt2, which is incorporated into the BRE Guide, recommends that interiors intended to have supplementary electric lighting – in other words, normal building interiors – should have an ADF of 2%. The BS sets minimum standards of 1% for bedrooms, 1,5% for living rooms and 2% for kitchens.

Examination of **Table 2 – New Building ADFs** in Appendix 1 shows that all the rooms proposed on the 1st to 6th floor levels will have levels of ADF which exceed the minimum recommendations set down in the BRE Guide and BS 8206 and all will actually exceed the higher recommendation that all interiors should have ADFs in excess of 2%

Thus, all the rooms within the proposed new accommodation are fully compliant with the BRE Guide's recommendations in terms of Average Daylight Factors..

4.10 PROPOSED NEW ACCOMMODATION – SUNLIGHT

The BRE Guide recommends that new residential accommodation should have at least one window in the living rooms which benefits from sunshine to the extent of 25% of annual probable hours and with a winter proportion of 5%. We have assessed the new residential accommodation on the 1st to 6th floors to ascertain whether they will achieve the recommended level of sunshine. As the spaces are studios, the sunlight impact will affect the whole of each occupancy.

Table 3 – New Building – Sunshine at Appendix 1 shows the results of our analysis. As can be seen from the table, even at 1st floor level the spaces will benefit from levels of sunshine availability of 26% of annual probable hours and with a winter proportion of 8% as against the recommendation of 25% of annual sunshine and 5% of the winter proportion. Thus, the lowest storey is fully compliant with the BRE recommendation and the upper floors show a progressive increase in both annual and winter sunlight availabilities to over double the BRE Guide recommendations for annual hours and triple the recommendation for the winter proportion. The entire building is, therefore, fully compliant with the the BRE Guide recommendations.

5.0 CONCLUSIONS

Compliance with the BRE Guide is not a Planning Criterion and the foreword to the Guide is careful to make this point. The numerical values have to be interpreted carefully and not rigidly. The results of our examination show, however, that there are no surrounding residential buildings that will be affected by the proposals. Within the new buildings to be created, the rooms will have excellent levels of daylight and sunlight and of Average Daylight Factor and will be fully compliant with BRE Guidance. On this basis, and bearing in mind the location of the building, within a densely-developed part of Holborn, we would consider that the results of this analysis show that satisfactory amenities of daylight and sunlight will be provided with the grant of planning consent for the scheme as proposed.

Schroeders Begg Ltd
April 2013

6.0 APPENDICES

APPENDIX 1 - TABLES REFERRED TO IN THE TEXT (TABLES 1-3)

APPENDIX 1

TABLES REFERRED TO IN THE TEXT:-

Table 1 : Proposed new Buildings - Daylight Distribution

Table 2: Proposed new Buildings – Average Daylight Factor

Table 3: Proposed new Buildings – Sunlight Availability

Table 1 - Proposed Building - Daylight Distribution

10 Gate Street

Floor Ref.	Room Ref.	Room Use.		Room Area	Lit Area Proposed
First	R1	Living room	Area m^2	18.55	16.85
			% of room		91%
First	R2	Bedroom	Area m^2	11.35	11.33
			% of room		100%
Second	R3	Living room	Area m^2	18.55	17.14
			% of room		92%
Second	R4	Bedroom	Area m^2	11.35	11.33
			% of room		100%
Third	R5	Living room	Area m^2	18.55	17.67
			% of room		95%
Third	R6	Bedroom	Area m^2	11.35	11.32
			% of room		100%
Fourth	R7	Living room	Area m^2	18.55	18.08
			% of room		98%
Fourth	R8	Bedroom	Area m^2	11.35	11.33
			% of room		100%
Fifth	R9	Living room	Area m^2	31.75	31.68
			% of room		100%
Sixth	R10	Bedroom	Area m^2	10.12	10.12
			% of room		100%
Sixth	R11	Bedroom	Area m^2	9.74	9.74
			% of room		100%

Table 2 - New Buildings Average Daylight Factor

10 Gate Street

Floor Ref.	Room Ref.	Room Use	Window Ref.	ADF Proposed	Req'd Value	Pass/Fail
First	R1	Living room	W1	1.16		
			W2	1.16		
				2.32	1.5	PASS
First	R2	Bedroom	W3	1.56		
			W4	1.49		
				3.05	1.0	PASS
Second	R3	Living room	W5	1.29		
			W6	1.28		
				2.57	1.5	PASS
Second	R4	Bedroom	W7	1.70		
			W8	1.60		
				3.30	1.0	PASS
Third	R5	Living room	W9	1.06		
			W10	1.06		
				2.12	1.5	PASS
Third	R6	Bedroom	W11	1.41		
			W12	1.31		
				2.72	1.0	PASS
Fourth	R7	Living room	W13	1.24		
			W14	1.26		
				2.50	1.5	PASS
Fourth	R8	Bedroom	W15	1.73		
			W16	1.61		
				3.34	1.0	PASS
Fifth	R9	Living room	W17	0.52		
			W18	0.52		
			W19	0.53		
			W20	0.51		
				2.08	1.5	PASS

Table 2 - New Buildings Average Daylight Factor

Floor Ref.	Room Ref.	Room Use	Window Ref.	ADF Proposed	Req'd Value	Pass/Fail
Sixth	R10	Bedroom	W21	1.37		
			W22	1.40		
				2.77	1.0	PASS
Sixth	R11	Bedroom	W23	1.47		
			W24	1.50		
				2.97	1.0	PASS

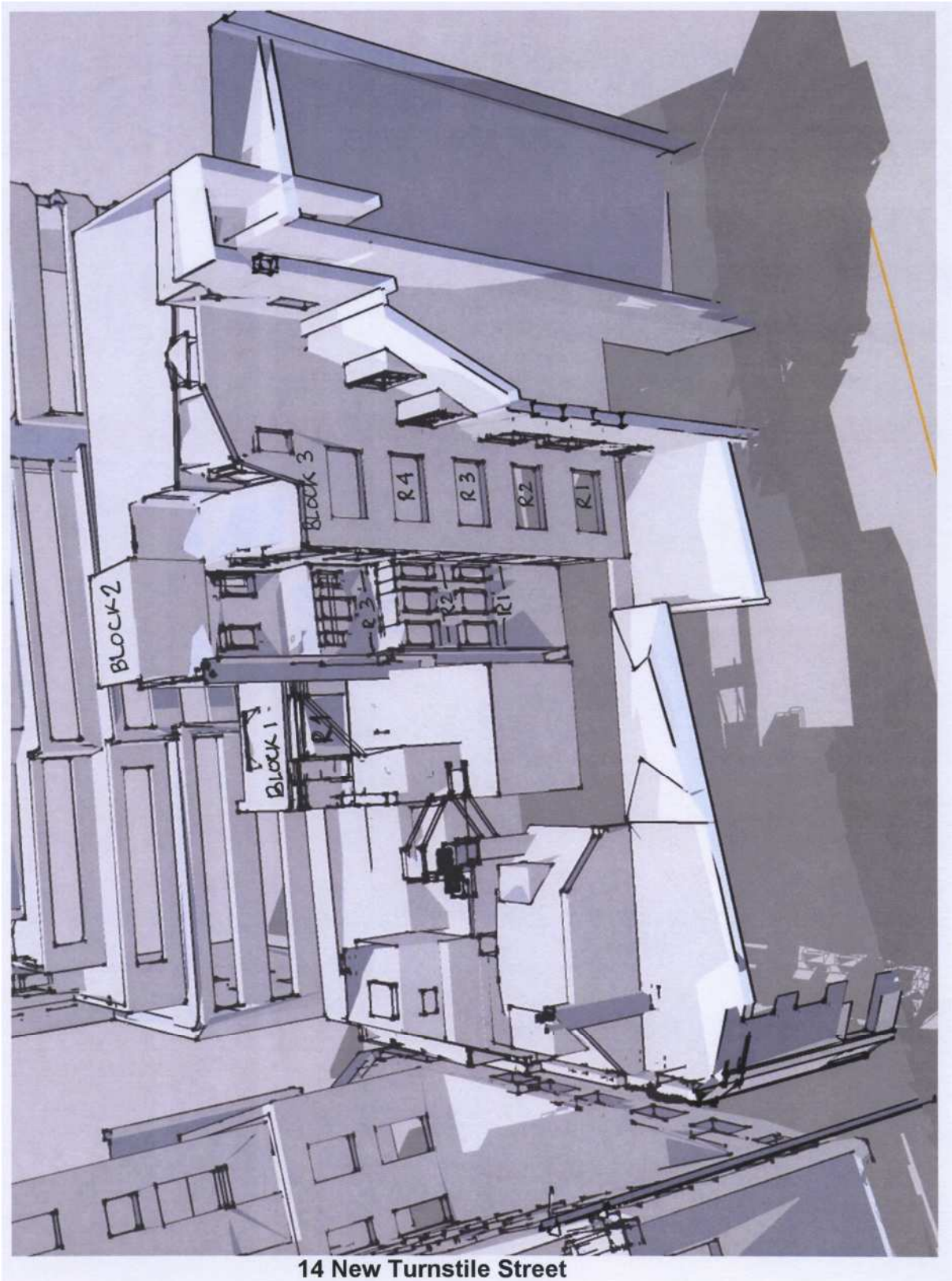
Table 3 - New Buiilding - Sunlight

Floor Ref.	Window Ref.		Available Sunlight Hours Annual %	Winter %
10 Gate Street				
First	W1	Existing	n/a	n/a
		Proposed	27	7
First	W2	Existing	n/a	n/a
		Proposed	26	8
Second	W5	Existing	n/a	n/a
		Proposed	35	9
Second	W6	Existing	n/a	n/a
		Proposed	34	10
Third	W9	Existing	n/a	n/a
		Proposed	43	10
Third	W10	Existing	n/a	n/a
		Proposed	43	12
Fourth	W13	Existing	n/a	n/a
		Proposed	51	13
Fourth	W14	Existing	n/a	n/a
		Proposed	50	13
Fifth	W17	Existing	n/a	n/a
		Proposed	54	15
Fifth	W18	Existing	n/a	n/a
		Proposed	56	15
Fifth	W19	Existing	n/a	n/a
		Proposed	57	16
Fifth	W20	Existing	n/a	n/a
		Proposed	50	17

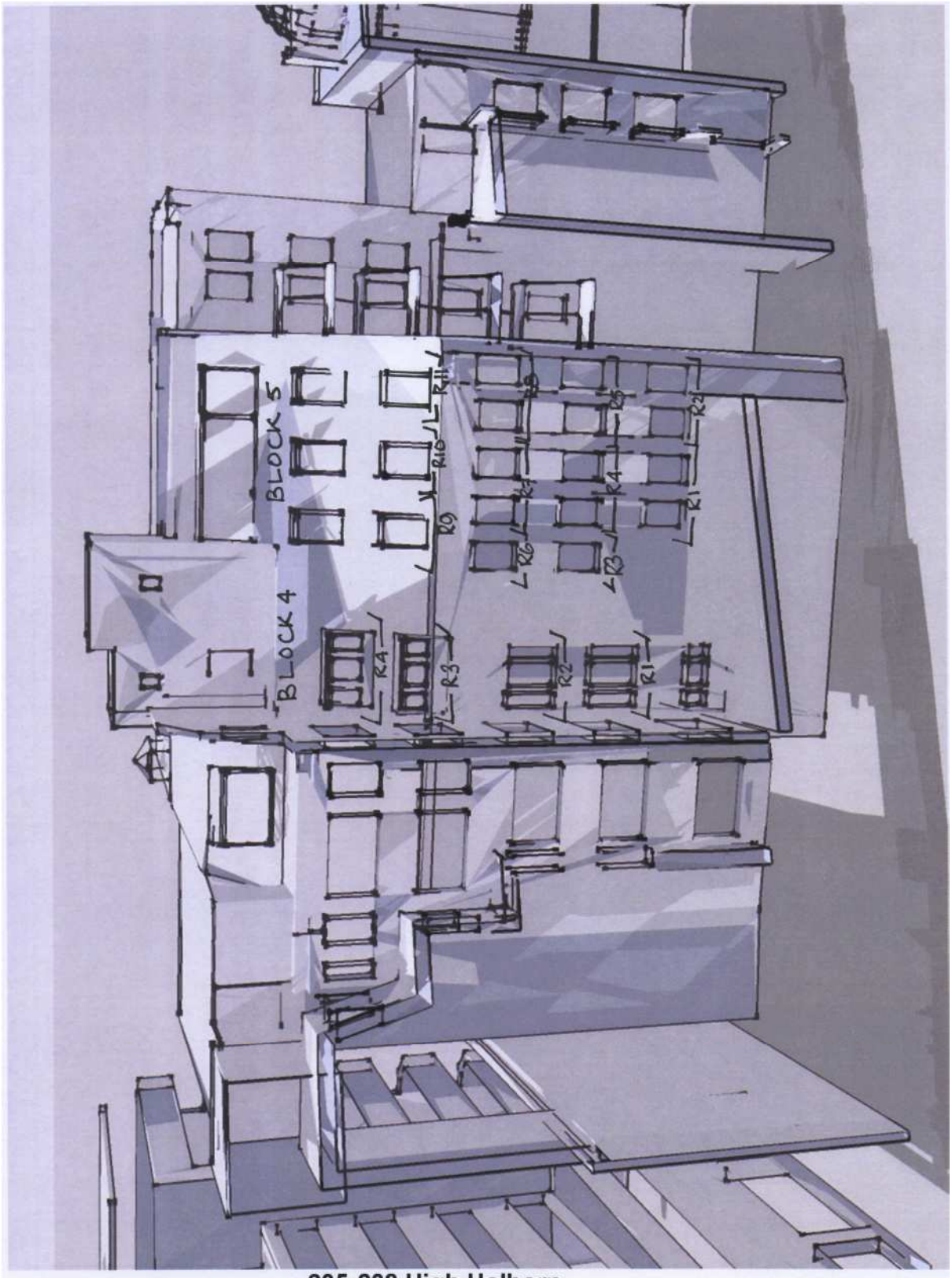
APPENDIX 2

Ordnance Survey Extract
Window locations and numbering

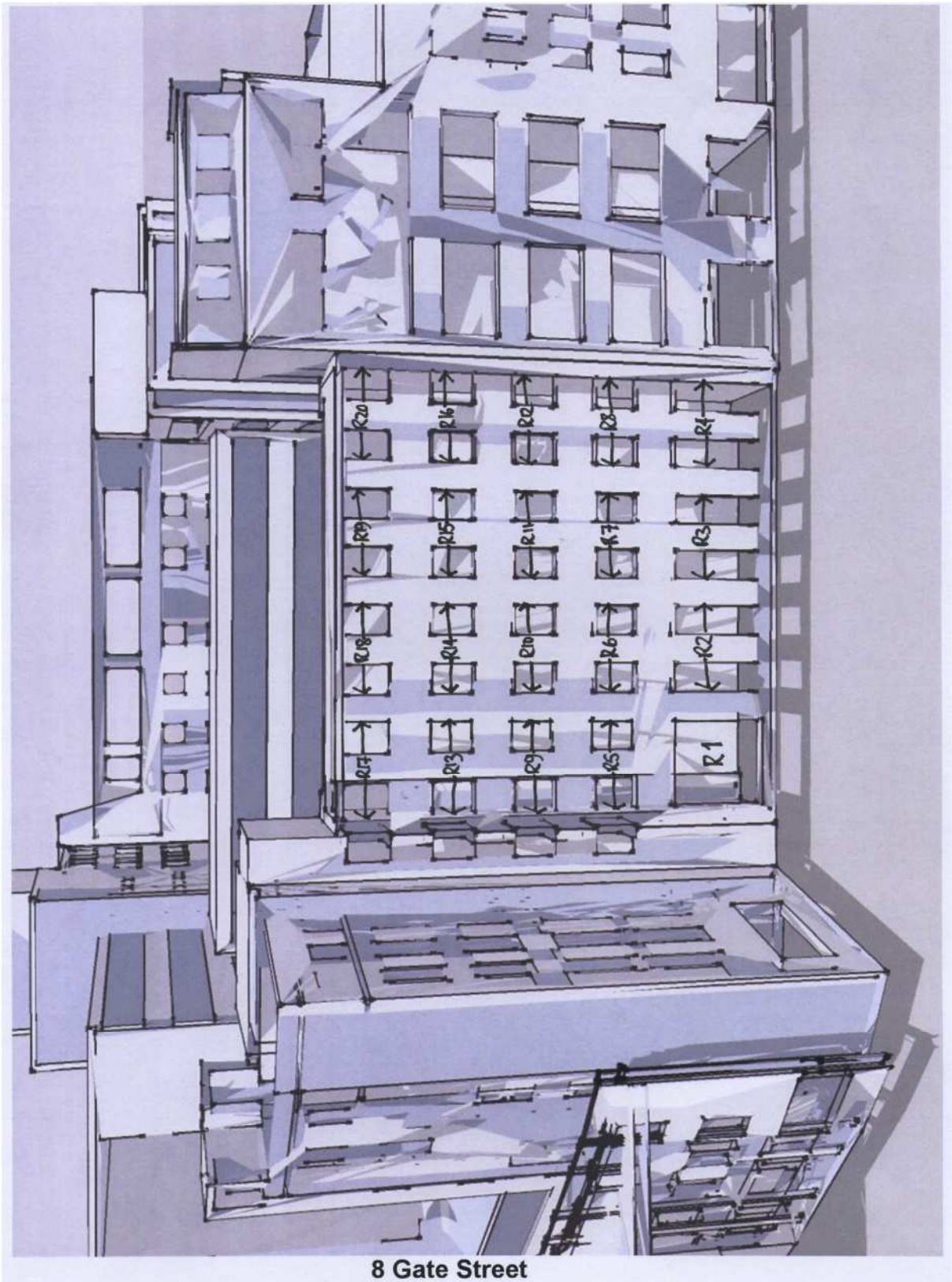
Ordnance Survey extract, 1:500 @ A4



14 New Turnstile Street



235-238 High Holborn



8 Gate Street

Africa House