51 Werrington Street

Internal Daylight and Sunlight Report

Client:	Doltan Ltd
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Reference:	1149
Date:	2nd March 2012

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Contents

Executive Summary

- This report provides detailed analysis of the daylight and sunlight internally to the scheme on the ground and basement. This report has been written for planning purposes.

- Local planning policy refers to the BRE Guidelines as the principal reference in determining the acceptability of the scheme in terms of daylight and sunlight. The methods and approach recommended in the BRE Guidelines have been used in the analysis included within this report on the daylight and sunlight within the scheme. A detailed computer analysis has been used to calculate accurately the numerical results in three dimensions.

- The daylight and sunlight results show that the scheme is compliant with the BRE Guidelines' recommendations and will thus be fully in accordance with local policy on daylight and sunlight.

- There is therefore no justifiable reason for planning refusal based on loss of daylight and sunlight.

1. Introduction

1.1 This report provides the daylight and sunlight analysis internal to the proposed scheme by Genesis Architects received 22nd February 2012 and the impact of this scheme on the daylight and sunlight to the surrounding properties. Analysis has been provided for the ground and basement level as it is understood that there is no planning concern as to daylight and sunlight internal to the rooms on the upper levels. This report has been written for planning purposes. The report has been written by Waldrams Chartered Surveyors, specialists in provision of daylight and sunlight reports.

Summary of how daylight and sunlight are considered for planning

1.2 Daylight and sunlight are planning considerations. The main reference used by local planning authorities to determine the acceptability of proposals in terms of their internal daylight and sunlight and the impact on daylight and sunlight to the surrounding properties is the Building Research Establishment (BRE) Guidelines, used in conjunction with British Standard BS8206 Part 2. The BRE Guidelines provide scientific, objective methods for establishing the acceptability of daylight and sunlight internal to the scheme and the surrounding properties. In practice it is principally the main habitable rooms internal to the scheme and within the surrounding residential properties which are sensitive in terms of loss of daylight and sunlight. This report therefore focuses on the internal daylight and sunlight and the change in daylight and sunlight to habitable rooms in the surrounding residential property.

1.3 The BRE Guidelines specify that the daylight and sunlight results be considered flexibly and in the context of the site. Clearly there would be a higher expectation for daylight and sunlight in a rural or suburban environment than in a dense city centre location. Likewise if the existing site is open or only has low existing

buildings, but has been earmarked in local development policy for high density development, then it is inevitable that the change between existing and proposed levels will be relatively large. In these situations it is the retained level of daylight and sunlight which the primary measure of acceptability, not the change between existing and proposed levels. The important factor in all cases is that the levels of daylight and sunlight are appropriate, taking into account all the planning policy requirements of the site. The BRE Guidelines acknowledge this in the introduction where the BRE Guidelines state:

1.4 "The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and thus this document should not be seen as an instrument of planning policy. Its aim is to help rather constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of the many factors in site layout design. In special circumstances the developer or planning authority may wish to use different target values."

(Page 1, BRE Guidelines)

1.5 Thus, the numerical figures should not be rigidly applied, but instead used as part of the overall evaluation of the daylight and sunlight to the surroundings in context of the site, its existing massing, and the need for regeneration and local planning policy guidance for the site. In particular existing local precedents or recent planning consents may provide a good indication as to appropriate levels in the vicinity.

1.6 The method for assessing internal daylight to the scheme is:

- Average Daylight Factor (ADF);

and for internal sunlight it is:

- Annual Probable Sunlight Hours (APSH).

1.7 The ADF measure of daylight takes into account the main factors which affect the actual daylight appearance of a room including the area of the window.

1.8 ADF provides an absolute measure of daylight expressed as a ratio of daylight for the room in question as a proportion of the daylight outside at any moment in time. The ADF for a living room should be above 1.5% (i.e. the room should enjoy a minimum of 1.5% of the average external daylight at any moment in time), whilst that for a bedroom and kitchen should be in excess of 1% and 2% respectively. ADF is dependent on the area of sky visibility, which is closely related to VSC, the area of the window serving the room, the glazing transmittance, the total area of the room's surfaces and the internal reflectance of the room.

1.9 The test for sunlight is calculated for each main south facing window to habitable rooms and in particular living rooms. Bedrooms and kitchens are considered by the BRE Guidelines as less important for sunlight. The BRE Guidelines state that any south facing window may potentially receive up to 1486 hours of sunlight per year on average, representing 100% of the annual probable sunlight hours (APSH). Of this, each main window to a main habitable room may be adversely affected if it has less that 25% of the total APSH across the whole year or less that 5% APSH during the winter months (defined as the 6 months from September 21st through to March 21st).

Method used for calculating the daylight and sunlight results

1.10 The analysis provided in this report utilizes state-of-the-art software to calculate in three dimensions the internal ADF for daylight and APSH for sunlight following the methods specified in the revised 2011 BRE Guidelines to correctly calculate the daylight and sunlight to all rooms and windows within the scheme. A three dimensional accurate computer model has been created for the

existing site in context of the immediate surrounding properties which either could be affected by the proposal or which could materially affect the result of a potentially affected room and window.

2. Sources of information used in the report

Genesis Architects
PC master Full Res.dwg
Received 22/2/2012

Ordnance Survey
Digital Extract

References:

BRE Guidelines (BR 209):- Site layout planning for daylight and sunlight: a guide to good practice, by PJ Littlefair (2011).

These Guidelines provide the basis of the analysis described in this report. Please refer to this document for a detailed description as to the approach, methodology and implementation of the numerical analysis used in this report. A summary of the approach and methods recommended by the BRE Guidelines is included in the Introduction (Section 1) of this report.

3. The Existing Site

3.1 The existing site is open as shown on Photo 1 below.

Photo 1: The existing building at 51 Werrington Street

4. The Proposed Scheme

4.1 The proposed scheme is shown on drawings 0564-01 and 0564-02 in Appendix 1. The room and windows referencing the results are shown on drawings 0564-03 and 04 for the basement and ground floor respectively.

5. Internal Daylight and Sunlight Analysis

5.1 The internal daylight and sunlight analysis has been undertaken following the revised BRE Guidelines' methodology (October 2011)

5.2 The rooms and window references relating to the results in Appendix 2 are shown on drawing 0564-03 and 04 in Appendix 1 for the basement and ground floors respectively.

Internal Daylight Analysis

5.3 The ADF results show that all rooms within the scheme meet the BRE Guideline level, and thus in accordance with the BRE Guidelines.

5.4 Therefore daylight internal to the scheme will be acceptable, meeting with the BRE Guidelines and thus planning policy on daylight.

Internal Sunlight Analysis

5.5 Only those windows which face within 90 degrees of due south need to be analysed in relation to sunlight according to the BRE Guidelines. The north facing windows are recorded as N/A in the sunlight results in Appendix 2.

5.6 The BRE Guidelines make clear that it is only main living rooms which are important in relation to sunlight. The results in Appendix 2 show that all south facing windows serving living room/kitchen/ dining rooms on the ground and basement level will meet the BRE Guidelines' sunlight criteria.

5.7 Overall therefore sunlight is considered to be acceptable and in accordance with the BRE Guidelines and thus planning policy.

6. Conclusion

6.1 This report details the daylight and sunlight analysis internal to the proposal itself in the basement and ground floor. This report has been written for planning purposes. The analysis is based on the methods laid out in the October 2011 BRE Guidelines, used by planning officers to determine acceptability of daylight and sunlight internal to proposals.

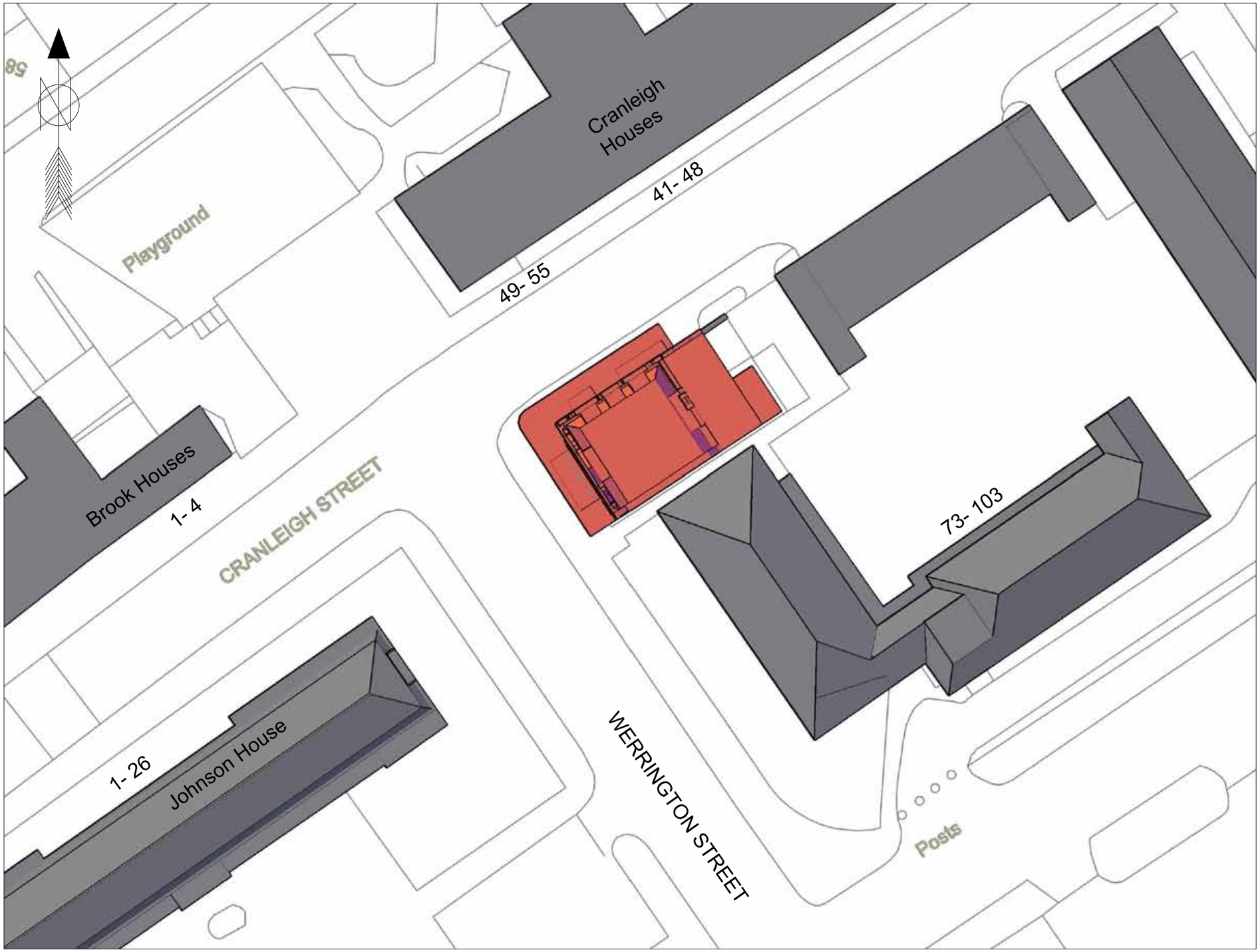
6.2 The internal daylight and sunlight results shows that all rooms on the ground and basement level will meet the BRE Guidelines daylight and sunlight criteria.

6.3 Overall therefore daylight and sunlight internal to the proposal will the acceptable and in accordance with the BRE Guidelines' recommendations and thus with local planning policy.

6.4 There is no justifiable reason for planning refusal based on inadequate daylight and sunlight.

APPENDIX 1

DRAWINGS



Information

Genesis Architects
PC master Full Res.dwg

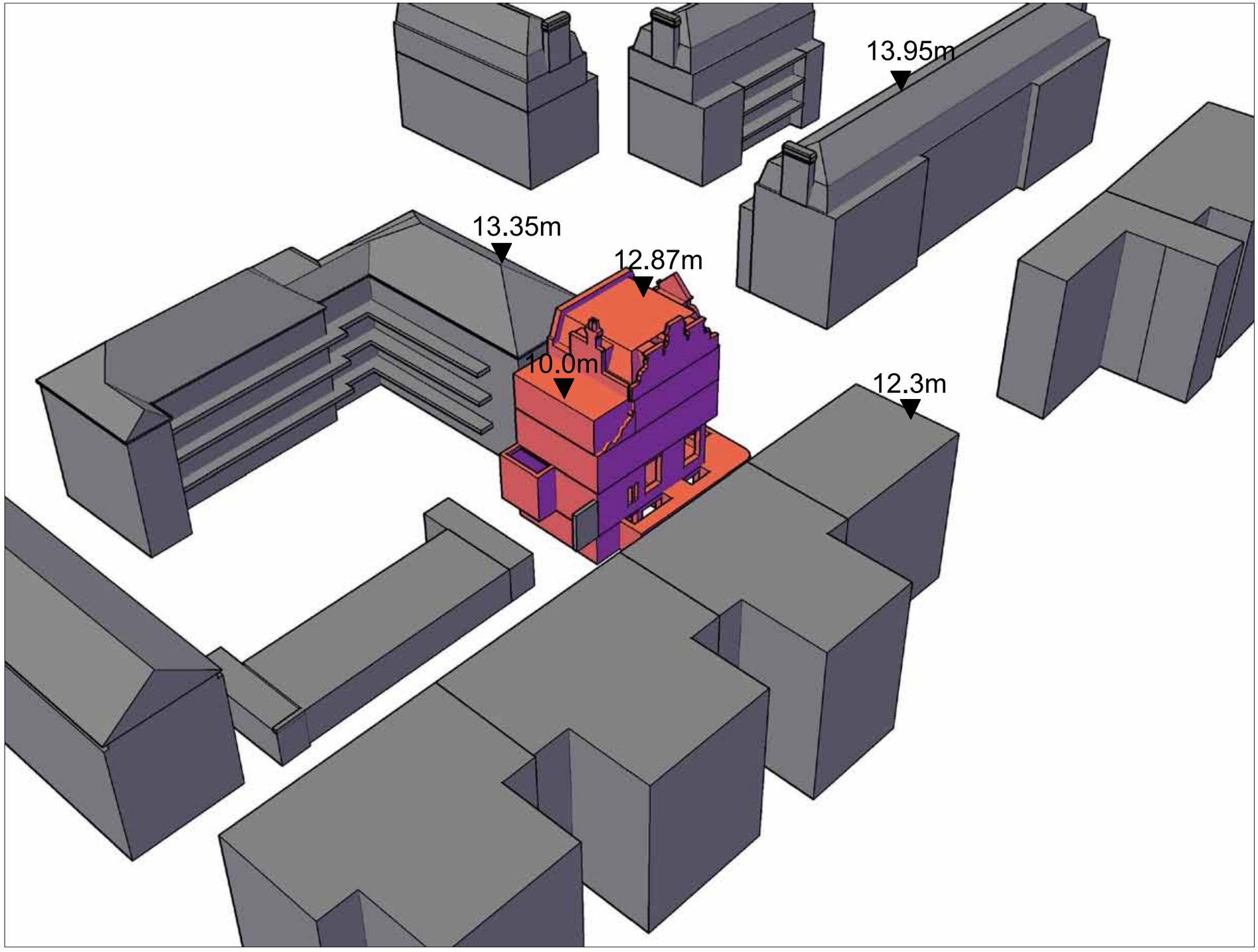
eb7 Environmental Consultants
Site Photographs
Ordnance Survey

Waldrams Chartered Surveyors

Project
51 Werrington Street
London

Drawing
Plan View
Proposed Development

Date 28/2/2012	Scale NTS	
Drawn By DS	Checked By IT	
Drawing No.		Rev.
0564	01	ID01



Information

Genesis Architects
PC master Full Res.dwg

eb7 Environmental Consultants
Site Photographs
Ordnance Survey

Waldrams Chartered Surveyors

Project
51 Werrington Street
London

Drawing
3D View
Proposed Development

Date 28/2/2012	Scale NTS	
Drawn By DS	Checked By IT	
Drawing No.		Rev.
0564	02	ID01

Information

Genesis Architects
PC master Full Res.dwg

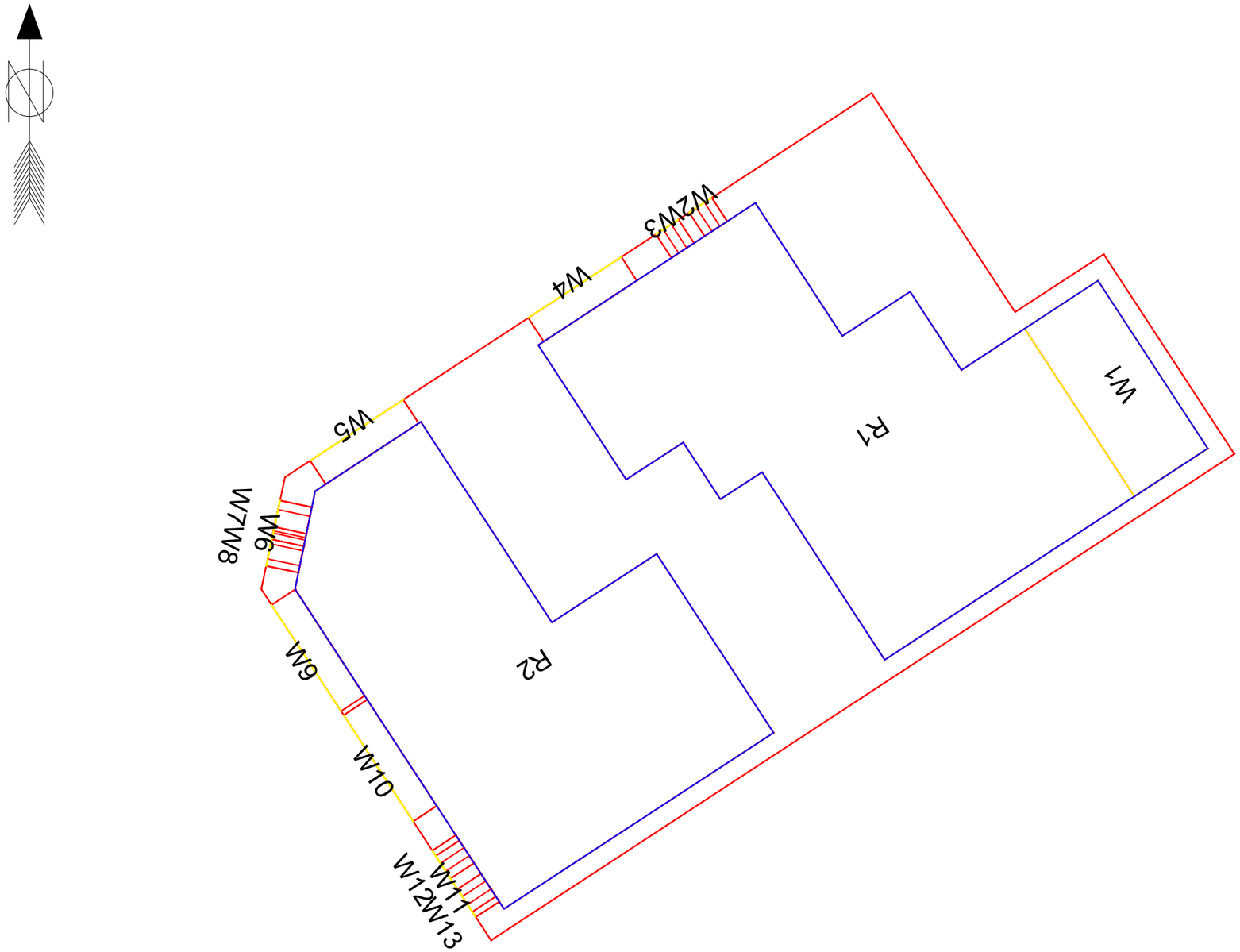
eb7 Environmental Consultants
Site Photographs
Ordnance Survey

Waldrams Chartered Surveyors

Project
51 Werrington Street
London

Drawing
Basement Level
Room Layouts

Date	28/2/2012	Scale	NTS
Drawn By	DS	Checked By	IT
Drawing No.			Rev.
0564		03	ID01



Information

Genesis Architects
PC master Full Res.dwg

eb7 Environmental Consultants
Site Photographs
Ordnance Survey

Waldrams Chartered Surveyors

Project
51 Werrington Street
London

Drawing
Ground Level
Room Layouts

Date	28/2/2012	Scale	NTS
Drawn By	DS	Checked By	IT
Drawing No.			Rev.
0564		04	ID01

APPENDIX 2

INTERNAL DAYLIGHT AND SUNLIGHT RESULTS

Floor	Room ID	Window ID	Room Use	VSC	Win. Trans.	Glazing Area	Theta	Room Area	Room	ADF	TOTAL ADF	TOTAL APSH	WINTER APSH
B1													
Basement	R1	W1	Bedroom	10.43	0.65	2.01	32.56	69.69	0.60	1.0	**1.0**	N/A	N/A
Basement	R2	W2	Bedroom	10.28	0.65	2.85	33.29	55.17	0.60	1.7	**1.7**	N/A	N/A
Basement	R3	W3	Bedroom	8.64	0.65	2.52	30.91	75.79	0.60	1.0		N/A	N/A
		W4	Bedroom	16.85	0.65	2.61	45.20	75.79	0.60	1.6	**2.6**	28	6
Basement	R4	W5	Bedroom	16.83	0.65	2.65	45.16	47.25	0.60	2.6	**2.6**	20	1
Ground	R1	W1	L/K/D	30.88	0.65	3.47	71.29	180.68	0.60	1.4		N/A	N/A
		W2	L/K/D	19.55	0.65	0.53	29.05	180.68	0.60	0.1		N/A	N/A
		W3	L/K/D	19.84	0.65	0.53	29.04	180.68	0.60	0.1		N/A	N/A
		W4	L/K/D	21.41	0.65	3.70	51.54	180.68	0.60	1.1	**2.6**	N/A	N/A
Ground	R2	W5	L/K/D	24.53	0.65	3.70	56.57	142.74	0.60	1.5		N/A	N/A
		W7	L/K/D	27.39	0.65	0.50	51.55	142.74	0.60	0.2		N/A	N/A
		W8	L/K/D	29.80	0.65	0.50	51.39	142.74	0.60	0.2		N/A	N/A
		W6	L/K/D	30.18	0.65	0.32	41.01	142.74	0.60	0.1		N/A	N/A
		W9	L/K/D	31.67	0.65	4.22	68.13	142.74	0.60	2.0		48	13
		W10	L/K/D	31.28	0.65	4.22	67.45	142.74	0.60	2.0		49	14
		W11	L/K/D	31.73	0.65	0.80	52.56	142.74	0.60	0.3		37	13
		W12	L/K/D	30.54	0.65	0.53	45.28	142.74	0.60	0.2		26	6
		W13	L/K/D	30.48	0.65	0.53	45.24	142.74	0.60	0.2	**6.7**	27	6