

The Directorate
Planning & City Development
City of Westminster
Westminster City Hall
64 Victoria Street
London SW1E 6QP

Our Ref : DJJ/J0591-01-01

DATE : 5th OCTOBER 2012

c/o Nicholas Taylor & Associates, 128 Southwark Street, London SE1 0SW

Dear Sirs

TOWN and COUNTRY PLANNING ACTS -Daylight and Sunlight Assessment
Site Address : 108 Cleveland Street – London W1

1.00 INSTRUCTIONS :

1.01 It is proposed to extend the existing premises at basement and ground floor rear, fronting onto Warren Mews, for residential use, 'the application proposal'.

1.02 I have been requested by the applicant's, care of Nicholas Taylor & Associates, to verify to the Local Planning Authority that the application proposal will not materially impact on the daylight and sunlight amenity enjoyed by 110 Warren Mews 'the adjoining property', and that the accommodation will in itself enjoy adequate interior daylight for residential use.

2.00 VERIFICATION :

2.01 By my analysis and conclusion below, I can confirm that the application proposal will not detrimentally affect the existing daylight and sunlight amenity of the adjoining property, and will enjoy adequate interior daylight for itself; and, that accordingly it meets approved public policy for planning good daylight and sunlight.

/Continued

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3.00 TERMS OF REFERENCE :

3.01 The Building Research Establishment Practice Guidance Report, Site Layout Planning for Daylight and Sunlight, a Guide to Good Practice, 2nd Ed. BR209 Oct. 2011 – “The BRE Guidelines”; and, the British Standards Code of Practice for Daylighting BS8206-2:2008.

3.02 The drawings produced by Norton Ellis Architects forming a part of the planning application, extracted for modelling purposes in the attached appendix J0591-A01, and the appended daylight calculation sheet J0591-A02.

4.00 BRIEF COMMENTARY :

4.01 All daylight is sunlight, and by the terms of reference *daylight* means the suns dispersed radiation, diffused by the earth's atmosphere (Commission Internationale de l'Eclairage - CIE standard overcast sky), and northern hemisphere *sunlight* means the suns southerly radiation unobstructed by cloud formation.

4.02 Broadly in planning for good daylight and sunlight, the guidelines seek to assess the pointance quantity of sky visible at the centre of a window in a building with respect to the vertical plane, expressed as a percentage of the total dome of sky [*vertical sky component, VSC*]. Subject to any qualifying conditions that may apply to a particular situation, the preference value sought for new development is 27% for the main habitable rooms in any overlooking residence, and the same for itself pro-rata.

4.03 In these circumstances the main habitable rooms of neighbouring buildings will have a good standard of daylight and probable sunlight according with the degree of orientation to the south, and the development proposal will enjoy the same for itself.

4.04 However, in any densely built urban environment, there is frequently an accustomed abidance by inhabitants, of less than the guideline preference value of 27%, so that where a development proposal involves the extension and alteration of existing buildings, or the entire replacement of existing buildings with others, then more detailed terms for assessing acceptable daylight and sunlight standards for the changing characteristics of a particular neighbourhood, are required.

4.05 These more detailed terms are born out of the following principal areas for analysis :

4.06 **DAYLIGHT :**

- (i) Daylight reduction to accustomed levels in existing overlooking neighbour property, where levels are less than the given daylighting preferences.

- *An assessment of exterior percentage reduction of Vertical Sky Component and interior percentage reduction of Daylight Distribution over the room Illumination Plane, before and after the development proposal.*

- (ii) Daylighting levels approved for development by local public policy, relative to the application curtilage boundary in enabling similar development on adjoining land to take place.

- *An assessment of interior daylighting levels, within both approved neighbouring built accommodation and the development proposal itself.*

4.07 The guidelines suggest that a reduction of VSC and daylight distribution over the room interior illumination plane, of more than 0.8 times its former value, is likely to be noticeable by inhabitants, meaning then if this is the case, more detailed room interior daylight calculations may be necessary with reference to the following criteria :

- (i) The percentage Average Daylight Factor within a subject room (*adf*)
(ii) For rooms lit by windows in one wall only : A Limiting Value for room depth (*L*)
(iii) The significance of Daylight Distribution (*D*) spread over the Illumination Plane (*Ip*) of a room, with reference to the No-Sky-Line (*nsf*).

4.08 These criteria seek to collectively apply found values for vertical sky component with the internally and externally reflected components, to give an average daylight factor, and then weigh this with an assessment of the relationship of the size and shape of any given windows with respect to the size and shape of the rooms they serve.

4.09 **SUNLIGHT:** According with orientation towards the southern quadrant for analysis on the vernal and autumnal equinox : E-180°W in the azimuth, "*the sun-path arc*";

- (i) Sunlight probability reduction to accustomed levels in existing overlooking neighbour property, where levels are less than given sunlight probability preferences.

- *An assessment of the percentage reduction of expectant annual probable sunshine to southerly facing windows and ground amenity area in permanent shadow, before and after the development proposal.*

- (ii) Access for sunlight probability through windows and sun-on-the-ground, both within a development proposal and for neighbouring property.

- *An assessment of the expectant annual probable sunshine to southerly facing windows and percentage ground amenity area in permanent shadow.*

4.10 The guidelines seek an annual probable sunshine of 370 hours at latitude 51.5° (25% of total annual probable sunshine) of which 75 hours (5%) are in the winter months, to and through the windows of any main habitable room, and that if the existing value is less than this, then a reduction of more than 0.8 times is likely to be noticeable by inhabitants.

4.11 Also the guidelines express a preference for one half of a garden private amenity to receive 2 hours of probable sunshine on the ground at the equinox, though if the existing value is less than this, then similarly a reduction of more than 0.8 times is likely to be noticeable by inhabitants,

4.12 Broadly the recommendation is that all of the above given criteria are applied flexibly and that the guidelines are interpreted permissively rather than restrictively

5.00 ANALYSIS and FINDINGS :

5.01 Exterior Daylight - please see appendix J0591-A01. I have identified the station points SPB and SPC, as representing the points of greatest impact on the face of the adjoining property, and it may be seen by observation that the proposal has been designed to fall within the existing built townscape horizon line, so that there will be no change brought.

5.02 Interior Daylight - Proposed Basement Bedroom R1 - Please see appendix J0591-A02.

(i) The found average daylight factor : $ADF = 1.1\%$

(ii) The found limiting value for room depth : $L = 6.0m$

(iii) The found daylight distribution : $DD = 40\%$

(including daylight spread over spiral stair area from skylight above)

Observations : The average daylight factor percentage supports the use of this room as bedroom, and the designed room depth at 2.8m (from glazed pane) is well within the limiting value of 6m for room depth which with the daylight distribution over the front zone area, implies the room will have a sufficient level of interior daylight for its proposed habitable use.

5.03 From the above findings I can also comment by observation that the proposed habitable room above at ground floor level which is similar in shape and size, but has a higher vertical sky component percentage and greater daylight distribution over the illumination plane will also enjoy a sufficient level of interior daylight for its proposed use.

/Continued from sheet 4

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Sheet 5 of 5 sheets

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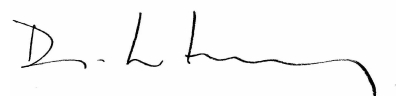
TOWN and COUNTRY PLANNING ACTS - DAYLIGHT and SUNLIGHT ASSESSMENT

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6.00 CONCLUSION :

6.01 I can conclude that the proposal has been well designed with respect to Government criteria and will enjoy a sufficiency of interior daylight for its proposed habitable purposes and will not impact on the daylight or sunlight amenity of adjoining property.

Yours faithfully



Donald Jessop BSc FRICS MCIArb

Jessop Associates

APPENDICES

[NOT PAGINATED]

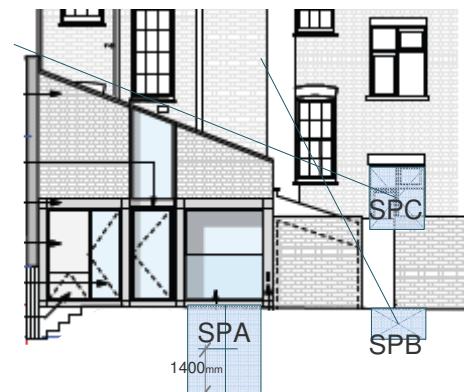
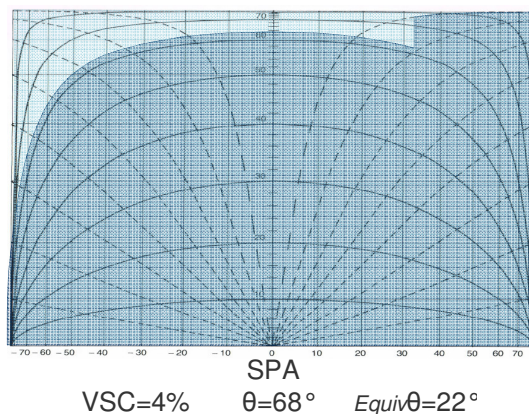
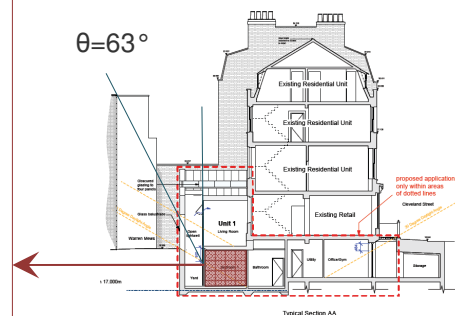
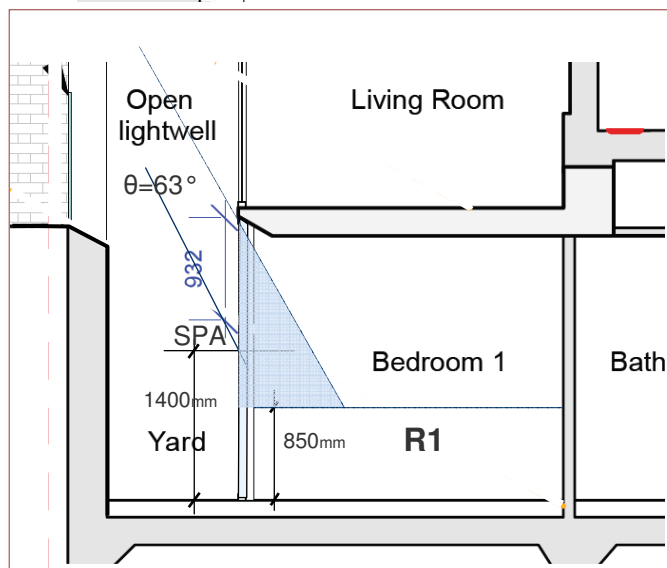
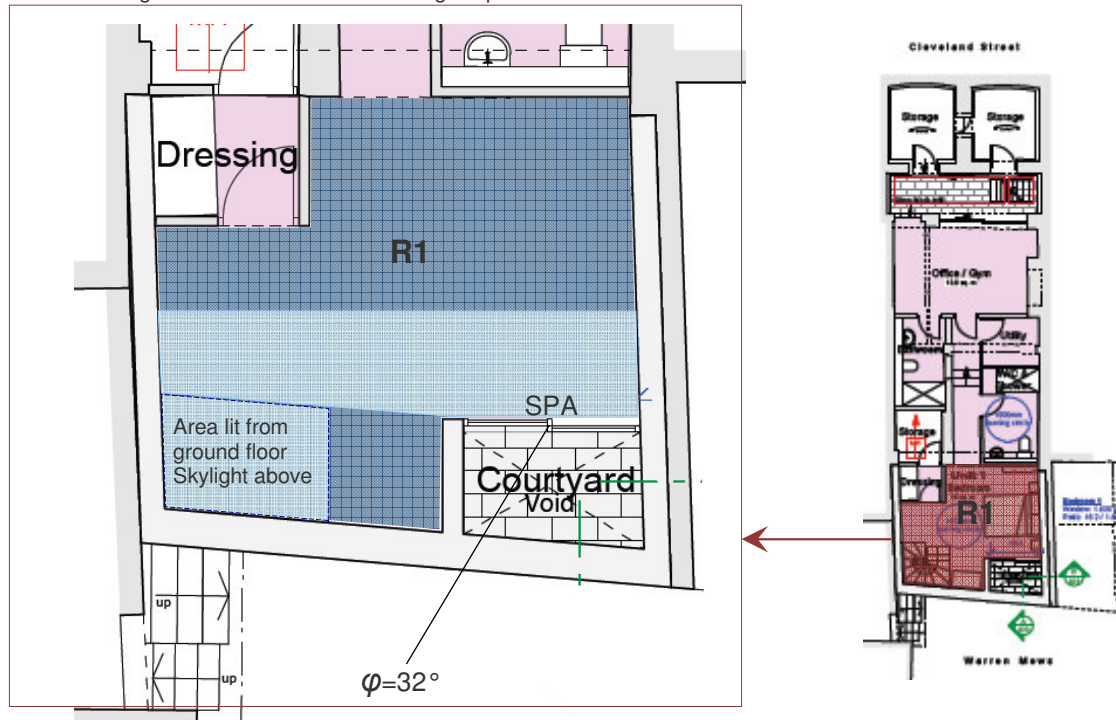
EXTRACT ANALYSIS DRAWINGS

- | | |
|------------------|---|
| J0591-A01 | Interior and Exterior Daylight Analysis Model for SPA, SPB and SPC – Angles in the Azimuth and Zenith and Waldram Diagram Analysis – and Daylight Distribution over room Illumination Plane |
| J0591-A02 | Interior Daylight Calculation Sheet for Average Day Factor and Limiting Room Depth |

SITE ADDRESS : 108 CLEVELAND STREET LONDON W1

TOWN and COUNTRY PLANNING ACTS (BRE Guideline Criteria)
 EXTERIOR VSC ANALYSIS FOR IMPACT ON NEIGHBOURING BUILDING
 INTERIOR DAYLIGHT DISTRIBUTION OVER ROOM ILLUMINATION PLANE
 AVERAGE DAYLIGHT FACTOR AND ROOM DEPTH ANALYSIS

Extract Drawing for Identification and Modelling Purposes ONLY - Reduced Scale - OCTOBER 2012



INTERIOR DAYLIGHT CALCULATION SHEET

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Interior Day Lighting Calculations

Average Daylight Factor : $adf = \frac{T[A_{\omega 1} \theta_{\omega 1} + A_{\omega 2} \theta_{\omega 2} + \dots + A_{\omega N} \theta_{\omega N}]}{A(1-R^2)} \%$

Limiting Value for Room Depth : $L \leq \frac{2WH}{(W+H)(1-R_b)}$

Analysis :

Basement Bedroom “R1”

- (i) adf = 1.1% $[A = 62.3m^2 ; A_{\omega} = 3.5m^2 ; \theta_{\omega} = 22^{\circ} ; T = 0.68 ; R = 0.5]$
- (ii) L = 6.0m $[W = 4.1m, H = 2.4m, R_b = 0.5 \%]$
- (iii) DD = 40%