DAYLIGHT & SUNLIGHT REPORT

relating to the

PROPOSED REFURBISHMENT

of

47-49 GOODGE STREET LONDON W1

Prepared by:

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1.0 EXECUTIVE SUMMARY

The findings detailed in this daylight and sunlight report shows that the proposals will have no adverse effect on the neighbouring property at 14 Charlotte Place (having assessed the nearest neighbouring windows to the proposal at lower ground and ground floor levels) since the proposal satisfies guidance provisions of the BRE document "Site Layout Planning for Daylight and Sunlight – a Guide to Good Practice, 2011, which is the standard benchmark for such review in reference to London Borough of Camden's policies on sunlight and daylight. We also highlight that the proposed increase in massing relates only to effectively a single-storey infill at ground floor level with a flat roof detail, thus, the increased massing on the site is fairly minimal.

For the proposed habitable rooms to be formed, these satisfy the requirements in terms of daylight (average daylight factor – ADF) in reference to the requested sampled Studio flat 02 (second floor), so that the proposed new habitable rooms in this respect will have adequate daylight.

2.0 OVERVIEW

Given the proposed infill extension to No 47-49 Goodge Street at ground floor, the nearest windows and skylights (at lower ground and ground floor level) to the neighbouring property at No 14 Charlotte Place have been considered.

In terms of daylight analysis, this has been considered on the basis of both vertical sky component (VSC) and average daylight factor (ADF). The skylights under consideration at lower ground floor serve a living room with the ground floor windows serving a bedroom, and for the purpose of ADF analysis, we have utilised information available within the public realm on the local council planning portal for the current spatial room arrangement of No 14 Charlotte Place.

The proposals to No 47-49 Goodge Street are shown in detail on the planning drawings and we have, therefore, not reproduced these here except as existing and proposed perspective drawings showing the proposal and the neighbouring building window locations / references (please see Appendix 1) to enable the analysis tables and other descriptions in this report to be more readily understood.

3.0 INSTRUCTIONS

Our instructions are to assess the effects of the planning proposals, on the neighbouring property at No 14 Charlotte Place for the nearest windows / skylights located to the rear of the property, at lower ground and ground floor in terms of daylight & sunlight review and to report our findings for submission to the local planning authority.

We have also undertaken self-test assessment of daylight to the requested sampled Studio flat 02 (second floor).

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. There is no national planning policy relating to daylight and sunlight and overshadowing impacts. General guidance is, however, given on the need to protect existing amenity as set out in the National Planning Policy Framework.

The local planning authority, The London Borough of Camden's, policies on sunlight and daylight is set out within its Core Development Strategy :-

Camden Core Strategy policy CS5 – *Managing the Impact of Growth and Development*
Camden Core Strategy policy CS14 – *Promoting high quality places and conserving our heritage*
Policy DP26 – *Managing the impact of development on occupiers and neighbours*

And in particular the following Supplementary Planning Document (SPDs) is applicable :-

Camden Planning Guidance (CPG) 6 – Amenity – Chapter 6 – Daylight & Sunlight

From *CPG 6 - Chapter 6 – Daylight & Sunlight* has the following "*key aspect" from this chapter as* :-

- ***We expect all buildings to receive adequate daylight and sunlight***
- ***Daylight and sunlight reports will be required where there is potential to reduce existing levels of daylight and sunlight***
- ***We will base our considerations on the Average Daylight Factor and Vertical Sky Component***

Paragraph 6.4 of *CPG 6 - Chapter 6 – Daylight & Sunlight* states that 'a daylight and sunlight report should assess the impact of the development following the **methodology set out in the most recent version of Building Research Establishment's (BRE) "Site layout planning for daylight and sunlight : A guide to good practice"**

The planning application is in the London Borough of Camden and we have utilised for daylight and sunlight analysis, the BRE Guide, "Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice" 2011 (2nd edition) which is the current, objective method, of assessing the effects on the amenity of light to surrounding properties.

When considering the Guide's requirements, it is important to remember that the Guide is not to be viewed as 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, which are predicated on a more extensive suburban context, may not be obtainable in dense urban areas where the grain of development is tight while higher values might well be desirable in rural areas where the grain is contrastingly open.

London Borough of Camden acknowledge this within Paragraph 6.18 of *CPG 6 - Chapter 6 – Daylight & Sunlight* states that *'.....the Council recognises that not all of the guidance contained within the BRE document, particularly orientation, can be adhered to in all developments due to the dense and constrained urban nature of Camden".*

4.2 METHODOLOGY

We have carried out an analysis of the proposed situations following the methodology set out in the BRE Guide "Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice". We have considered neighbouring daylight, in terms of vertical sky component (VSC) and average daylight factor (ADF) in reference to London Borough of Camden's policies. We have also considered sunlight, in terms of annual probable sunlight hours (APSH) as under the BRE Guide.

We have not considered the BRE Guides initial 'rules of thumb / preliminary guidance' in respect of the '25° test' or '45°approach' but focused on the detailed analysis in respect of VSC, ADF and APSHs which forms the basis of this report.

We have utilised an Ordinance survey extract, details from site inspection and the design drawings, with supplementary modelling applicable to form an existing and proposed model for analysis and have utilised industry recognised specialist software for daylight/sunlight review.

Whilst we have not accessed any neighbouring properties, we have made reasonable assumptions and interpreted where necessary, likely room arrangements / uses to No 14 Charlotte Place based from our review of the exterior and utilising in part, information available on the plan layouts found within the public realm.

4.3 SURROUNDING BUILDINGS - DAYLIGHT (VSC)

The BRE Guide sets out the first criterion for assessing the effects of a proposal on the existing built environment. The first is that if the proposals subtend an angle less than 25° from a point on the adjoining window wall 2m above ground level. We have not considered whether the proposal subtends an angle greater than 25° or not since this is an initial basic test and relies more on uniform massing / obstruction. When this test is undertaken it is not a 'pass' or fail', it is simply that '*if for any part of the new development, this angle is more than 25°, a more detailed check is needed to find the loss of skylight to the existing building. Both the total amount of skylight and its distribution within the building are important*'.

Thus, we have considered the skylight by reference to the standard procedure of vertical sky component (VSC) and with a target value, if the VSC, with the new proposals in place is both, less than 27% and less than 0.8 times its former value, occupants of the existing / neighbouring building will notice the reduction in the amount of skylight. The maximum value obtainable at a flat window in a vertical wall is 40%.

Proceeding with VSC, for the lower ground floor skylights and the ground floor windows at the rear of 14 Charlotte Place, **Table 1 - VSC for neighbouring No 14 Charlotte Place** sets out the results of our examination. This shows the VSC in the existing and proposed situations, based on the Architects' design proposals. The assessment ascertains the daylight currently reaching these windows and what effects the alterations as proposed will have on the existing situation.

Table 1 - VSC for neighbouring No 14 Charlotte Place

Floor Ref.	Room Ref.	Room Use.	Window Ref.		VSC	Pr/Ex
Lower Ground	R1	Living Room	W1	Existing	18.90	1.00
				Proposed	18.90	
			W2	Existing	22.44	1.00
				Proposed	22.44	
			W3	Existing	23.78	0.89
				Proposed	21.33	
			W4	Existing	0.03	1.00
				Proposed	0.03	
			W5	Existing	16.30	1.00
				Proposed	16.30	
			W6	Existing	5.23	1.00
				Proposed	5.23	
Ground	R2	Bedroom	W1	Existing	5.70	1.00
				Proposed	5.70	

From **Table 1** the following results can be summarised;

There is one isolated reduction of 11% in VSC to the lower ground floor skylight W3. Given that the reductions in daylight VSC does not exceed 20%, the target criteria within the BRE Guide is readily satisfied / there is no adverse effect.

4.4 SURROUNDING BUILDINGS - DAYLIGHT (ADF)

The average daylight factor is a measurement of the VSC (theta) at the window face combined with the average reflectance's of the surfaces inside the room, the area of the glazing and size of the room. This gives detailed assessment for the light that will be available in the space as opposed to the 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 sets minimum standard ADF's of 1% for bedrooms, 1.5% for living rooms and 2% for kitchens.

Using the information previously highlighted, for No 14 Charlotte Place, we have assessed the ADF calculation both as existing and as proposed to show what effects the proposal will have in terms of the daylight penetration into the applicable rooms. **Table 2 – Average Daylight Factor for neighbouring No 14 Charlotte Place** sets out the results of our assessment. This shows the ADF results in the existing and proposed situations, based on the Architects' design proposals.

Table 2 – Average Daylight Factor for neighbouring No 14 Charlotte Place

Floor Ref.	Room Ref.	Room Use.	Window Ref.	ADF Existing	ADF Proposed	Target Value	Pr/Ex
Lower Ground	R1	Living Room	W1	0.37	0.37		
			W2	0.41	0.41		
			W3	0.42	0.39		
			W4	0.00	0.00		
			W5	0.76	0.76		
			W6	0.00	0.00		
				1.96	1.93	1.50	0.98
Ground	R2	Bedroom	W1-L	0.13	0.13		
			W1-U	1.39	1.39		
				1.51	1.51	1.00	1.00

From **Table 2**, it can be seen in terms of the rooms (served by applicable windows) analysed for 14 Charlotte Place, there is a negligible loss in terms of ADF for the living room and the residual ADF in the proposed scenario is still significantly greater than the minimum ADF target of 1.5% for living rooms, thus, the room still retains reasonable daylight / BRE guide targets criteria is met. There is no ADF reduction to the bedroom.

4.5 SURROUNDING BUILDINGS - SUNLIGHT (APSH)

On sunlight, only the windows that face within 90° of south, that is to say, facing from 90° to 270°, are normally considered under the sunlight criteria. We have, therefore, assessed the windows with this orientation. Within **Table 3 - Sunlight for neighbouring No 14 Charlotte Place**, the windows that face within 90° of north (which is to say, from 270° to 360° and from 360° to 90°), are marked as "north" are north facing and these windows are not, therefore, considered for sunlight.

The BRE recommendation is that windows facing within 90° of South should have 25% of annual probable hours with 5% in the winter months (from the autumn equinox to the spring equinox). Where reductions below the recommended levels are contemplated, these should be target limited to one fifth or 0.2 times the present value (unless a reduction of sunlight received over the whole year is not greater than 4% of annual probable sunlight hours).

To highlight, analysis review of windows primarily relates to main living rooms and conservatories i.e. sun important rooms as per the BRE Guide. Notwithstanding this, we have analysed all habitable windows for sunlight review as considered previously for daylight.

Table 3 - Sunlight for neighbouring No 14 Charlotte Place

Floor Ref.	Room Ref.	Room Use.	Window Ref.		Annual %	Winter %
Lower Ground	R1	Living Room	W1	Existing	0	0
				Proposed	0	0
			W2	Existing	3	0
				Proposed	3	0
			W3	Existing	5	0
				Proposed	5	0
			W4	Existing	0	0
				Proposed	0	0
			W5	Existing	*North*	
				Proposed		
			W6	Existing	*North*	
				Proposed		
Ground	R2	Bedroom	W1	Existing	*North*	
				Proposed		

As can be seen from **Table 3**, in terms of sunlight to the habitable rooms assessed, there is no loss to sunlight, thus, the analysis readily adheres to the BRE Guide target criteria in reference to both APSH and winter ('Total suns per room' – existing and proposed). In summary, the proposal does not result in any sunlight loss in reference to the BRE Guide.

4.6 SELF-TEST OF DAYLIGHT (AVERAGE DAYLIGHT FACTOR – ADF)

As per our brief we have assessed the proposed new accommodation Studio 2 at second floor to determine whether or not the proposed space will be provided with adequate daylight by reference to Average Daylight Factors (ADFs). The average daylight factor is a measurement of the VSC (theta) at the window face combined with the average reflectance's of the surfaces inside the room, the area of the glazing and size of the room. This gives detailed assessment for the light that will be available in the space as opposed to the 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 sets minimum standard ADF's of 1% for bedrooms, 1.5% for living rooms and 2% for kitchens.

We have analysed ADFs to Studio 2 within the refurbished second floor, the results of this analysis are set out in **Table 4 – Self-test – Average Daylight Factor – Studio 2**.

Table 4 – Self-test – Average Daylight Factor – Studio 2

Floor Ref.	Room Ref.	Room Use.	Window Ref.	ADF Proposed	Target Value
Second	R1	Studio	W1-L	0.01	
			W1-U	0.57	
			W2-L	0.01	
			W2-U	0.58	
			W3-L	0.03	
			W3-U	0.93	
				2.12	1.50

In terms of applicable open-plan arrangements for 'kitchen/ living/ studio' (as in this case studio room / bedroom area) we have taken the target ADF for the predominant room use which being primarily 'living room', we have allowed a target ADF of 1.5%. Our assessment confirms that proposed Studio 2 meets / exceeds the ADF target criteria.

In summary, the sampled Studio 2 (second floor) within the refurbishment meets the recommendations of the BRE Guide and BS 8206 in terms of ADFs.

5.0 CONCLUSION

For neighbouring daylight review, our assessment shows that the proposals will have no adverse effect on the neighbouring property at 14 Charlotte Place (having assessed the nearest neighbouring windows to the proposal at lower ground and ground floor levels) since the proposal satisfies guidance provisions of the BRE document

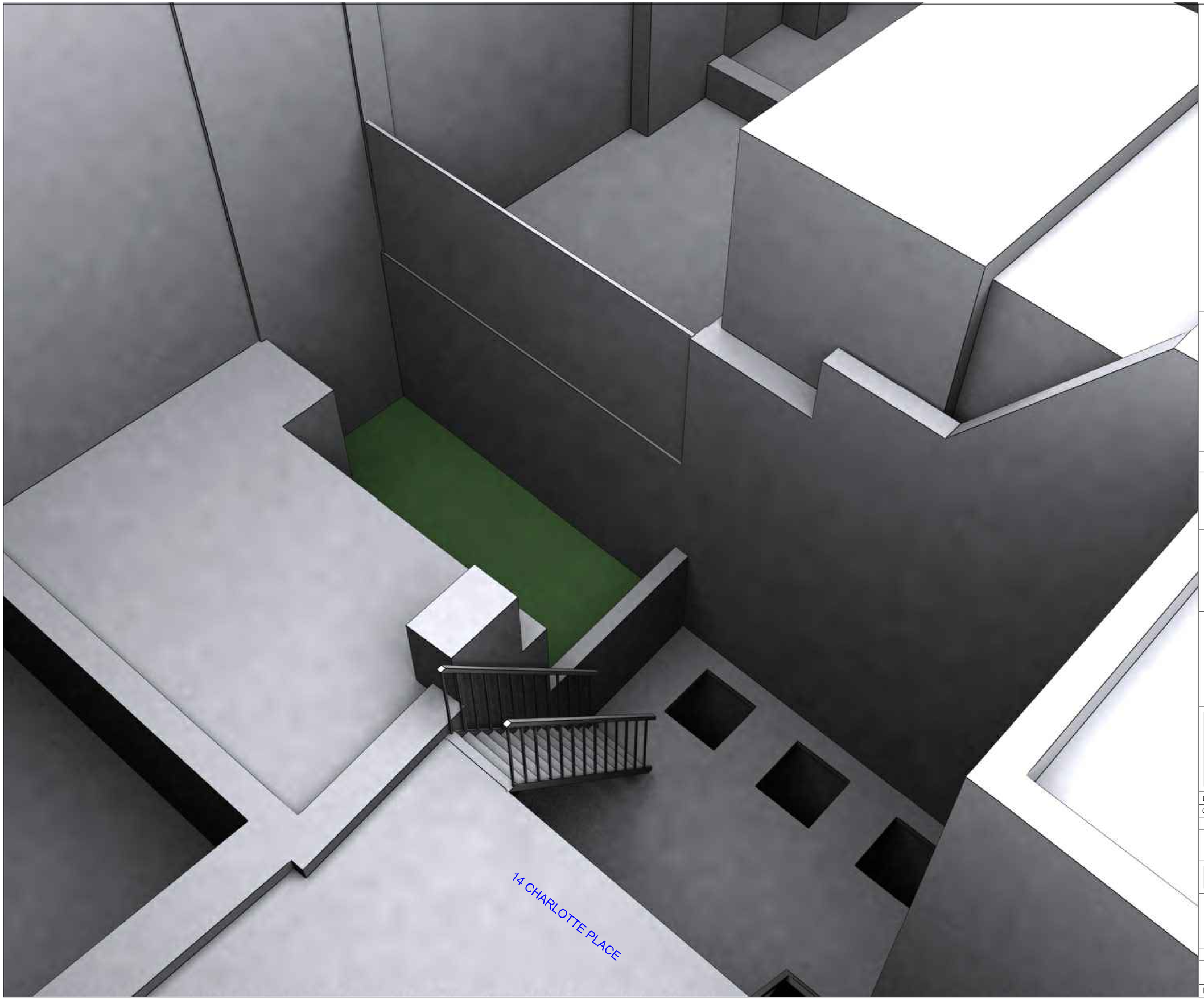
For sunlight review, BRE Guide target criteria is met for sunlight ('total suns') in that there is no loss in reference to the applicable habitable rooms within 14 Charlotte Place, so adhere to the BRE Guide target criteria / there is no effect.

Therefore, it is considered the proposal, does not have any adverse effect on neighbouring daylighting or sunlight.

For the proposed new habitable space within sampled Studio 2, this satisfies the requirements in terms of provision of adequate daylight (Average Daylight Factor) so that this meets the BRE Guide target criteria (and BS8206 for daylight).

6.0 APPENDICIES

Appendix 1 - Perspective views with neighbouring window Reference



SOURCES

REV.	NOTES	DWN	DATE

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DRAWN	-
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SCALE

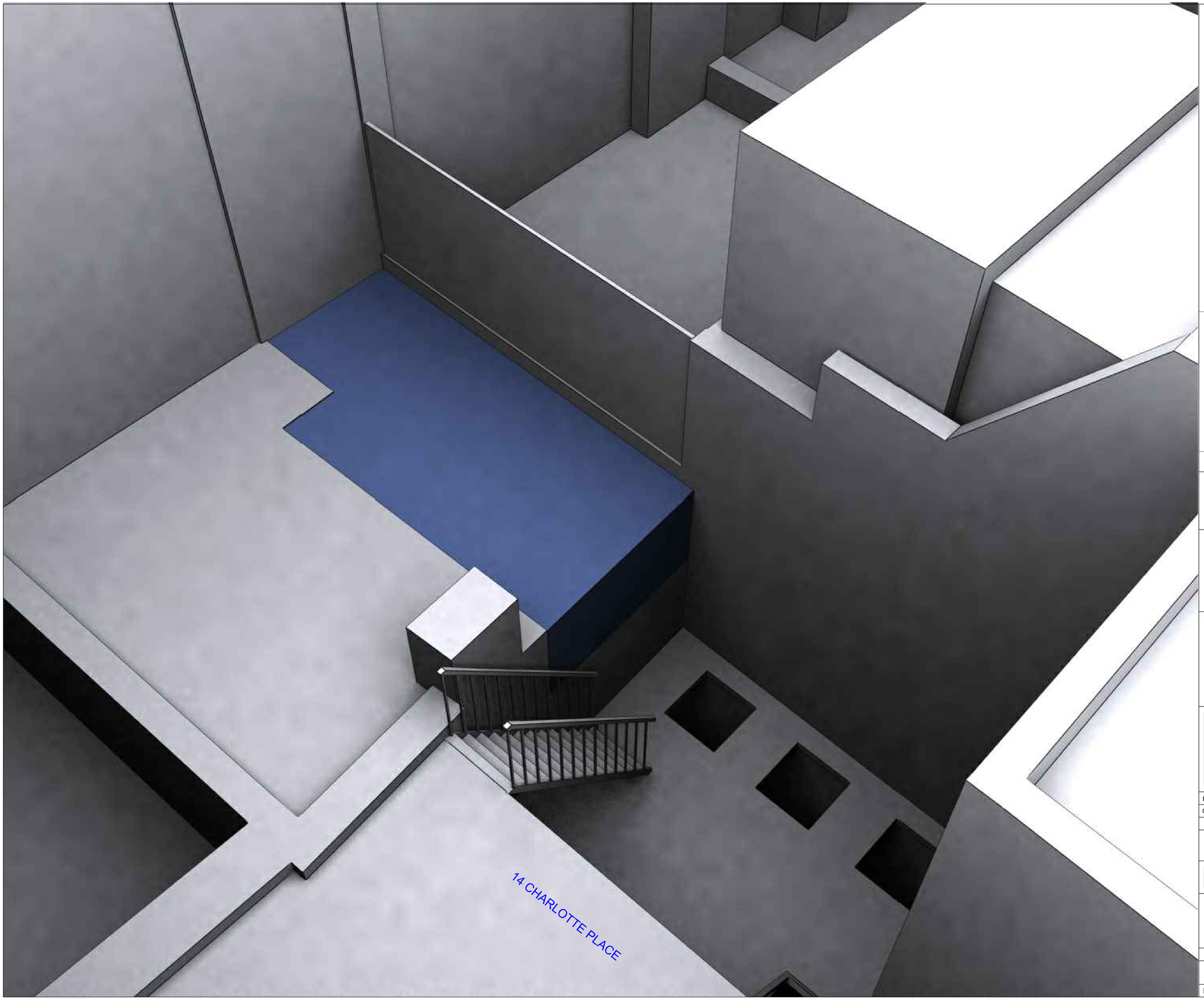
NTS (A3 Sheet)

47-49 Goodge St, W1

Perspective View Existing

Job No	Rev	Drawing Number
200T	-	01

Date : 290917



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CHECKED	-

SCALE

NTS (A3 Sheet)

47-49 Goodge St, W1

Perspective View Proposed

Job No	Rev	Drawing Number
200T	-	02

Date : 290917

SOURCES

REV.	NOTES	DWN	DATE

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NTS (A3 Sheet)

47-49 Goodge St, W1

Window Map

Job No	Rev	Drawing Number
200T	-	03

Date : 290917