BRE DAYLIGHT & SUNLIGHT ASSESSMENT

JUNE 2025, REF:2538/DSA

CLIENT:
Mr Liam Reddan

SITE ADDRESS:
No.10 The Greenway
Ickenham
Uxbridge
UB10 8LS

CONTENTS:

AUTHOR:
William Pottinger

REVISIONS:
None

The Daylight Lab, 66 Hardres Street, Ramsgate, Kent CT11 8QP
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1. Who We Are

1.1. The Daylight Lab work closely with architects, designers, and private clients throughout the UK, assisting with daylight and sunlight matters related to architectural design and planning. We take a proactive approach, engaging with all parties involved and providing input throughout the design process, to ensure that sites reach their fullest potential while not unduly impacting neighbouring amenity.

1.2. We aim for our assessments to be as clear and accessible as possible, and welcome enquires from anyone who might be affected by the issues discussed via hello@thedaylightlab.co.uk.

2. Executive Summary

2.1. The proposed extension of No.10 The Greenway has been proven to cause no undue loss of daylight or sunlight to neighbouring properties, when tested in accordance with the BRE's "Site layout planning for daylight and sunlight: A guide to good practice", third edition, 2022, which is generally accepted as good practice by local planning authorities in the UK.

2.2. It is therefore concluded that the scheme satisfies local and national policy relating to daylight and sunlight.

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3. Introduction & Site Description

3.1. This report has been commissioned by Mr Liam Reddan of the site address, to assess the impact of the proposed extension at No.10 The Greenway on the levels of daylight and sunlight enjoyed by neighbouring properties.

3.2. The existing application site comprises a semi-detached 2 storey dwelling with detached garage. The principal street elevation, fronting The Greenway, faces approximately south west.

3.3. Attached to the north east is No.12 The Greenway, a similar dwelling.

3.4. It is proposed to demolish the garage and construct a front porch and a 2 storey side/rear extension to form improved living accommodation.

3.5. Copies of the existing and proposed drawing set referred to in this study, prepared by Richard Lloyd Architects, can be found in Appendix 1.

Fig 1. Location Plan. North to top. Not to scale.

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Fig 2. Aerial view of existing site viewed from south (Google).

Fig 3. Aerial view of existing site viewed from north (Google).

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4. Summary of Applicable Policy

4.1. The following methods set out in this report are based on the BRE's "Site layout planning for daylight and sunlight: A guide to good practice", third edition, 2022, which is generally accepted as good practice by local planning authorities in the UK.

4.2. It is important to note that the advice given in the guide; *"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 designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design"* (page 7, paragraph 1.6).

5. Key Definitions

5.1. It is first important to note the key difference between daylight and sunlight. These can be defined as follows:

Daylight

5.2. Daylight is the combination of all direct and indirect sunlight (see following definition of sunlight) during the daytime. This includes direct sunlight, diffuse sky radiation, and (often) both of these reflected by Earth and terrestrial objects, like landforms and buildings.

Sunlight

5.3. Sunlight is direct light that reaches Earth on an uninterrupted path from the sun.

6. Methodology

6.1. Existing and proposed 3D models of the site and surroundings were prepared to a level of detail suitable for testing by The Daylight Lab and set to an accurate geo-location within the testing software.

6.2. Past planning and sales records were checked for plans of neighbouring properties, but none were available, so their modelling was limited to external details only.

6.3. Dimensions of the application site were based on drawings provided by Richard Lloyd Architects, (copies of which can be found in Appendix 1), OS data and photographs.

6.4. The model is therefore accurate to the best of The Daylight Lab's knowledge and any apparent discrepancies should be reported to this office immediately.

6.5. Tests were then carried out to neighbouring properties that might be affected by the proposal, in accordance with relevant BRE guidelines, using the following methods of measurement and specialist analysis software (MBS Daylight):

Daylight - Vertical Sky Component (VSC)

6.6. The Vertical Sky Component (VSC) is the ratio of the direct sky illuminance falling on a vertical window at a central reference point, to the simultaneous horizontal illuminance under an unobstructed sky.

6.7. Any reduction in the amount of daylight can be calculated by comparing the existing and proposed VSC for each main window serving a habitable space (such as living rooms, kitchens and bedrooms). Windows serving non-habitable space (such as bathrooms, toilets, storerooms, garages and circulation areas) need not be tested. In the case of a floor-to-ceiling window, such as

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a patio door, a point 1.6 m above ground may be used, and in the case of a bay window, only the central pane needs testing.

6.8. If the proposed VSC is less than 27%, then a comparison of "before" and "after" levels of VSC need to be calculated. Good daylighting can still be achieved if levels are within 0.8 of their former value.

Daylight Distribution – No Sky Line

6.9. Where room layouts are known, the impact on the daylight distribution in the existing building can be found by plotting the "no sky line" in each of the main rooms. For houses this would include living rooms, dining rooms and kitchens. Bedrooms should also be analysed, although they are less important. The no sky line divides points on the working plane which can and cannot see the sky (in houses the working plane is 0.85m high). Areas beyond the no sky line usually look dark and gloomy compared with the rest of the room.

6.10. If, following construction of a new development, the no sky line moves so that the area of the existing room which does receive direct skylight is reduced to less than 0.80 times its former value, this will be noticeable to the occupants and more of the room will appear poorly lit.

Sunlight - Annual Probable Sunlight Hours (APSH)

6.11. A dwelling or any non-domestic building where there is a particular requirement for sunlight will appear reasonably sunlit provided that at least one main window to a living room (or a commercial space which is deemed to have a special requirement for sunlight) faces within 90° of due south and receives at least 25% of the annual probable sunlight hours (APSH), including at least 5% during the winter (WPSH), between the 21st of September and 21st of March. APSH refers to the total number of hours in the year that the sun is expected to shine on unobstructed ground, allowing for average levels of cloudiness for the location in question (in this case the data used was for the Greater London area).

6.12. If as a result of a proposal an applicable neighbouring window receives less than 25% of APSH or 5% WPSH, either figure is less than 0.8 times of its former value and there is a reduction in APSH or WPSH greater than 4% then sun lighting will be adversely affected.

Sunlight - Overshadowing of Amenity Space

6.13. The availability of sunlight in open spaces such as rear gardens can be checked by analysing the overshadowing that results from a proposal. BRE recommend that at least half of the amenity area should receive at least two hours of sunlight on 21 March.

6.14. If, as a result of new development an existing garden or amenity area does not meet the above, and the area which can receive two hours of sun on 21 March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable.

7. 3D Model & Reference Images

7.1. The following figures show the existing and proposed 3D models as tested. Specifically:

- Figures 4-7 provide external views of the existing site and surrounding context.
- Figures 8-11 provide external views of the proposed site and surrounding context.
- Figure 12 provides window references for those tested for loss of daylight and sunlight at neighbouring properties.
- Figure 13 provides amenity area references for those tested for loss of sunlight at neighbouring properties.

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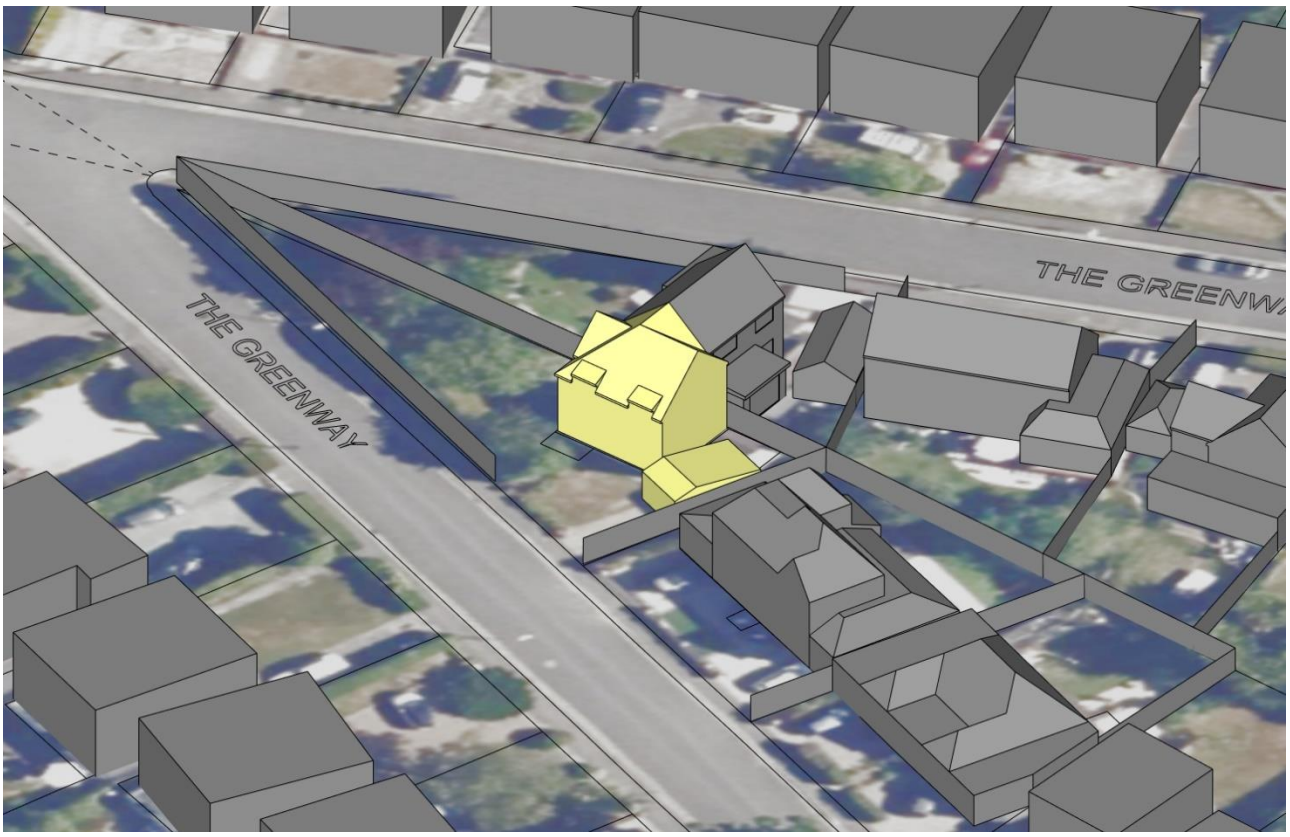

Fig 4. Aerial view of existing 3D model from south.

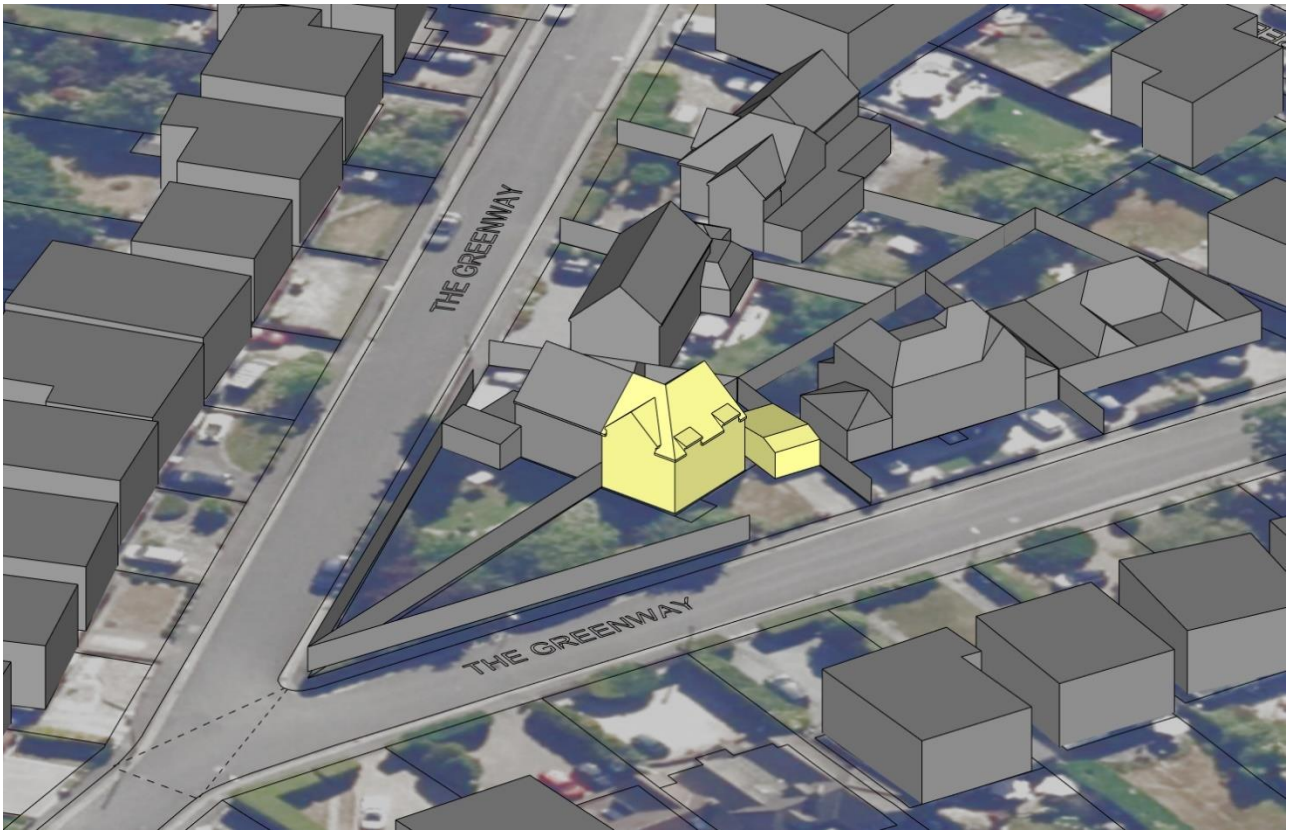

Fig 5. Aerial view of existing 3D model from west.

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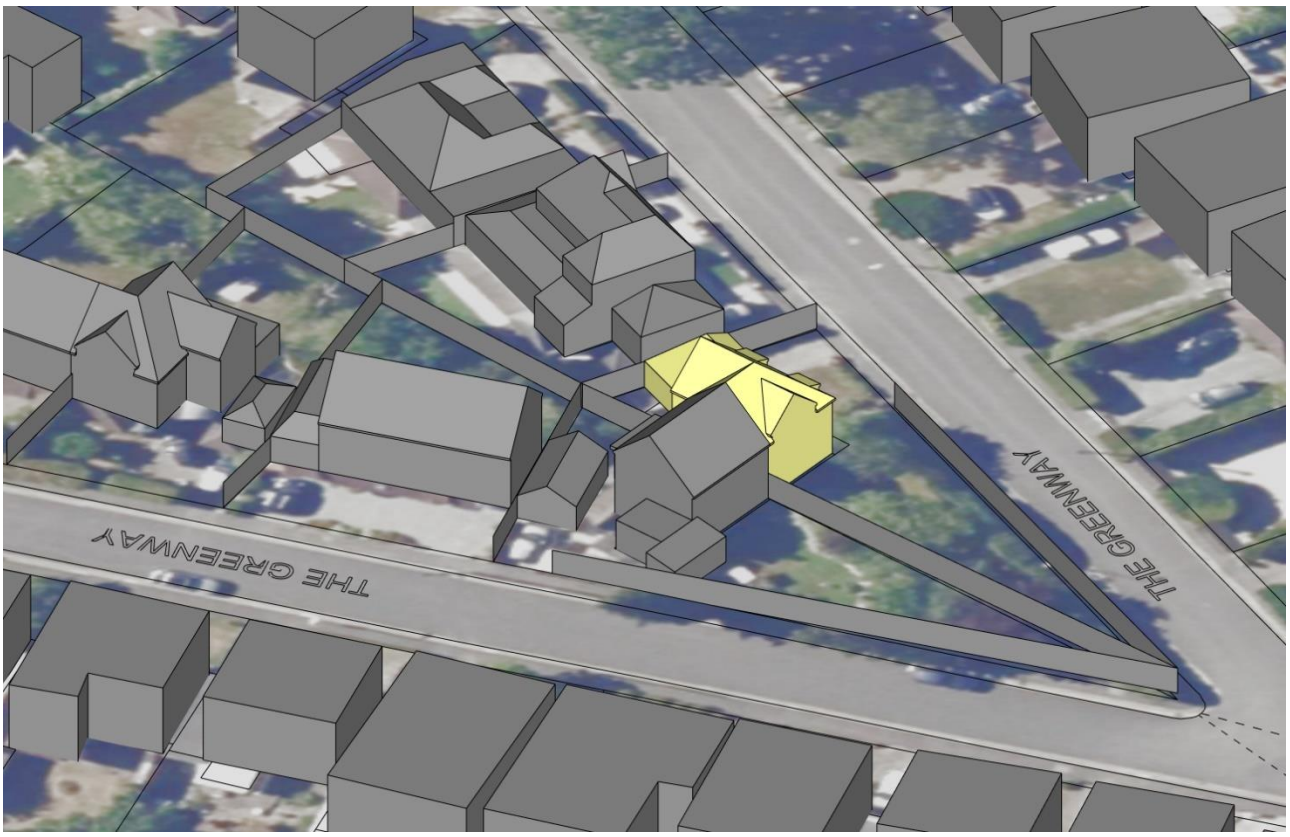

Fig 6. Aerial view of existing 3D model from north.

Fig 7. Aerial view of existing 3D model from east.

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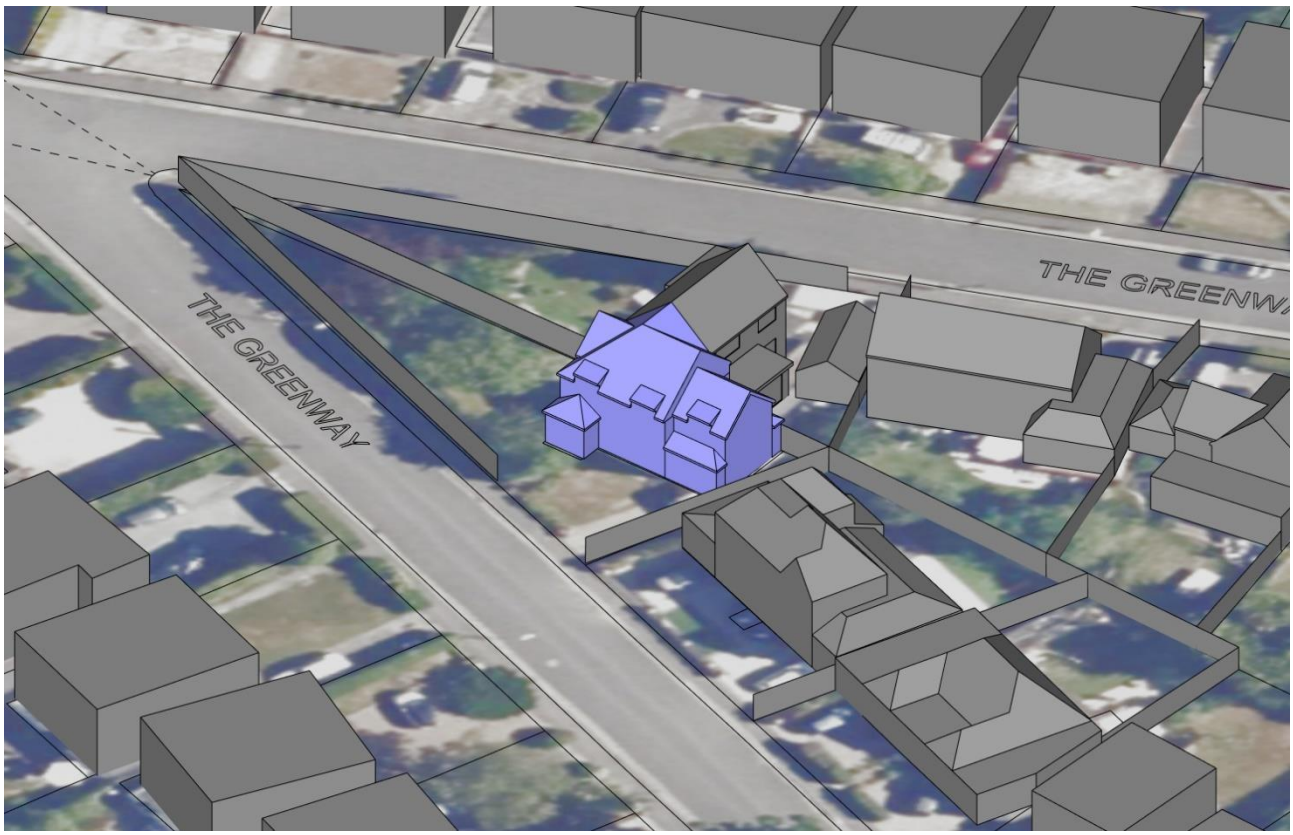

Fig 8. Aerial view of proposed 3D model from south.

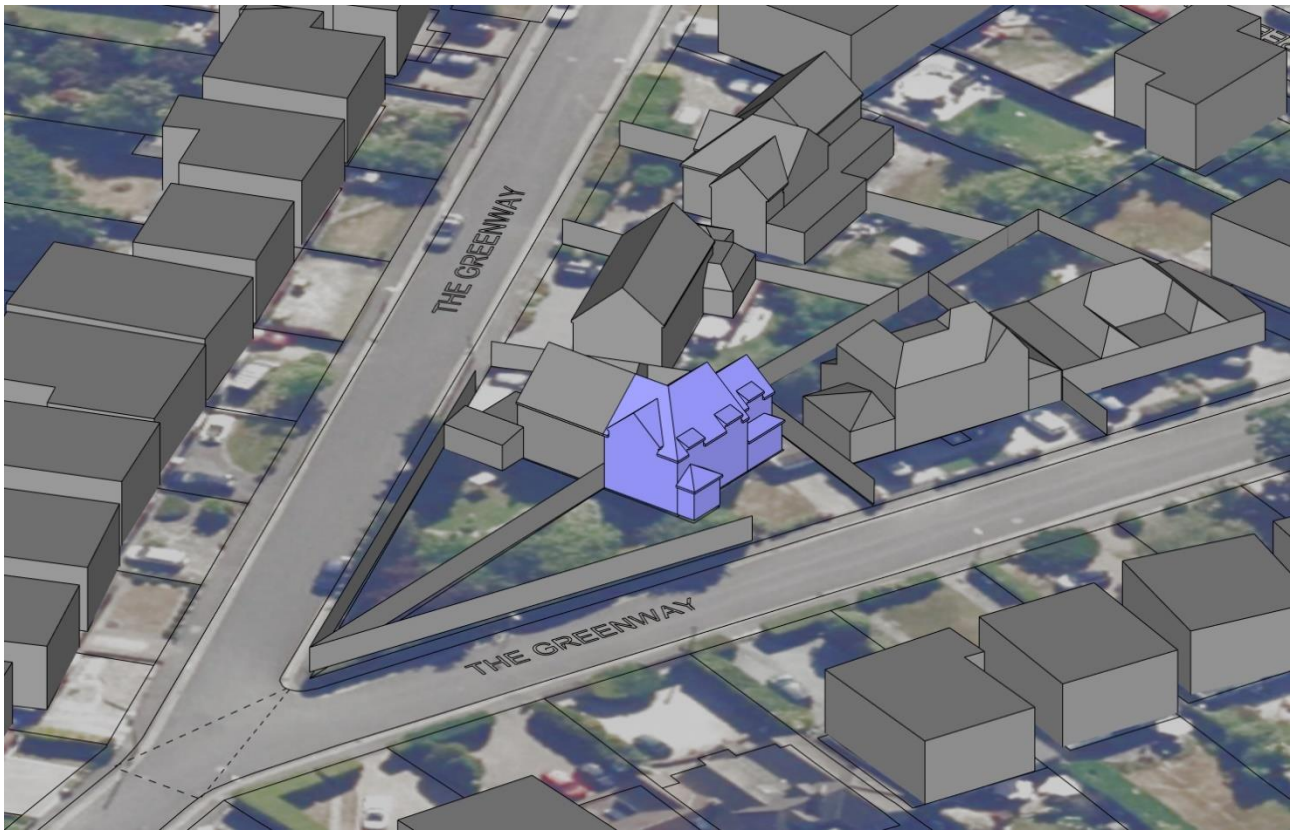

Fig 9. Aerial view of proposed 3D model from west.

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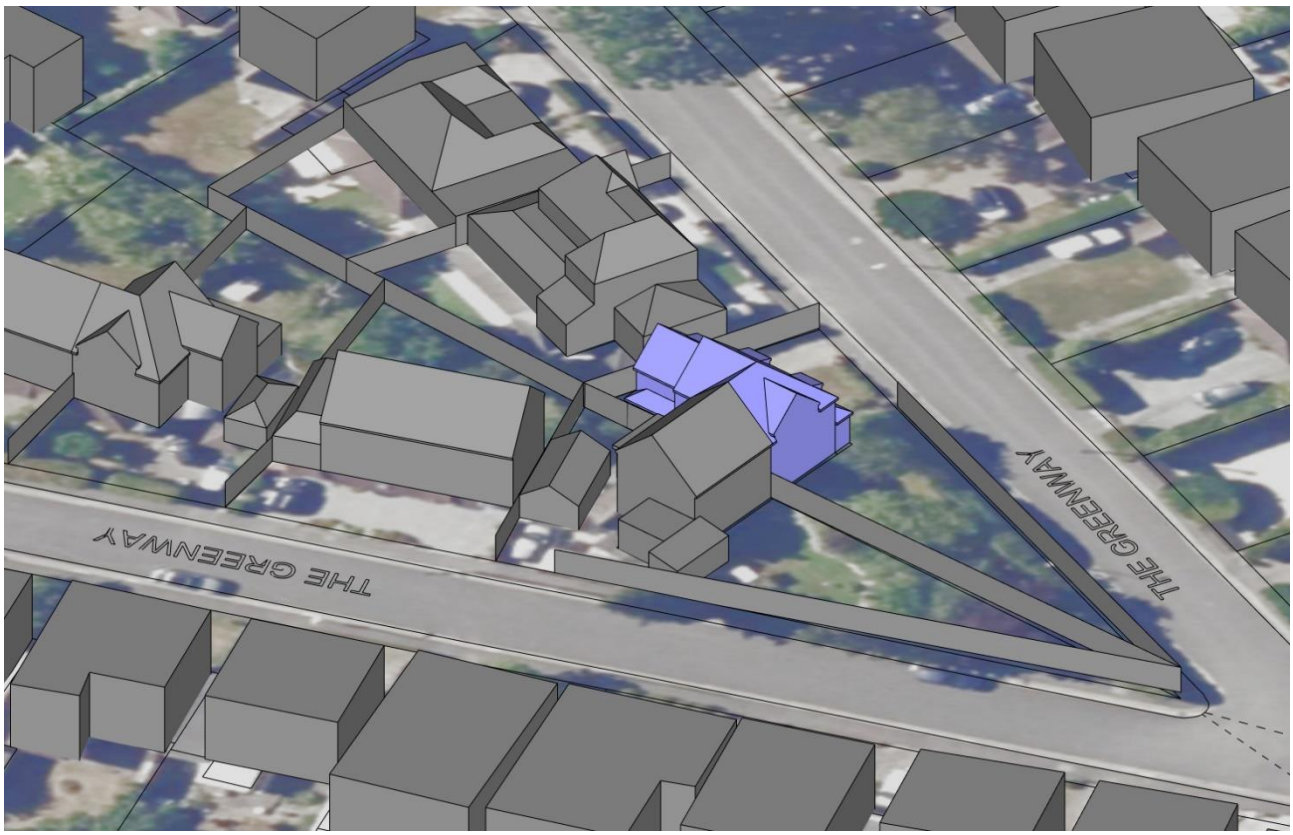

Fig 10. Aerial view of proposed 3D model from north.

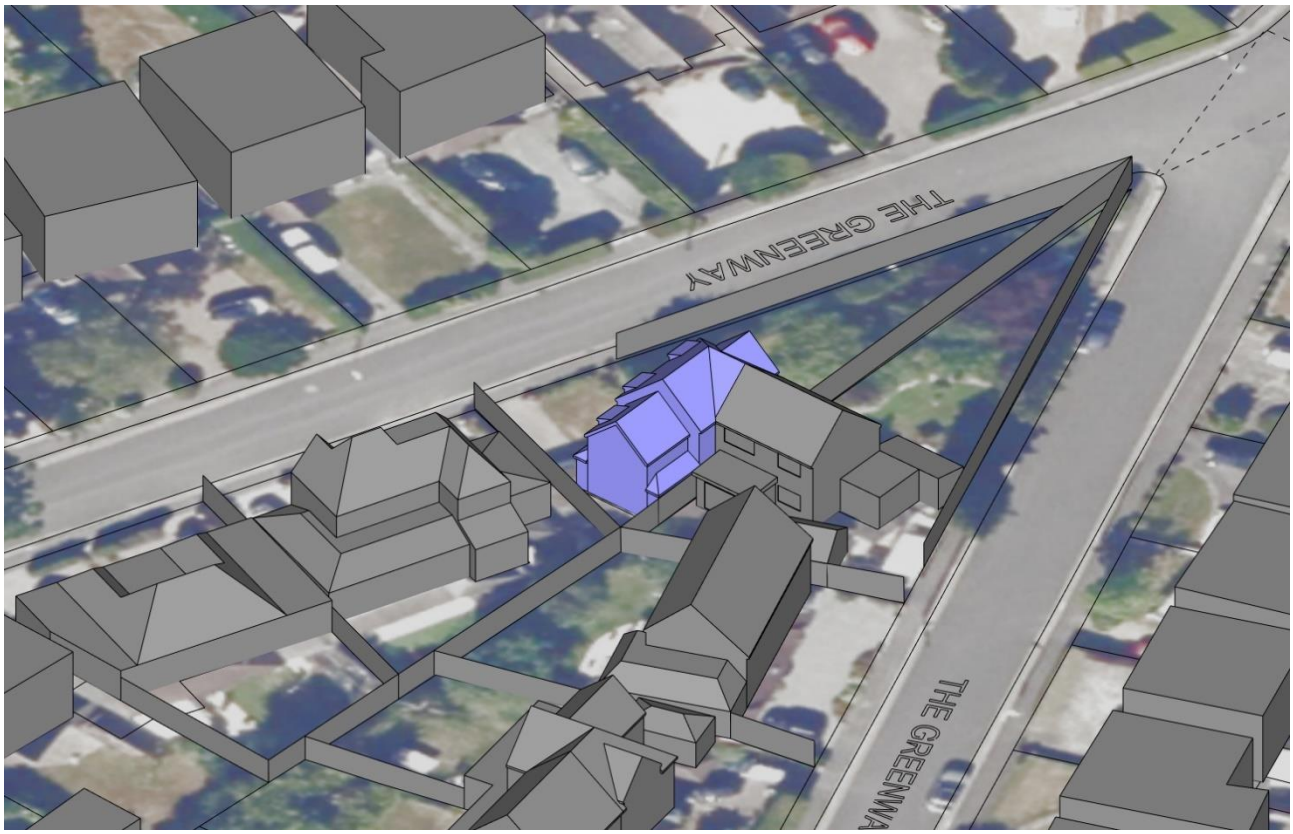

Fig 11. Aerial view of proposed 3D model from east.

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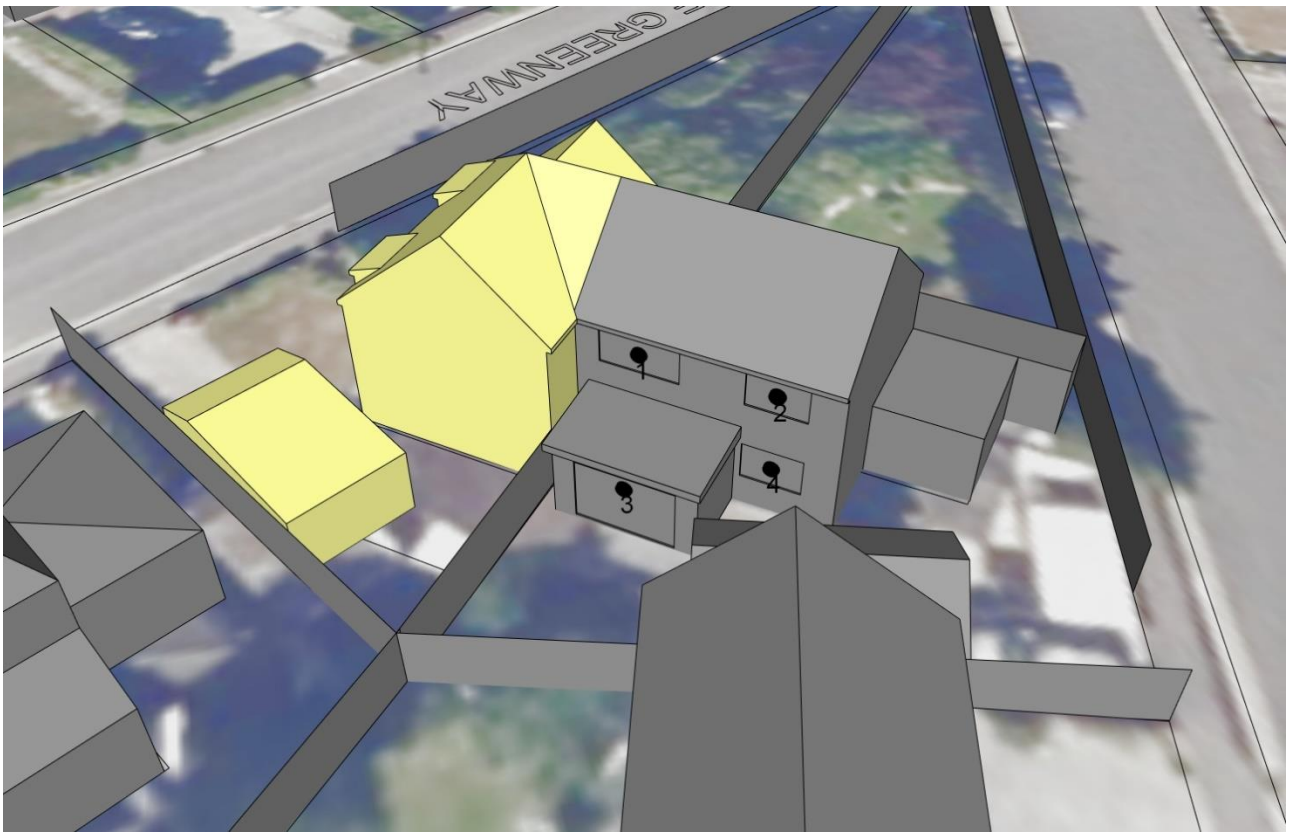

Fig 12. Existing model with neighbouring windows (at No.12 The Greenway) tested for loss of daylight and sunlight labelled.

Fig 13. Overhead view with neighbouring amenity areas tested for loss of sunlight highlighted in green and labelled. North to top.

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8. Results

8.1. Test results are listed below, highlighted green, amber, or red to indicate "above BRE target", "borderline" or "below BRE target".

8.2. Any results that require further explanation are left unhighlighted and marked with an asterisk, with additional information then provide as required.

Daylight – Vertical Sky Component (VSC)

8.3. The following table compares existing and proposed VSC results for neighbouring windows that might be affected by the proposal.

8.4. Accompanying Waldram Diagrams can be found in Appendix 2.

Table 1. VSC results.

Property	Window ref	Room type	Vsc Ex (%)	Vsc Prop (%)	Prop/Ex (target ≥0.8)
12 The Greenway	1	Unknown	31.84	31.45	0.99
12 The Greenway	2	Unknown	32.22	31.78	0.99
12 The Greenway	3	Unknown	26.63	24.81	0.93
12 The Greenway	4	Unknown	21.15	21.15	1

Daylight – No Sky Line

8.5. Internal plans of neighbouring properties were unavailable so tests of the No Sky Line could not be conducted.

Sunlight – Annual Probable Sunlight Hours (APSH/WPSH)

8.6. The following table compares existing and proposed APSH/WPSH results for neighbouring windows that might be affected by the proposal.

8.7. Note that only principal living room windows (and conservatories) that face within 90° of due south need testing under BRE guidelines, however rom types were unknown so all windows that might be affected are included.

Table 2. Annual and winter sunlight hours results.

Property	Win' ref	Room Type	Win' Orien-tation	Ex APSH (%)	Prop APSH (%)	Prop/Ex (target ≥0.8)	Ex WPSH (%)	Prop WPSH (%)	Prop/Ex (target ≥0.8)
12 The Greenway	1	Un-known	130°	56	56	1	17	17	1
12 The Greenway	2	Un-known	130°	58	58	1	20	20	1
12 The Greenway	3	Un-known	130°	52	44	0.85	22	14	0.64*
12 The Greenway	4	Un-known	130°	31	31	1	5	5	1

8.8. *The proposed WPSH remain over 5%, so the windows pass regardless of the proportion of proposed to existing falling below 0.8.

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Sunlight – Overshadowing of Amenity Space

8.9. The following table compares the existing and proposed % area of neighbouring amenity areas to receive at least two hours of direct sunlight on the 21st of March.

8.10. Accompanying gradient diagrams and data indicating the sunlight distribution can be found in Appendix 3.

Table 3. Sunlight hours in neighbouring amenity areas results.

Amenity area	Existing % of amenity area that receives 2 hours+ of direct sunlight on the 21st of March	Proposed % of amenity area that receives 2 hours+ of direct sunlight on the 21st of March	Prop/Ex
12 The Greenway rear garden	70.37%	70.37%	1

9. Conclusion

Daylight - Vertical Sky Component (VSC)

9.1. All neighbouring windows that might be affected by the proposal met BRE guidelines for loss of daylight with excellent results.

Daylight – No Sky Line

9.2. Internal plans of neighbouring properties were unavailable so tests of the No Sky Line could not be conducted, however the excellent VSC results and clear views retained to the south/south west from the rear windows at No.12 The Greenway prove beyond reasonable doubt that there will be no undue reduction in the % of neighbouring habitable floor area from which the sky is visible.

Sunlight - Annual Probable Sunlight Hours (APSH/WPSH)

9.3. All neighbouring windows that might be affected by the proposal met BRE guidelines for loss of sunlight with excellent results.

Sunlight – Overshadowing of Amenity Space

9.4. All neighbouring amenity areas that might be affected by the proposal met BRE guidelines for loss of sunlight with excellent results.

Closing Statement

9.5. The proposed extension of No.10 The Greenway has been proven to cause no undue loss of daylight or sunlight to neighbouring properties, when tested in accordance with the BRE's "Site layout planning for daylight and sunlight: A guide to good practice", third edition, 2022, which is generally accepted as good practice by local planning authorities in the UK.

9.6. It is therefore concluded that the scheme satisfies local and national policy relating to daylight and sunlight.

William Pottinger, The Daylight Lab, June 2025.

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APPENDIX 1

Existing & proposed application drawings - not to scale.

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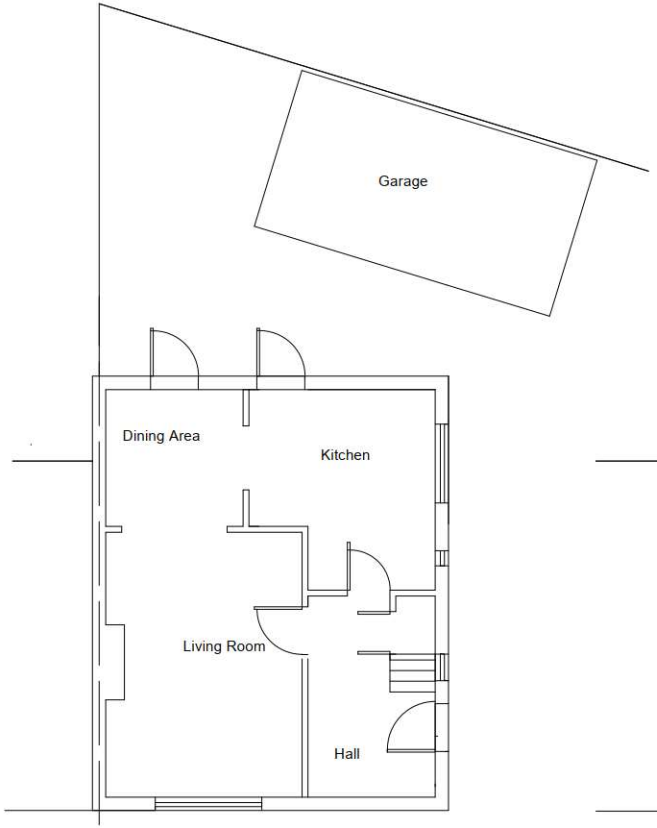
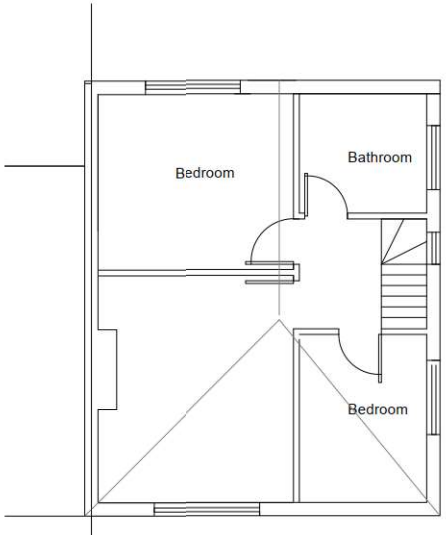
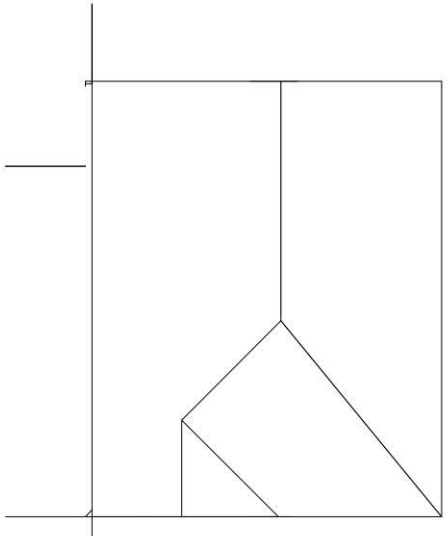


Ground Floor Plan as Existing



First Floor Plan as Existing



Roof Plan as Existing

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REVISIONS			CONTRACT	DETAIL
NO	DETAILS	DATE	10 The Greenway Ickenham	Plans as Existing
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			DRAWN DATE Feb 2025	DRAWING MP. 2224
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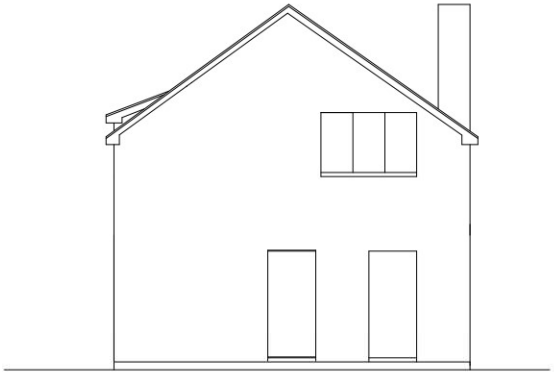
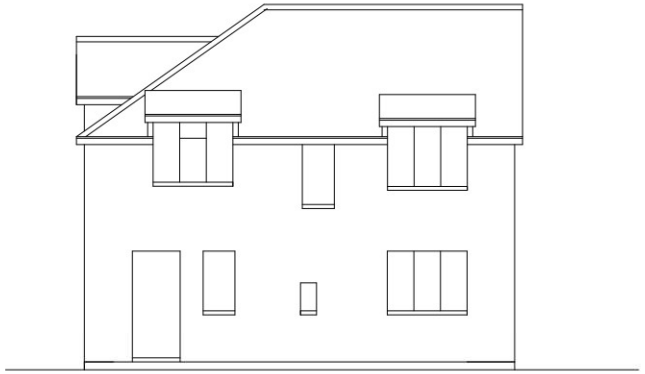
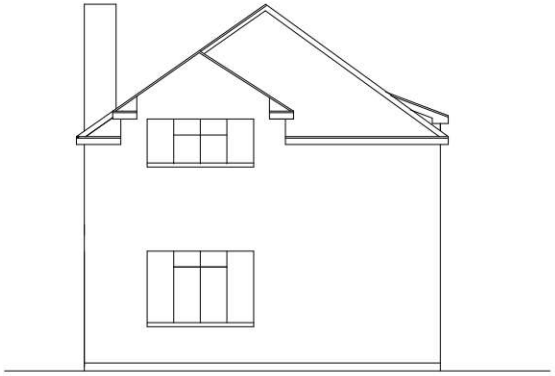
			STATUS	



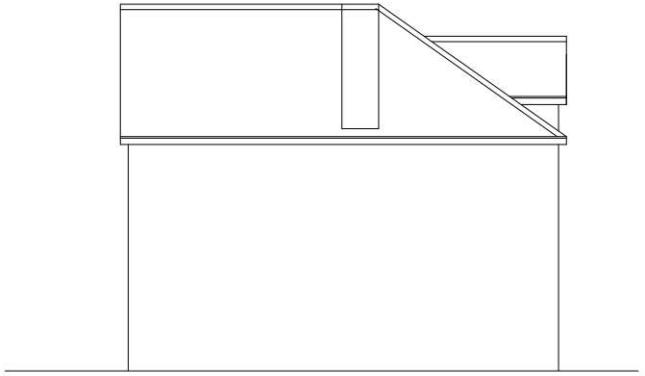
Front Elevation



Side Elevation



Rear Elevation



Side Elevation

M 1:100

0 1 2 3 4 5 6 7 8 9 10 [m]

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REVISIONS			CONTRACT	DETAIL
NO	DETAILS	DATE	10 The Greenway Ickenham	Elevation as Existing
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			DRAWN DATE Feb 2025	DRAWING MP. 2225
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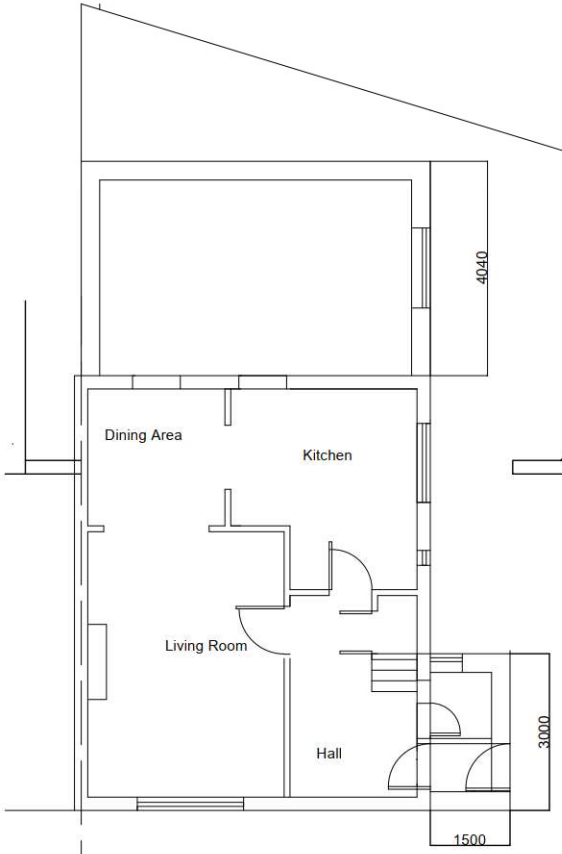
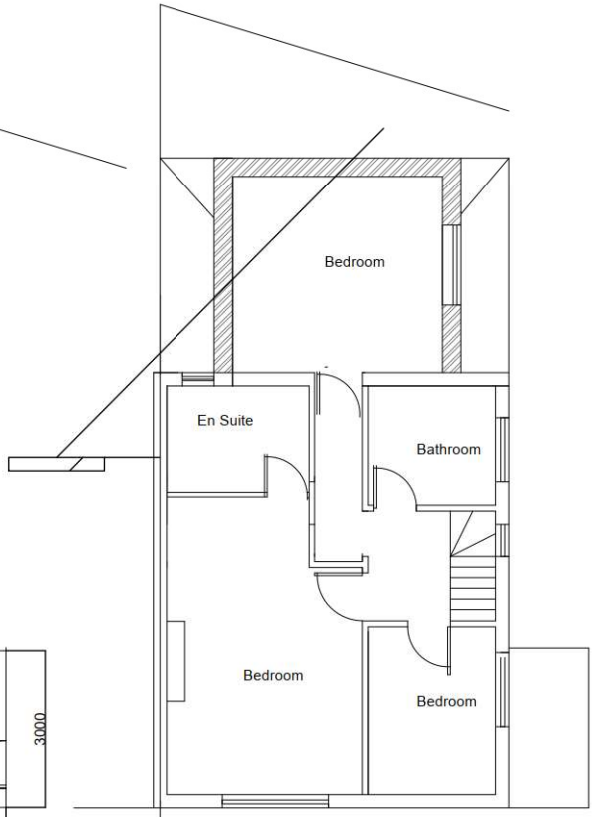
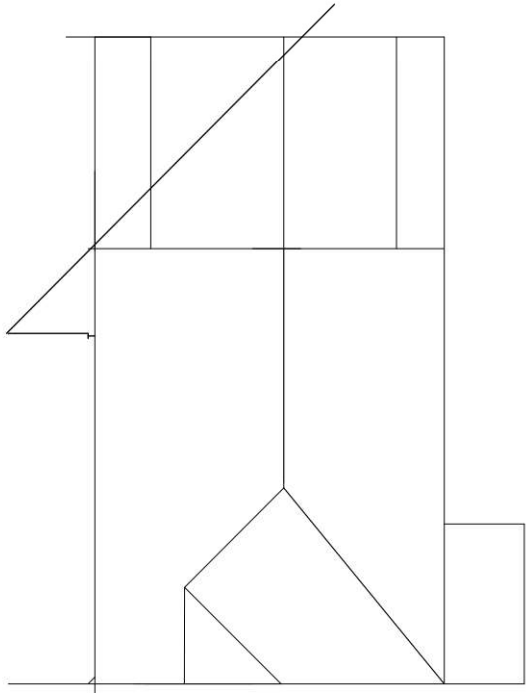


Ground Floor Plan as Proposed



First Floor Plan as Proposed



Roof Plan as Proposed

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REVISIONS			CONTRACT	DETAIL
NO	DETAILS	DATE	10 The Greenway Ickenham	Plans as Proposed
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			DRAWN DATE Feb 2025	DRAWING MP. 2224
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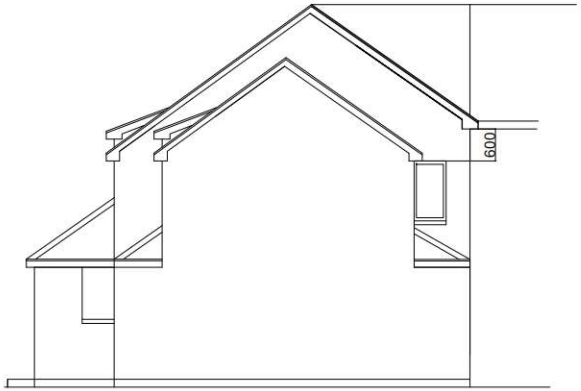
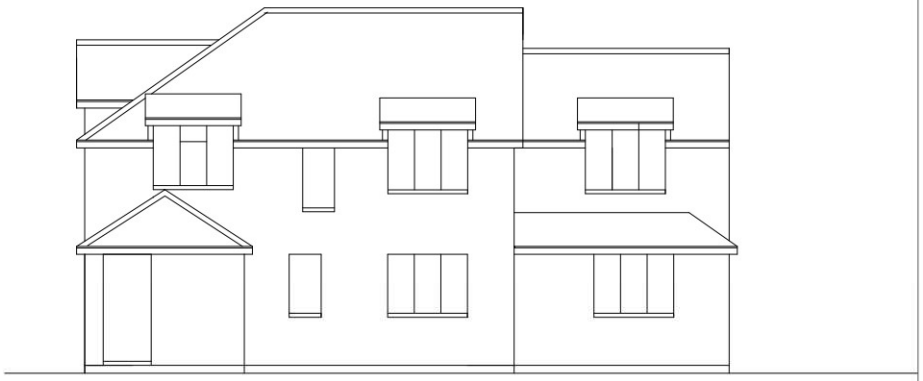
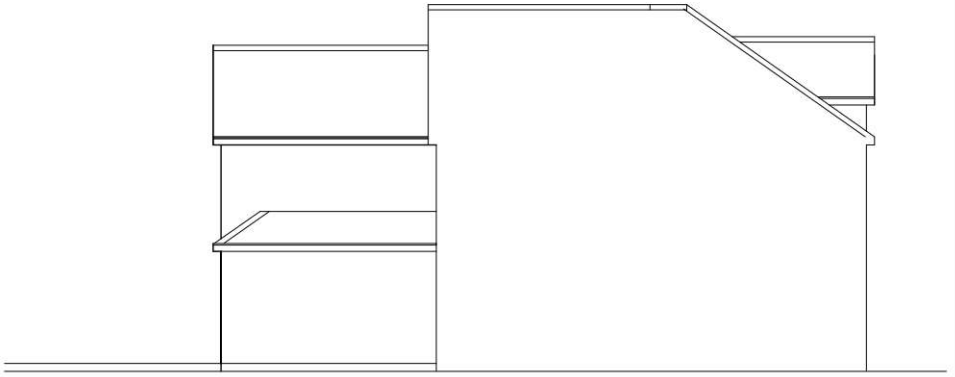


Front Elevation



Side Elevation

Rear Elevation



Side Elevation

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0 1 2 3 4 5 6 7 8 9 10 [m]

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REVISIONS			CONTRACT	DETAIL
NO	DETAILS	DATE	10 The Greenway Ickenham	Elevation as Proposed
			CLIENT	
			DRAWN DATE Feb 2025	DRAWING MP. 2228
			REVISION SCALE 1:100	
			STATUS	

APPENDIX 2

VSC Waldrum Diagrams for neighbouring windows tested for loss of daylight.

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Drawing Ref: 10 The Greenway rev1 Window Ref: 12 The Greenway_-_W1__1	VSC	Existing: 31.84 Proposed: 31.45

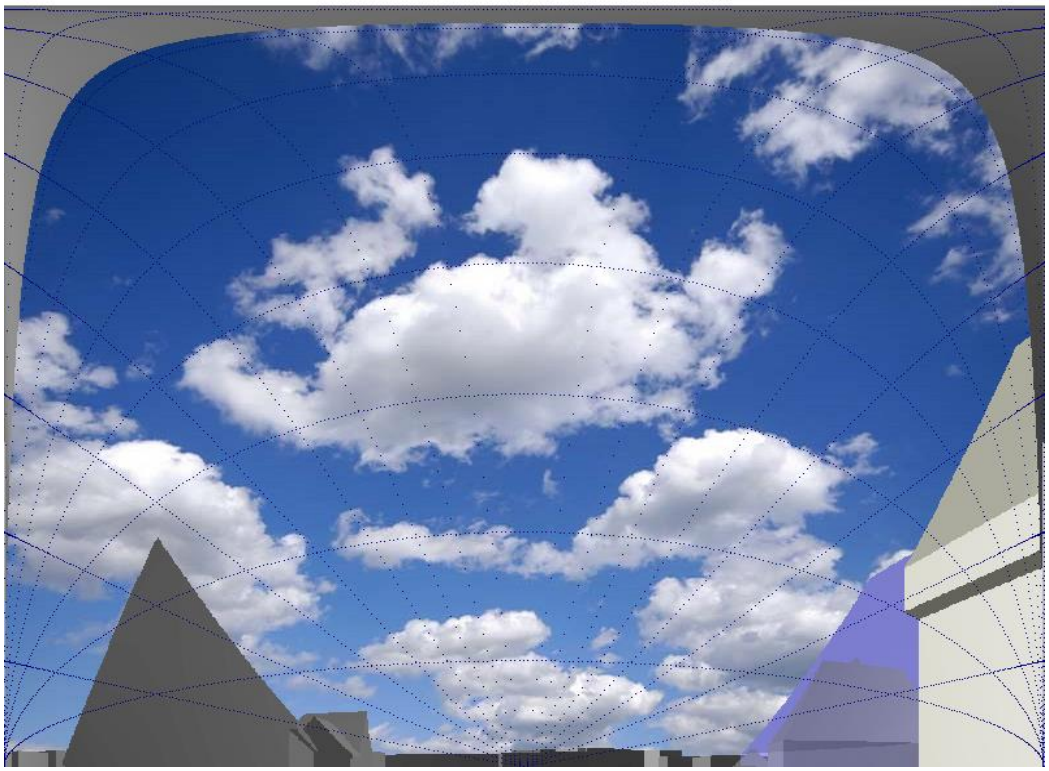

Fig 1. Waldram Diagram for Window 1.

Drawing Ref: 10 The Greenway rev1 Window Ref: 12 The Greenway_-_W2__2	VSC	Existing: 32.22 Proposed: 31.78

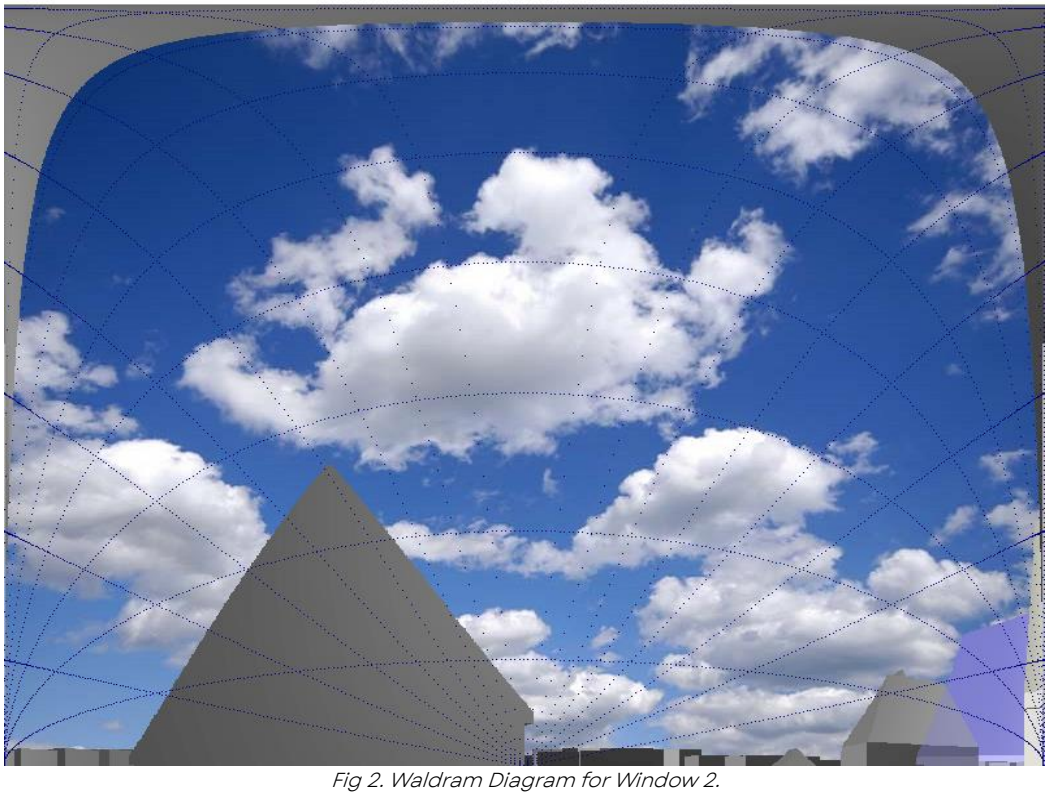

Fig 2. Waldram Diagram for Window 2.

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Fig 3. Waldram Diagram for Window 3.

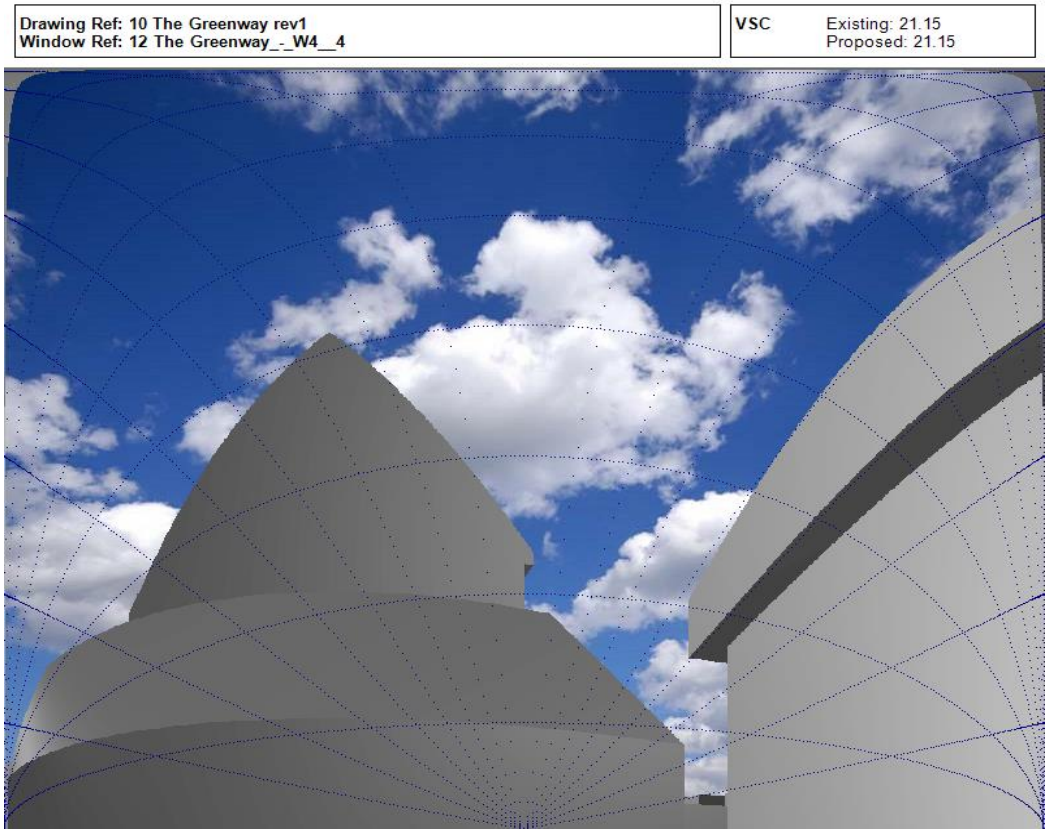

Fig 4. Waldram Diagram for Window 4.

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APPENDIX 3

Neighbouring Amenity Areas – Sunlight Hours Gradient Maps on 21st March.

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Fig 1. Aerial view showing existing % area of neighbouring amenity areas to receive a minimum of 2 hours of direct sunlight on 21st March. North to top.

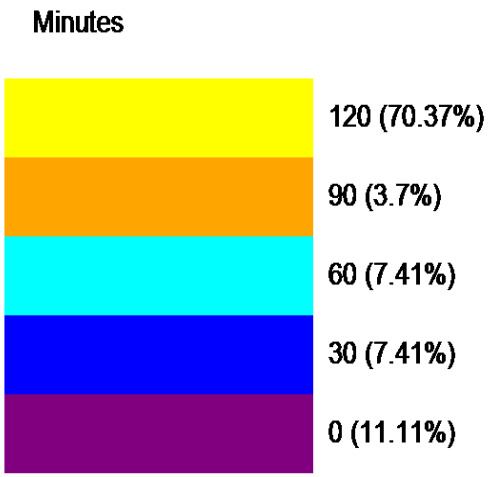

Fig 2. Existing legend – No.12 The Greenway rear garden.

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Fig 3. Aerial view showing proposed % area of neighbouring amenity areas to receive a minimum of 2 hours of direct sunlight on 21st March. North to top.

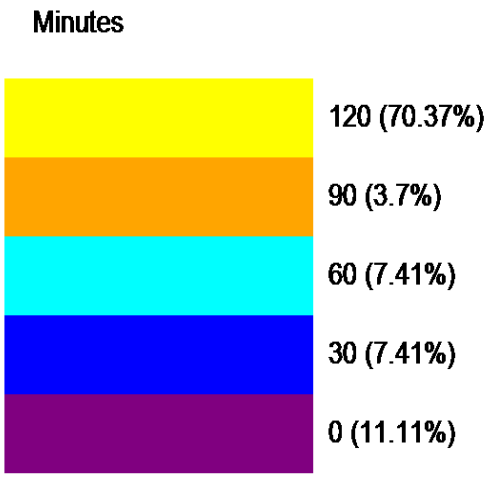

Fig 4. Proposed legend – No.12 The Greenway rear garden

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