

60 Caldy Road
Belvedere DA176JS

Daylight/Sunlight Report

22 June 2021

Matthew Craske

For and on behalf of Daylight Sunlight Consulting Ltd

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1. Introduction

- 1.1 Daylight Sunlight Consulting Ltd has been instructed to provide daylight and sunlight advice with regard to the redevelopment of 60 Caldy Road, Belvedere DA17 6JS. We have assessed the effects that the proposed development has on the adjacent sensitive receptors.
- 1.2 We have been provided with the existing and proposed drawings from Environmental Design Ltd drawings referenced 2021/04/01 and 02 and attended site to properly understand the relationship between the development site and adjacent properties.
- 1.3 Where possible, we have reviewed the on-line planning portal to try and ascertain the internal configurations of the adjacent properties and room uses.

2. Executive Summary

- 2.1 The assessments to the neighbouring properties have demonstrated that a good level of daylight and sunlight will be retained in the proposed condition, in accordance with the BRE guidelines.
- 2.2 The adjoining occupants will not experience noticeable reductions in daylight or sunlight.

3. Principles for assessing daylight and sunlight

3.1 The main document for testing and evaluating daylight and sunlight effects is the Building Research Establishment (BRE) guidelines – Site Layout Planning for Daylight and Sunlight: A guide to good practice (2011).

3.2 It is important to understand that the BRE document is only a guideline, and this is highlighted in the introduction: -

"The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; Its aim is to help rather than constrain the developer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of the many factors in site layout design."

3.3 The guidelines go on to highlight that,

"In special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre, or in an area with modern high rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings."

Daylight to existing buildings

3.4 The testing methodology and suggested target criteria for the assessment of daylight to existing buildings around a development site are set out in Part 2.2 of the BRE guidelines.

3.5 The evaluation of what constitutes a sensitive receptor is essentially where occupants have a reasonable expectation of light. We consider this to be residential, care homes, student accommodation, hostels, educational classrooms, places of worship and hospital properties. Uses such as hotels and commercial properties are

not considered to be of importance for natural lighting. For residential properties, only habitable rooms need to be tested, with bathrooms, toilets, store rooms, circulation areas and garages not requiring assessment.

- 3.6 There are two types of simplistic tests that are identified in the BRE guidelines, these being a 25° angle test and a 45° angle test. The 25° angle test can be used where there is a continuous obstruction parallel to an affected window. The BRE guidelines state that:

“If any part of a new building or extension, measured in a vertical section perpendicular to a main window wall of an existing building from the centre of the lowest window, subtends an angle of more than 25° to the horizontal, then the diffuse daylighting of the existing building may be adversely affected.”

- 3.7 The 45° angle test is only applicable to the assessment of small side extensions to domestic residential properties. If a proposed development projects out such that a 45° angle subtended back towards a neighbouring property covers the centre point of a habitable window, both in plan and elevation, then the light might be affected and further testing is required.

- 3.8 We have undertaken a preliminary review of the 25° test, as this allows us to focus our assessments on the properties most likely to be affected. We have then considered the more comprehensive daylight assessments identified in the BRE guidelines, these being the Vertical Sky Component (VSC) test and Daylight Distribution (DD) test. A more detailed summary of these tests is set out below.

VERTICAL SKY COMPONENT

3.9 The Vertical Sky Component (VSC) test assesses the amount of daylight obtained at the centre point of the external plane of a window. The guidelines state the following: -

"If this VSC is greater than 27% then enough skylight should still be reaching the window of the existing building. Any reduction below this level should be kept to a minimum. If the vertical sky component with the new development in place, is both less than 27% and less than 0.8 times its former value, occupants of the existing building will notice the reduction in the amount of skylight."

3.10 We therefore work on the basis of seeking to achieve 27% VSC in the proposed condition, as it is considered adequate, but where this value is not achieved, reductions of 0.8 times the former value (the same as saying a 20% reduction when compared against the existing condition) is not considered noticeable and therefore not a material effect.

3.11 As the VSC test only assesses daylight reaching the external plane of the window, this shows only the potential for light rather than actual. This is because much depends upon the size of the window, its relationship to the room, the size of the room, and whether there are other windows lighting the same room. Therefore, it is prudent to assess the daylight distribution assessment at the same time, reviewing both sets of results before forming an opinion on the overall effect.

DAYLIGHT DISTRIBUTION

3.12 The BRE guidelines suggest that daylight distribution assessments can be undertaken where room layouts are known, but we believe it is better to run tests to all of the affected buildings being run for the VSC test, making assumptions on the room configurations if nothing can be found through research. The daylight

distribution test establishes the amount of the sky light entering a room at a working plane height of 850mm above floor level, plotting the 'no sky line' area in both the existing (green contour line) and the proposed (red contour line). There is no test of adequacy in just the proposed condition, rather the reduction in light between the existing and proposed is assessed, and where light is reduced to less than 0.8 times its former value (the same as saying a 20% reduction), this will be noticeable to occupants.

Sunlight to existing buildings

- 3.13 The assessment of sunlight for properties adjacent to a development site are set out in Part 3.2 of the BRE guidelines. As with the daylight assessment, the evaluation of what constitutes a sensitive receptor is essentially where occupants have a reasonable expectation of sunlight. We consider this to be residential accommodation, care homes, student accommodation, hostels, educational classrooms and hospital properties.
- 3.14 As the opportunity to obtain sunlight is dependent on orientation, it is considered only appropriate to test existing windows that face 90° of due south, as occupants with windows facing due north will not have a reasonable expectation of sunlight.
- 3.15 The calculation is taken at the centre of each window and is measured in terms of the percentage of Annual Probable Sunlight Hours (APSH). The guidelines suggest the following targets: -

"If this window reference point can receive more than one quarter of APSH, including at least 5% of APSH in the winter months between 21st September and 21st March, then the room should still receive enough sunlight...Any reduction in sunlight access below this level should be kept to a minimum. If the available sunlight hours are both less than the amount given and less than 0.8 times their former value, either over the whole year or just during the winter months (21 September to 21 March), then the occupants

of the existing building will notice the loss of sunlight; if the overall annual loss is greater than 4% of APSH..."

3.16 To summarize the above, a good level of sunlight to a window is 25% APSH, of which 5% should be in winter months in the proposed condition. Where sunlight levels fall below the suggested level, a comparison with the existing and proposed is undertaken. A noticeable amount of sunlight will occur if:

- the reduction is less than 0.8 times its former value (the same as a 20% reduction), for both or one of the annual and winter APSH levels; and
- has a reduction in sunlight received over the whole year greater than 4% APSH

4. Affected adjoining properties

4.1 Having attended site and reviewed the sensitive receptors we have undertaken technical assessments, the results of which are set out in more detail, together with a short explanation of the property in question.

62 Caldy Road

4.2 This property is located to the east of the development site and is a bungalow with a window on the west facing elevation.

4.3 Having attended site, it was evident the window serves a bathroom as it has obscured glazing and an extract fan adjacent to the window.

4.4 Bathrooms are not a material consideration for daylight and sunlight assessments, as highlighted by the BRE guidelines, and therefore no further assessments were undertaken.

52 Caldy Road

4.5 This property is located to the west of the development site and is a two storey residential property.

4.6 The rear elevation was not visible for the site inspection, and therefore we utilised aerial photography and research from the planning portal to model and test the property. A temporary looking lean-to structure is located at ground floor level, and looks to obscure the view of the windows on the ground floor level. The lean-to looks like it could be made of a clear material that allows the light through, so we have undertaken assessments to the ground floor side window, assuming it serves a kitchen, lit by just the side window (rather than additional windows that might allow light in from the rear garden). The first floor side window was assumed to serve a bathroom, as this is a configuration frequently seen in house design such as this. The

windows to the front of this property will not be affected by the proposed works and therefore not required to be tested.

- 4.7 The Vertical Sky Component (VSC) results show that ground floor kitchen window to the rear extension adheres to the BRE guidelines, showing a daylight gain in comparison to the existing condition. This is because the proposed design is being brought in line with the main element of 52 Caldly Road, whereas the current massing is directly opposite the side extension.
- 4.8 The daylight distribution results show that the ground floor kitchen adheres to the BRE guidelines, by obtaining a ratio reduction greater than the 0.8 target level. This ensures the occupants would not experience a noticeable reduction in daylight.
- 4.9 The Annual Probable Sunlight Hours (APSH) assessment is not a material consideration as the kitchen window faces within 90 degrees of due north.

49 and 57 Caldly Road

- 4.10 These properties are located to the north of the development site and are two residential properties with habitable rooms facing the development site.
- 4.11 Having undertaken the 25 degree rule test, as highlighted at paragraph 3.6 of this report. The results show the proposed development is well below the 25 degree angle, showing an angle of 13 degrees.
- 4.12 Therefore, the occupants with 49 and 57 Caldly Road will maintain high levels of daylight and sunlight with the proposed development in place.

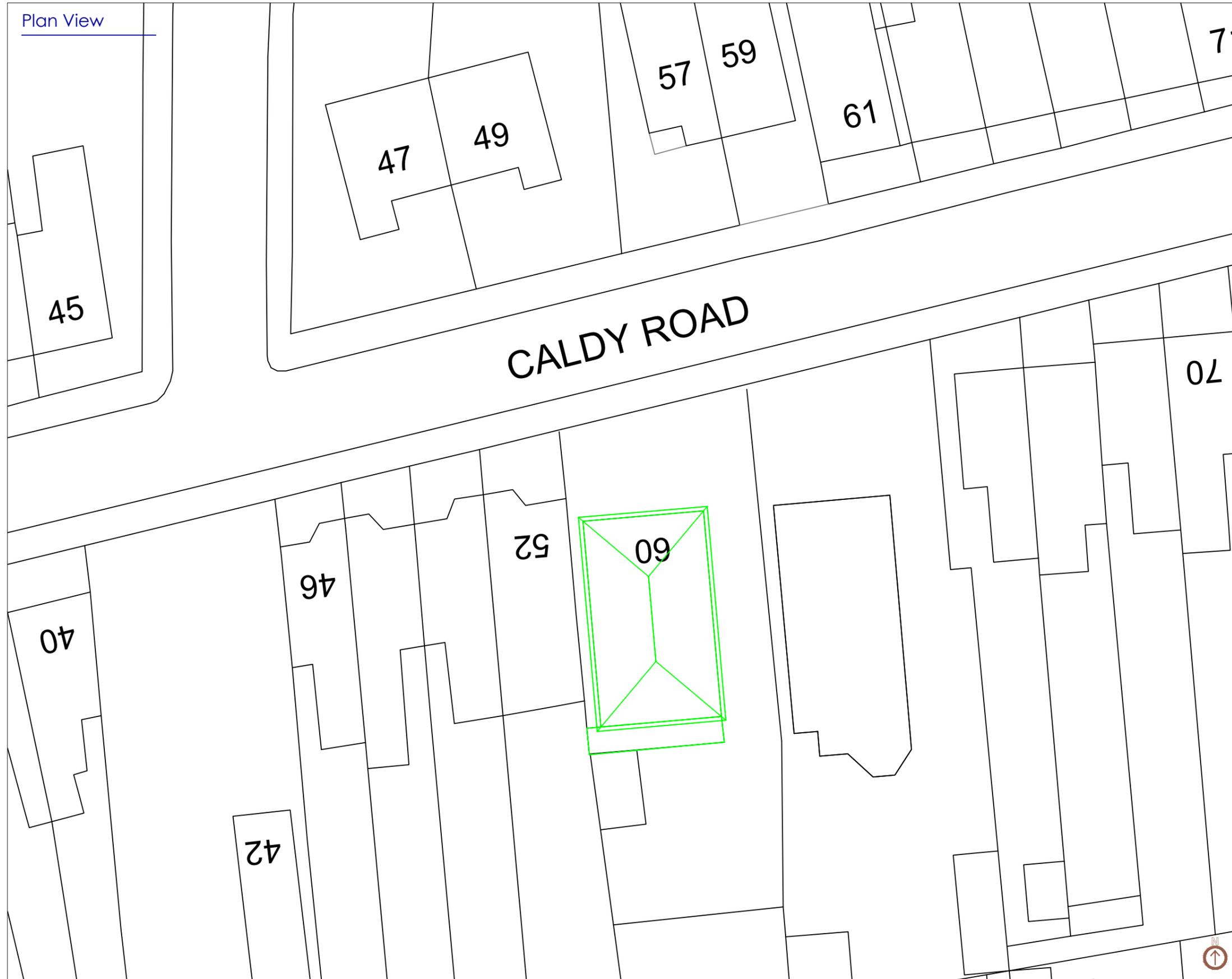
5. Summary and conclusions

- 5.1 The assessments to the neighbouring properties have demonstrated that a good level of daylight and sunlight will be retained in the proposed condition, in accordance with the BRE guidelines. In fact, the vertical sky component assessment to the ground floor kitchen window at 52 Caldly Road shows there to be a daylight gain.
- 5.2 We can therefore conclude that the adjoining occupants will not experience noticeable reductions in daylight and sunlight, showing full adherence to the BRE guidelines recommendations.

Appendix 1

Plan and 3D views of the development site

Plan View



NOTES:
No dimensions are to be scaled from this drawing.
All dimensions are to be checked on site, where
discrepancy occurs between specification and
drawings the supervising officer must be notified.

— EXISTING
— PROPOSED

REV	NOTES	DRWN	DATE



Bourbon Court
Nightingales Corner
Little Chalfont
Buckinghamshire
HP7 9QS
Tel: 07943 182 548 www.dsconsult.co.uk

CLIENT:
Allied Venture Property Assessts Ltd

PROJECT:
60 Caldy Road
Belvedere
DA17 6JS

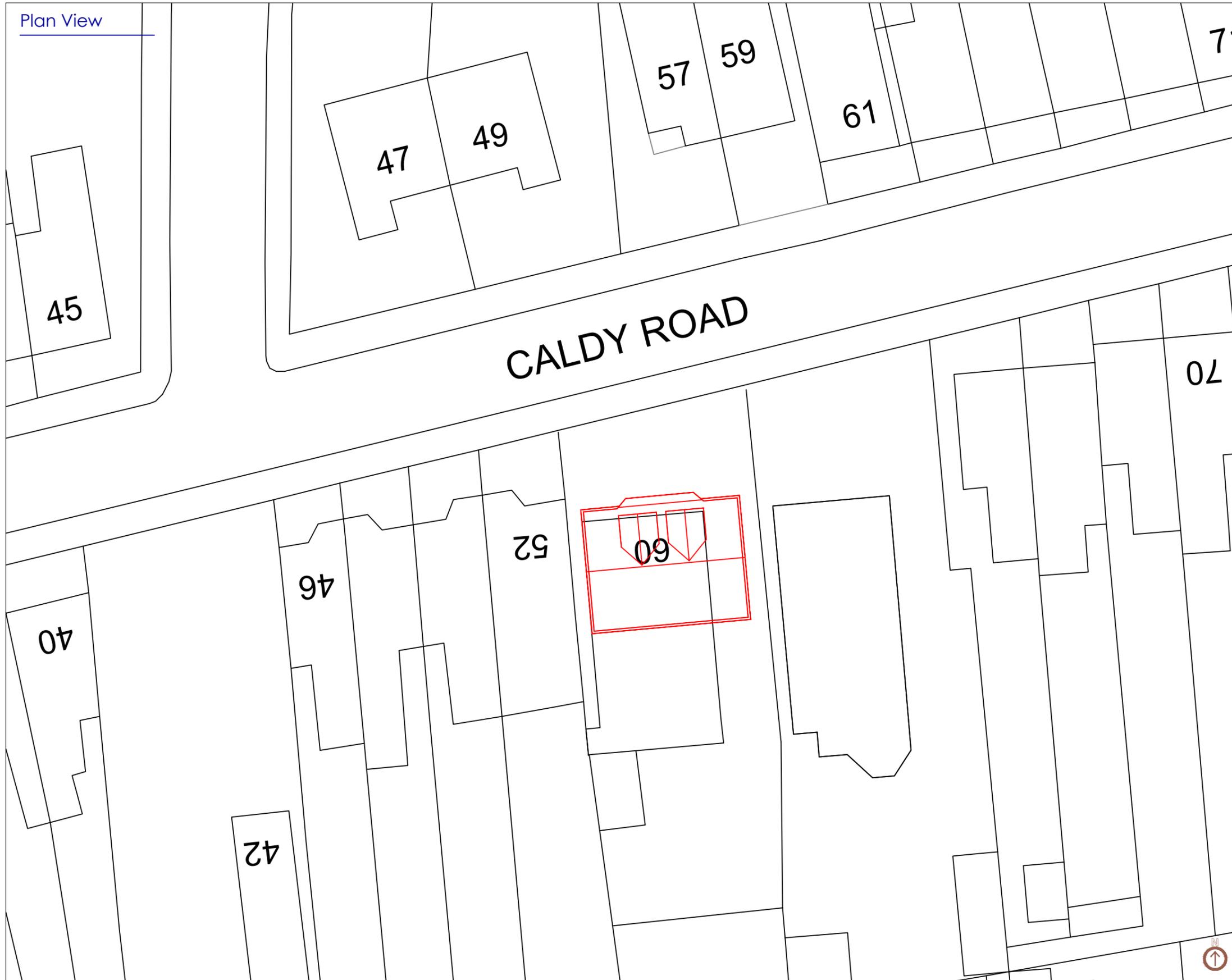
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Plan View



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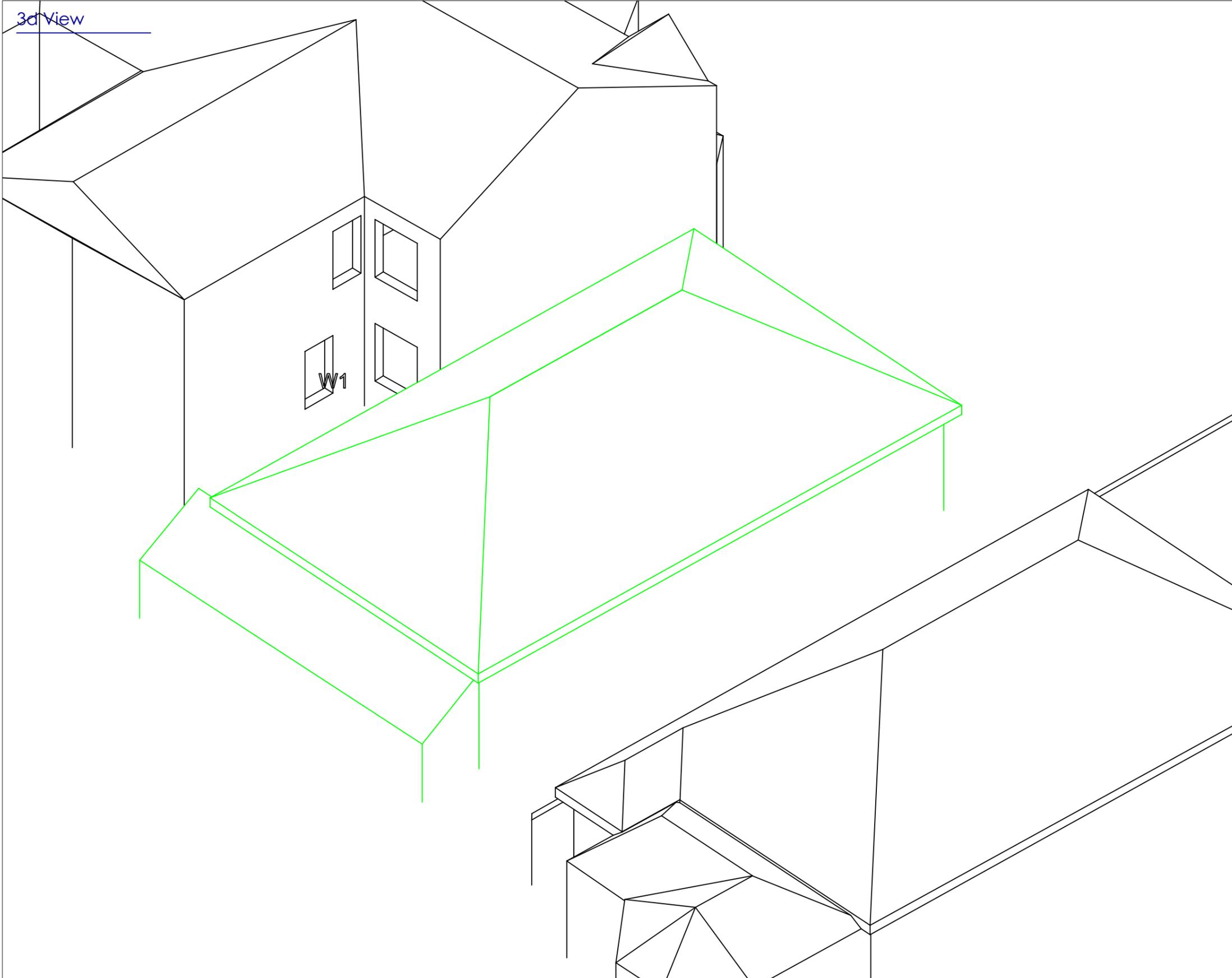
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3d View



NOTES:
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— EXISTING
— PROPOSED

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Bourbon Court
Nightingales Corner
Little Chalfont
Buckinghamshire
HP7 9QS
Tel: 07943 182 548 www.dsconsult.co.uk

CLIENT:
Allied Venture Property Assests Ltd

PROJECT:
60 Caldy Road
Belvedere
DA17 6JS

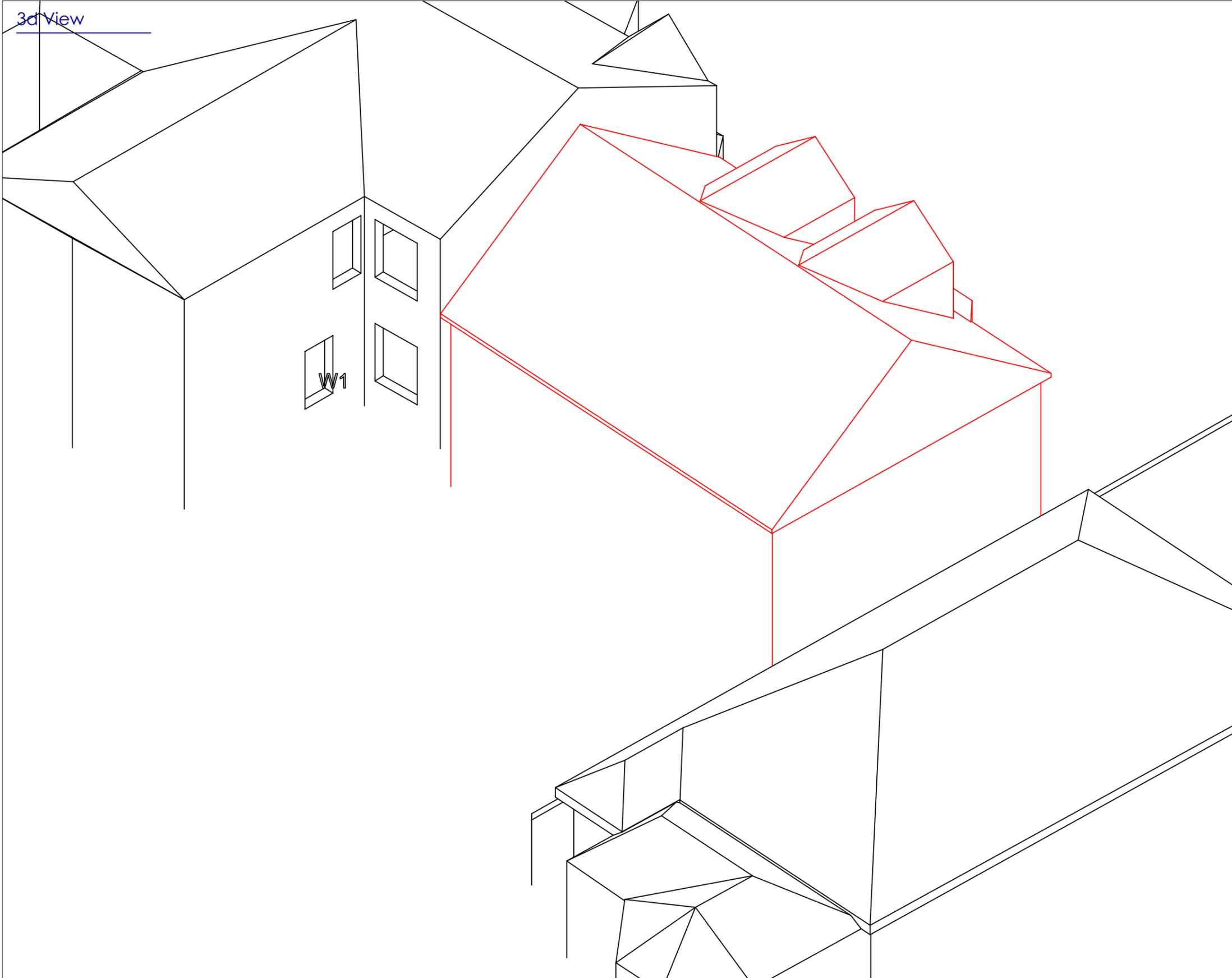
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DRAWING NUMBER:
CR-01-03

REV:
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3d View



NOTES:
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— EXISTING
 — PROPOSED

REV:	NOTES:	DRWN:	DATE:

DAYLIGHT & SUNLIGHT
 CONSULTING

Bourbon Court
 Nightingales Corner
 Little Chalfont
 Buckinghamshire
 HP7 9QS
 Tel: 07943 182 548 www.dsconsult.co.uk

CLIENT:
 Allied Venture Property Assests Ltd

PROJECT:
 60 Caldy Road
 Belvedere
 DA17 6JS

DRAWING TITLE:
 Proposed 3d View

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Appendix 2

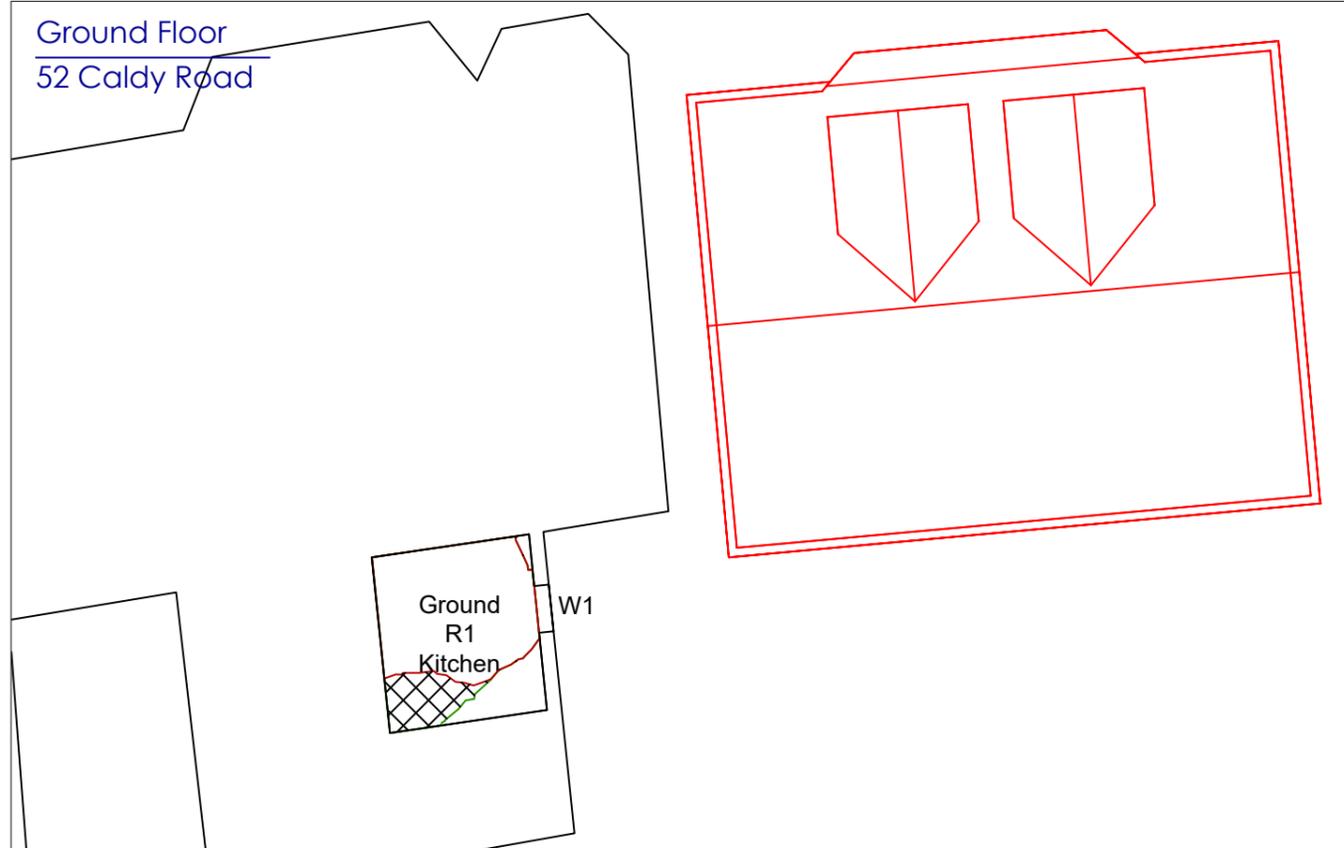
Vertical Sky Component + Annual Probable Sunlight Hours Results

Project Name: 60 Caldy Road Project No.: 1 Report Title: Daylight & Sunlight - Neighbour Analysis Date of Analysis: 21/06/2021													
Floor Ref.	Room Ref.	Property Type	Room Use.	Window Ref.	VSC	Pr/Ex	Annual	Pr/Ex	Winter	Pr/Ex	Total Suns per Room Annual	Total Suns per Room Winter	
52 Caldy Road													
Ground	R1	Residential	Kitchen	W1	Existing Proposed	19.05 23.13	1.21		*North*	*North*			
											North	*North*	

Appendix 3

Daylight Distribution Results

Ground Floor
52 Caldy Road



NOTES:
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- EXISTING LIGHT CONTOUR
- PROPOSED LIGHT CONTOUR
- LIGHT REDUCTION

REV.	NOTES	DRWN.	DATE

DAYLIGHT SUNLIGHT
CONSULTING

Bourbon Court
Nightingales Corner
Little Chalfont
Buckinghamshire
HP7 9QS
Tel: 07943 182 548 www.dsconsult.co.uk

CLIENT:
Allied Venture Property Assests Ltd

PROJECT:
60 Caldy Road
Belvedere
DA17 6JS

DRAWING TITLE:
Daylight Distribution Contours

SCALE @ A1: NTS	DATE: June 21	DRAWN: MC	CHECKED:
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DRAWING NUMBER: CR-01-05	REV: .
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Project Name: 60 Caldy Road
 Project No.: 1
 Report Title: Daylight Distribution - Neighbour Analysis
 Date of Analysis: 21/06/2021

Floor Ref.	Room Ref.	Room Use.		Room Area	Lit Area Existing	Lit Area Proposed	Pr/Ex
52 Caldy Road							
Ground	R1	Kitchen	Area m2 % of room	8.11	6.89 85%	5.72 70%	0.83



Contact Daylight Sunlight Consulting Ltd

www.dsconsult.co.uk
info@dsconsult.co.uk
07943182548