

**47 Marchmont Street
London WC1N 1AP**

Internal Daylight Report



5 Thames Street, Eynsham, Oxford, OX29 4HF
t: 01865 881882 f: 01865 881891 @: www.waterslade.com

November 2014

1.0 Introduction and Methodology

1.1 Generally

We have been instructed to examine the daylight amenity to the proposed lower ground floor flat at 47 Marchmont Street, London. It is usual to assess daylight in relation to the guidelines set out in the 2011 Building Research Establishment (BRE) Report 'Site layout planning for daylight and sunlight - A guide to good practice' by Paul Littlefair. One of the primary sources for the BRE Report is the more detailed guidance contained within 'British Standard 8206 Part 2:2008'.

As recommended by the guidelines, in assessing the levels of daylight within the lower ground floor flat we have calculated the Average Daylight Factor (ADF) to the main habitable rooms.

1.2 Average Daylight Factor (ADF)

ADF is a measure of the daylight within a room, and accounts for factors such as the number of windows and their size in relation to the size of the room. Clearly a small room with a large window will be better illuminated by daylight than a large room with a small window. It also accounts for window transmittance and the reflectance of the internal walls, floor and ceiling. The general idea is that the daylight which reaches each of the windows is first calculated. Then, allowing for the window size, the daylight which then enters the room through the windows is determined. The light is then imagined to bounce around within the room, controlled by the reflectance of the internal surfaces. The ADF is detailed in both British Standard 8206 Part 2:2008 and Appendix C of the BRE Report. The BRE Report provides guidance for acceptable values in the presence of supplementary electric lighting, depending on the room use. These are 1.0% for a bedroom, 1.5% for a living room and 2.0% for a kitchen. Where a room serves more than one purpose, the minimum ADF value should be that for the room type with the highest value.

2.0 Sources of Information

SEARY ARCHITECTS

Existing & Proposed Drawings -

141117-extg-plans.dwg, 141117-extg-elevs.dwg,

141117-prop-plans.dwg, 141117-prop-elevs.dwg

ZMAPPING LTD

3D Massing Model -

Marchmont St_250914_Solids.dwg

3.0 Calculations and Assumptions

In order to calculate the ADF values to the lower ground floor flat it is necessary to construct a 3D computer model of the proposal and the surrounding properties. The proposal was modelled using the Seary Architects drawings. The massing of the surrounding properties was taken from the Zmapping context model. The 3d model was created so as to reproduce the massing of the buildings, both on and surrounding the site, at a level of detail appropriate to the calculations performed.

The model was analysed using proprietary software to calculate the ADF values to the combined living/ kitchen/ dining room and bedroom in the lower ground floor flat.

With reference to BS8206 Part 2:2008 and Appendix C of the BRE Report, in calculating the ADF we have assumed light internal finishes giving the following reflectances: floors 0.4 (light wood or cream carpet),

ceilings 0.85 (white paint), internal walls 0.81 (pale cream paint). We have assumed the windows are double glazed with a glazing transmittance of 0.68. We have allowed for an 8% maintenance factor (appropriate for urban residential properties).

4.0 Results, Discussion & Conclusion

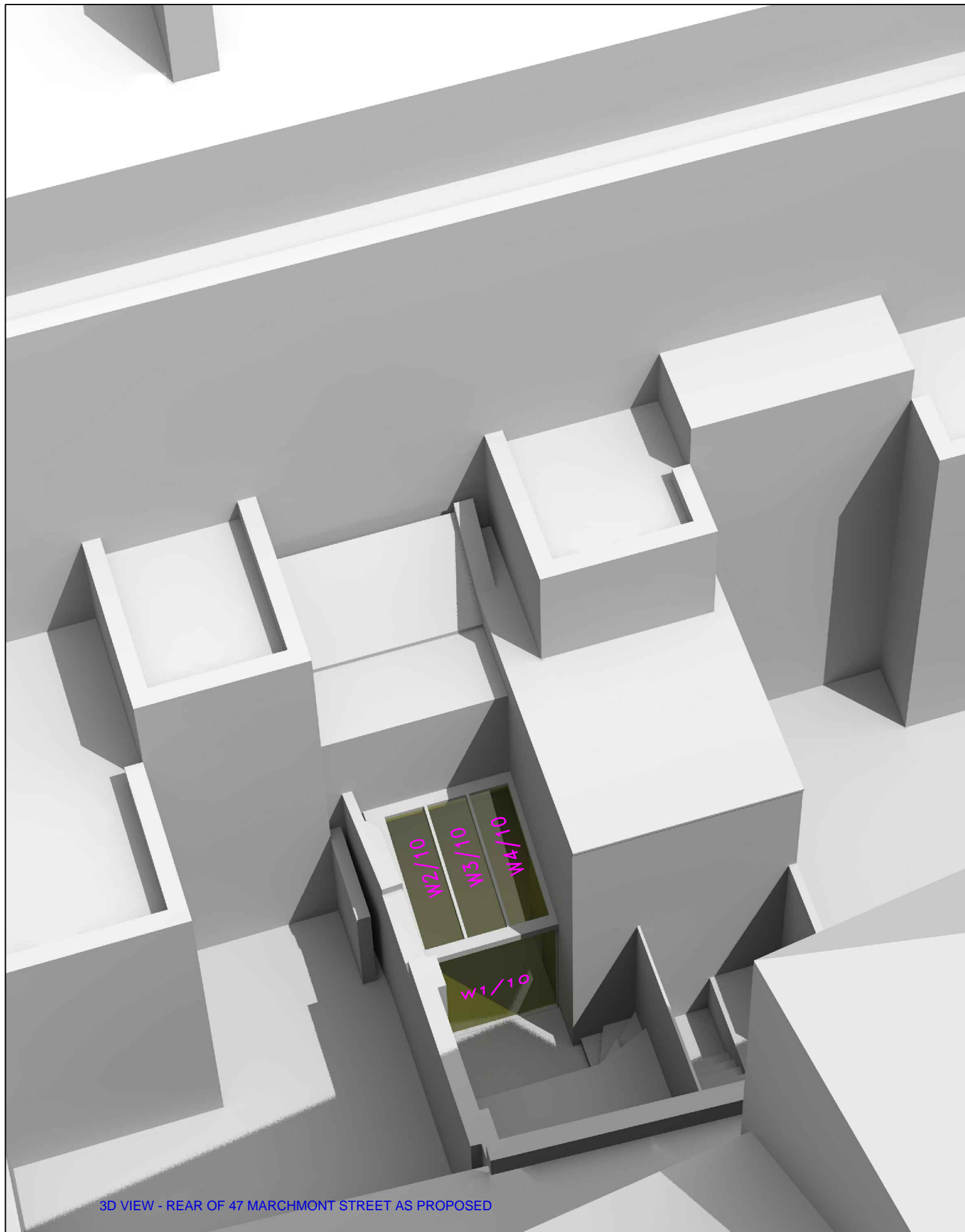
The attached drawing 905/01 shows the proposal and the layout of the habitable rooms within the lower ground floor flat.

The bedroom will achieve an ADF value of 1.45%. This is comfortably in excess of the 1.0% recommended by the guidelines.

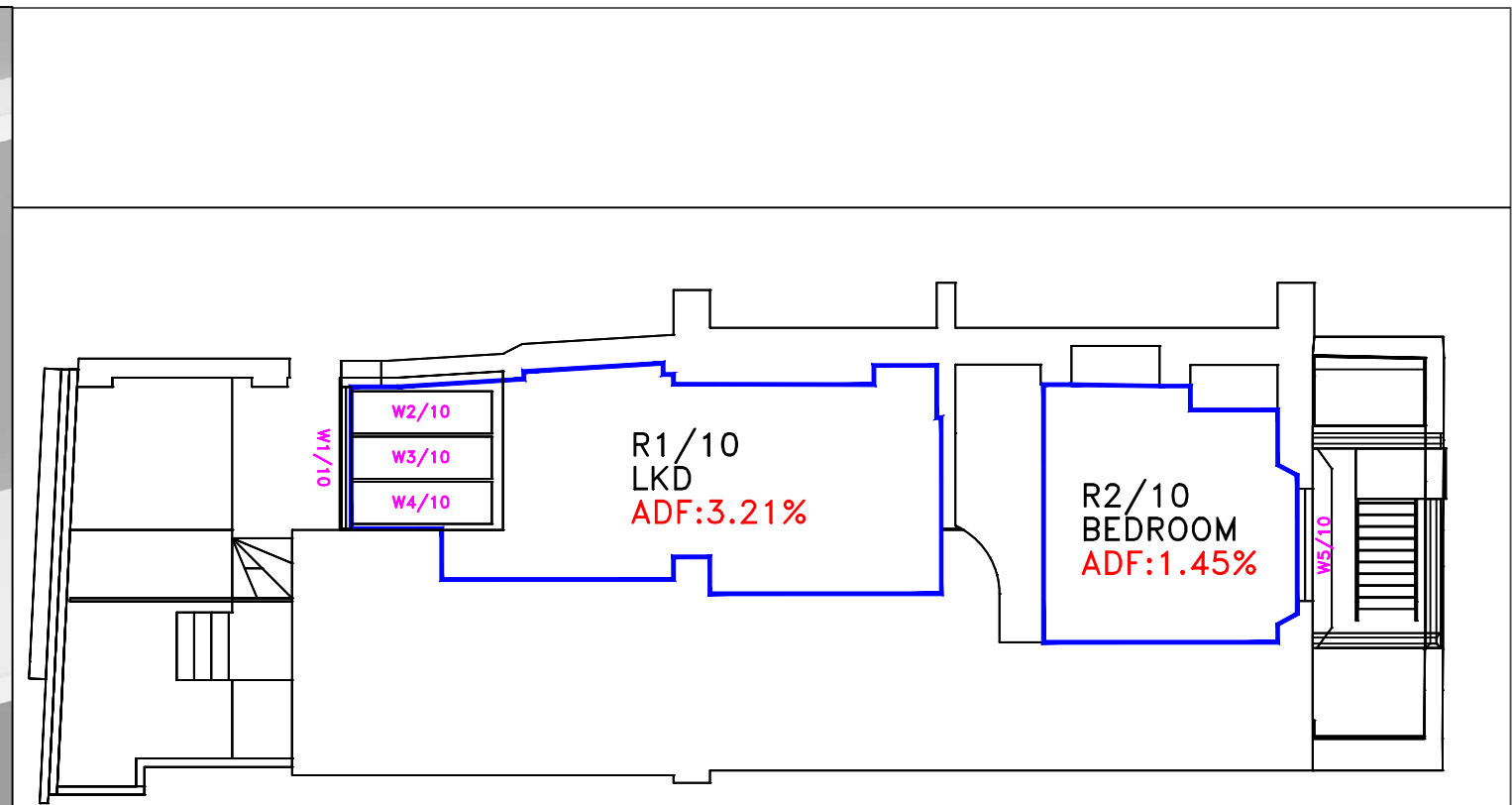
The combined living/ kitchen/ dining room will achieve an ADF value of 3.21%. This is comfortably in excess of the 2.0% recommended by the guidelines.

We therefore conclude that both the habitable rooms within the lower ground floor flat will receive very good daylight amenity, and that the flat fully accords with the guidance on daylight provided by the BRE.

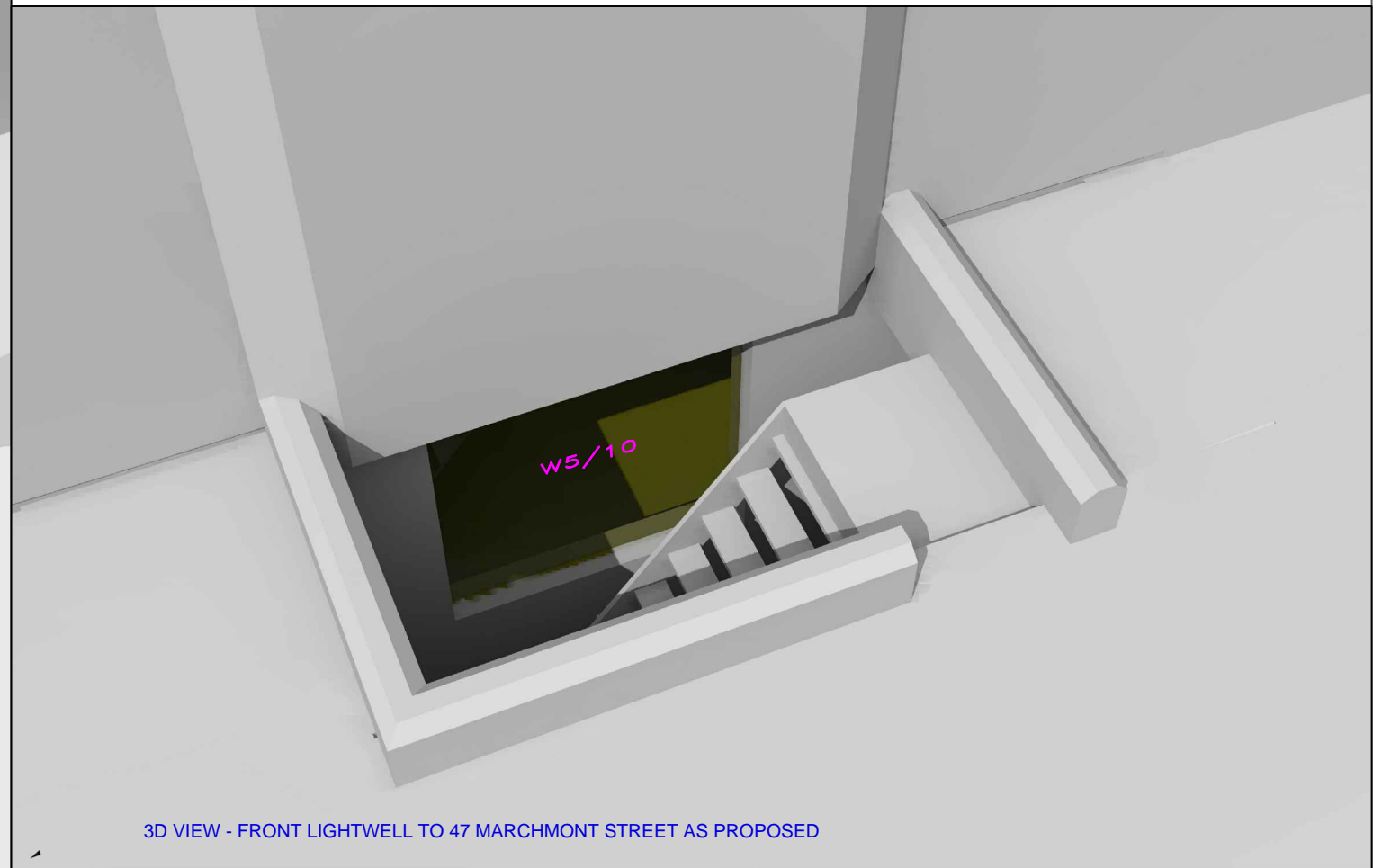
Waterslade Ltd.



3D VIEW - REAR OF 47 MARCHMONT STREET AS PROPOSED



LOWER GROUND FLOOR PLAN AS PROPOSED SHOWING ADF VALUES



3D VIEW - FRONT LIGHTWELL TO 47 MARCHMONT STREET AS PROPOSED

Sources: SEARY ARCHITECTS
 Existing & Proposed Drawings -
 141117-extg-plans.dwg, 141117-extg-elevs.dwg,
 141117-prop-plans.dwg, 141117-prop-elevs.dwg

 ZMAPPING LTD
 3D Massing Model -
 Marchmont St_250914_Solids.dwg

Key:

Project: 47 MARCHMONT STREET
 LONDON

Drawing Title: DAYLIGHT ANALYSIS

Drawn by: TB

Date: NOV 14

Scale: 1:100 @A3

Drawing No: 905/01



5 Thames Street,
 Eynsham, Oxford,
 OX29 4HF

t: 01865 881882
 f: 01865 881891
 @: www.waterslade.com