


Independence House, Richmond

Daylight and Sunlight Report

06 October 2023

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Independence House, Richmond

DAYLIGHT AND SUNLIGHT REPORT

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Reference: 2578

DOCUMENT HISTORY

First Issued: 06 October 2023

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EXECUTIVE SUMMARY

- This is a report into the impact of the proposed development at Independence House, Richmond on the daylight and sunlight to surrounding residential properties and internally to the scheme itself. This analysis has been based upon scheme drawings provided by Wimshurst Pelleriti, a photogrammetric survey, and site imagery.
- The analysis has been carried out in accordance with the methodologies contained in the Building Research Establishment's *Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice (2022)* (known as the "BRE Guidelines"), which is used by the local authority to determine the acceptability of a proposal in terms of its effect on neighbouring daylight and sunlight amenity.
- The analysis shows that all rooms and windows in the surrounding residential properties meet the target values for NSL (daylight) and APSH (sunlight). One window, likely serving a secondary bedroom, experiences a minor adverse reduction in VSC; the room itself meets the NSL target value and remains well sunlit, as well as retaining what is considered a contextually appropriate level of VSC. In our view, therefore, this isolated impact should be considered acceptable.
- Internally, 98% of rooms meet their target daylight value; one bedroom falls a little short of its target but is located in a well daylit and sunlit unit. The internal daylighting position is therefore considered acceptable overall. In sunlight terms, 17 out of 21 units meet the target value; two of the remaining units are positioned on the corners of the proposal and so follow the BRE Guidelines' recommendations to provide such units with some sun and so the number of north-facing living rooms are "*minimised*", in line with the BRE's recommendations. The BRE acknowledge that not all units can face due south in larger developments and overall, therefore, the internal daylight and sunlight position is considered acceptable.



1 INTRODUCTION

Waldrams have been instructed to provide daylight and sunlight analysis for the proposed development of the site at Independence House, Richmond. This analysis is based upon scheme drawings by Wimshurst Pelleriti, a photogrammetric survey of the site and surrounding context and site imagery.

The analysis has been carried out in accordance with the methodologies contained in the BRE Guidelines which is used by the local authority to determine the acceptability of a proposal in terms of its effect on neighbouring daylight and sunlight amenity.

The existing site and proposed scheme can be seen in Appendix 1. The numerical results of the quantitative daylight and sunlight analysis can be found in Appendix 2. The numerical results of the quantitative internal daylight and sunlight analysis can be found in Appendix 3. Window maps showing the locations of the windows analysed in the neighbouring property can be found in Appendix 4.

2 SUMMARY OF HOW DAYLIGHT AND SUNLIGHT ARE CONSIDERED FOR PLANNING

2.1 INTRODUCTION TO THE BRE GUIDELINES

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 BRE Guidelines, used in conjunction with British Standard *Daylight in Buildings*, BS EN 17037. The BRE Guidelines provide scientific, objective methods for establishing the acceptability of daylight and sunlight internal to the scheme and the surrounding properties and overshadowing.

2.2 DAYLIGHT AND SUNLIGHT CRITERIA TO SURROUNDING PROPERTIES

Daylight

According to the BRE Guidelines, a surrounding existing building to a proposed scheme will retain the potential for good interior daylighting if the scheme subtends less than 25 degrees from the horizontal as measured from the lowest habitable windows in the neighbouring windows. If this is not achieved, then good daylighting to the neighbouring properties is still achieved if the Vertical Sky Component (VSC) is in excess of 27% or is reduced by less than 20% from its existing level and if the area of the room that can see the sky at desk height (known as the daylight distribution or no sky contour) is reduced by less than 20% of its existing area. The BRE Guidelines state this in paragraph 2.2.23 as:

“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. This will be the case if either:

- *The VSC measured at the centre of an existing main window is less than 27%, and less than 0.8 times its former value*
- *The area of the working plane in a room which can receive direct skylight is reduced to less than 0.8 times its former value."*

The BRE Guidelines state in paragraph 2.2.2:

"The guidelines given here are intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens, and bedrooms. Windows to bathrooms, toilets, storerooms, circulation areas, and garages need not be analysed. The guidelines may also be applied to any existing non-domestic building where the occupants have a reasonable expectation of daylight; this would normally include schools, hospitals, hotels and hostels, small workshops, and some offices."

Sunlight

The test for sunlight to the neighbouring properties is calculated for each living room with a main window facing within 90° of due south. 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).

The BRE Guidelines state in paragraph 3.2.13 that:

"If a living room of an existing dwelling has a main window facing within 90° of due south, and any part of a new development subtends an angle of more than 25° to the horizontal measured from the centre of the window in a vertical section perpendicular to the window, then the sunlighting of the existing dwelling may be adversely affected. This will be the case if the centre of the window:

- *receives less than 25% of annual probable sunlight hours and less than 0.80 times its former annual value; or less than 5% of annual probable sunlight hours between 21 September and 21 March and less than 0.80 times its former value during that period;*
- *and also has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours."*



Following the BRE Guidelines recommendations, VSC and APSH are measured from a point on the outer window wall.

2.3 ALTERNATIVE TARGET VALUES AND APPLYING A FLEXIBLE APPROACH

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. 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 they state in paragraph 1.6:

“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 designer. Although it gives numerical guidelines, these should be interpreted flexibly as natural lighting is only one of many factors in site layout design. In special circumstances the developer or planning authority may wish to use different target values. ”

The numerical figures set out in the BRE Guidelines should therefore 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.

The BRE recommend that, in urban development locations, alternative baselines or lower target values may be used (c.f. Appendix F of the BRE Guidelines for Daylight & Sunlight). Paragraph F1 states:

“These values [those set out in the BRE Guidelines] are purely advisory and different targets may be used based on the special requirements of the proposed development or its location. Such alternative targets may be generated from the layout dimensions of existing development, or they may be derived from considering the internal layout and daylight needs of the proposed development itself.”

Indeed, in paragraph 2.2.3 of the BRE Guidelines it states:

“Note that numerical values given here are purely advisory. Different criteria may be used based on the requirements for daylighting in an area viewed against other site layout constraints. Another important issue is whether the existing building is itself a good neighbour, standing a reasonable distance from the boundary and taking more than its fair share of light. Appendix F



gives further guidance."

Applying flexibility when considering the BRE Guidelines in planning terms is also supported by the National Planning Policy Framework (NPPF) (July 2021) which states in paragraph 125:

"Where there is an existing or anticipated shortage of land for meeting identified housing needs, it is especially important that planning policies and decisions avoid homes being built at low densities, and ensure that developments make optimal use of the potential of each site. In these circumstances:

...

(c) local planning authorities should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework. In this context, when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards)."

It is important to note that the BRE Guidelines merely state that occupants may "notice" reductions of more than 20% and do not talk about acceptability. Planning appeal decisions and investigations carried out by the Inspectorate in recent years (such as appeal ref. APP/E5900/W/17/3191757) have made it clear that, in assessing daylight and sunlight impacts, the context of the site is key in understanding whether occupants in surrounding properties will be left with appropriate levels of amenity and whether or not reductions are acceptable. For instance, where the resulting levels of daylight and sunlight are comparable to those of other local residents, changes (i.e. reductions) can be considered acceptable and contextually appropriate. It is also important to remember that residential amenity should be balanced against the advantages of living in such a location (such as close links to transport, amenities, employment, services etc.).

The Appeal (APP/E5900/W/17/3191757) decision states that, in considering daylight and sunlight impacts, the following process should be considered:

"15. ...In essence, first, as a matter of calculation, whether there would be a material deterioration in conditions and second, as a matter of judgement, whether that deterioration would be acceptable in the particular circumstances of the case.

16. The Court held that the first question can be answered by applying the BRE Guidelines: for each window assessing the 'vertical sky



component' (VSC) and the 'no sky line' (NSL) for daylight and the 'annual probable sunlight hours' (APSH) for sunlight. If the guidelines are exceeded the deterioration would be material. In answering the second question - whether that deterioration is acceptable – wider considerations come into play. This indicates to me that the acceptability of a material deterioration in living conditions must be judged in its local context."

In considering planning policy, it is important therefore to firstly establish whether the impact of a proposed development on the daylighting and sunlight conditions of surrounding property to the development would result in a noticeable impact, and secondly whether such an impact can be considered acceptable or not in view of the site context. A two-stage approach can therefore be adopted as follows:

- 1) Whether a proposed scheme would or would not result in a "material deterioration" in daylight and sunlight. This can be assessed against the BRE's target values with a 20% or more reduction in daylight and sunlight being considered as having a "noticeable" impact; and
- 2) whether such deterioration would be considered acceptable or not given the context of the site.

2.4 INTERNAL DAYLIGHT & SUNLIGHT CRITERIA FOR NEW BUILDS

The BRE Guidelines set out their interior daylight recommendations in Appendix C of their document. They refer to the British Standard *Daylight in Buildings* BS EN17037 and its UK National Annex which sets out two criteria for assessing interior daylight. Daylight provision in new rooms may be checked using either of the methods in BS EN 17037. One is based on target illuminances from daylight to be achieved over specified fractions of the reference plane (a plane at table top height covering the room) for at least half of the daylight hours in a typical year. The other, alternative, method is based on calculating the daylight factors achieved over specified fractions of the reference plane. We have undertaken the assessment based on the illuminance method.

Illuminance Method

This method involves using climatic data for the location of the site (via the use of an appropriate, typical or average year, weather file within the software) to calculate the illuminance from daylight at each point on an assessment grid on the reference plane at an at least hourly interval for a typical year.

The UK National Annex gives illuminance recommendations of:

- 100 lux in bedrooms
- 150 lux in living rooms



- 200 lux in kitchens.

These are the median illuminances, to be exceeded over at least 50% of the assessment points in the room for at least half of the daylight hours. The recommended levels over 95% of a reference plane need not apply to dwellings in the UK.

The BRE Guidelines state in paragraph C17 that:

“Where a room has a shared use, the highest target should apply. For example in a bed sitting room in student accommodation, the value for a living room should be used if students would often spend time in their rooms during the day. Local authorities could use discretion here. For example, the target for a living room could be used for a combined living/dining/kitchen area if the kitchens are not treated as habitable spaces, as it may avoid small separate kitchens in a design.”

Sunlight

For internal sunlight, the BRE Guidelines state in paragraph 3.1.15:

“In general a dwelling, or non-domestic building that has a particular requirement for sunlight, will appear reasonably sunlit provided:

- *at least one main window wall faces within 90° of due south and*
- *a habitable room, preferably a main living room, can receive a total of at least 1.5 hours of sunlight on 21 March. This is assessed at the inside centre of the window(s); sunlight received by different windows can be added provided they occur at different times and sunlight hours are not double counted.”*

2.5 METHOD USED FOR CALCULATING THE DAYLIGHT AND SUNLIGHT RESULTS

The analysis provided in this report utilizes state-of-the-art software to calculate in three dimensions the daylight and sunlight following the methods specified in the BRE Guidelines. A three dimensional accurate computer model has been created for the existing site in context of the immediate surrounding properties, based upon architect's drawings, a photogrammetric survey of the site and surrounding properties, site imagery and surrounding property information. The results generated are then reviewed against the BRE Guidelines' target values.

REFERENCES:

BRE Guidelines (BR 209): *Site layout planning for daylight and sunlight: a guide to good practice*(2022).



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 Section 2 above of this report.

3 ASSUMPTIONS USED IN THE ANALYSIS

Uses of the surrounding properties have been based on external appearance to determine whether they are residential or commercial use. We have also researched the Council Tax records for the property, which if listed would indicate residential use.

It is important to note that, in some cases and where no additional information is available, the window positions in the surrounding property elevations have been estimated based on brick counts from site photographs. The floor levels for the surrounding buildings are assumed unless otherwise indicated.

We have obtained layouts for the following properties from the local planning portal and/or estate agency listings:

- Eminence House, Lower Mortlake Road
- Vetro House, Lower Mortlake Road

We have not been able to obtain layouts or gain access internally to any of the remaining surrounding properties and so details of the internal layouts and floor level heights have been assumed from the external appearance of the building, and the locations of windows. Unless known or otherwise, appropriate the depths of rooms have been assumed at 4.27m for residential properties and 6m for commercial properties, or half the building depth if this is less than these dimensions.

All property addresses are taken from the Land Registry MapSearch website and we advise that these are checked by your solicitor prior to any action being taken based on this report.

The following reflectance, transmittance, maintenance and framing values have been used in the internal daylight calculations:

- Transmittance (T): 0.68
- Reflectance (R): 0.4 for floors, 0.8 for ceilings, and 0.7 for walls
- Maintenance Factor: 0.92
- Framing Factor: 0.6

BS EN 17037 section B.3.1 states that, "the recommended values of reflectance for the



major interior surfaces would be in the following ranges: ceiling 0.7 to 0.9; interior walls 0.5 to 0.8; floor 0.2 to 0.4." Paragraph C24 of the BRE Guidelines meanwhile states, "Where surface finishes have been specified or measured on site, they can be used in the calculations with appropriate factors for maintenance and furniture. To allow for these factors, maximum reflectances for white painted surfaces in the calculations should not exceed 0.8 indoors, and 0.6 outdoors. Maximum reflectances for light pastel walls should not exceed 0.7 in the calculations, and maximum reflectances for light wood floors should not exceed 0.4."

4 SOURCES OF INFORMATION USED IN THE REPORT

Wimshurst Pelleriti

WP-810-IH-Resi Model_3D

Received 24/8/23

0810-WPA-IH Proposed DRAFT

Received 03.10.23

Local Authority Planning Records/Rightmove

Eminence House (Planning ref. 13 3728 FUL)

Plans, sections and elevations

Vetro House (13 0171 FUL)

Plans, sections and elevations

Obtained October 2020

Waldrams Chartered Surveyors

Photogrammetry

Site Photographs

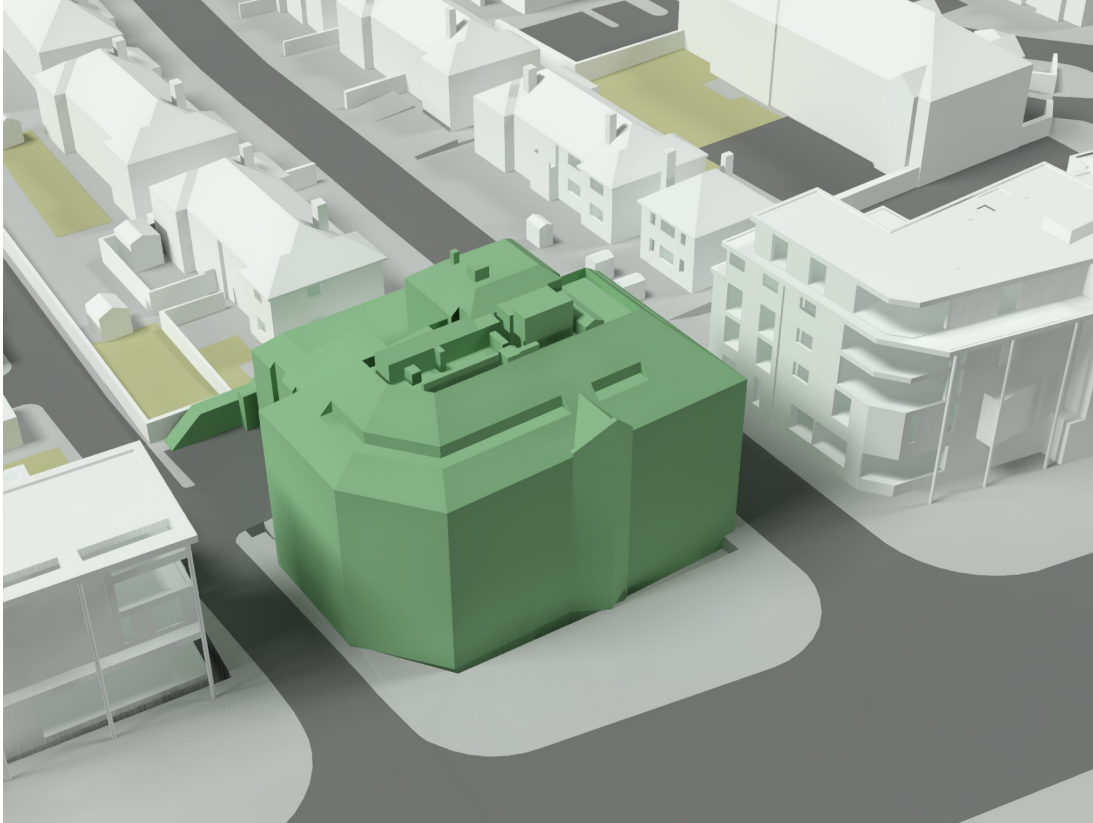


Image 1: Existing site

5 DAYLIGHT & SUNLIGHT ANALYSIS

The existing site and proposed scheme can be seen in Appendix 1. The existing site in its current condition is shown in image 1 above.

In terms of daylight and sunlight, the following properties in the table on the following page were analysed due to their proximity to the development site given the height and massing of the proposal.

The table below demonstrates that the following properties meet the target values as set out in the BRE Guidelines for daylight (in terms of VSC and daylight distribution) and sunlight (in terms of APSH) and therefore, are not commented on further:

- 149 to 165 (odd) Lower Mortlake Road
- 2 West Sheen Vale
- Eminence House, Lower Mortlake Road
- Vetro House, Lower Mortlake Road



Property	Vertical Sky Component			No Sky Line			Annual Probable Sunlight Hours		
	Windows tested	Windows satisfying BRE criteria	Windows not satisfying BRE criteria (reduction)			Rooms tested	Rooms satisfying BRE criteria	South facing windows tested	Windows satisfying BRE criteria
			20.1-30%	30.1-40%	>40.1%				
1-7 West Sheen Vale	5	6	1			6	6	2	2
2 West Sheen Vale	6	6				6	6	0	N/A
149 to 165 Lower Moriflake Road	45	45				28	28	45	45
Eminence House	36	36				14	14	4	4
Veitro House	19	19				9	9	13	13



Image 2: 1-7 West Sheen Vale

1-7 WEST SHEEN VALE

This small apartment block is to the south of the proposed development. Based on the sign adjacent the front door, flats 1 & 3 are assumed to be closest to Independence House.

RESULTS

Five out of six windows analysed meet the target value for VSC with the proposal in place. All six assumed rooms meet the target value for NSL.

In sunlight terms, both windows that face within 90° of due south meet the target value for annual and winter sunlight. Of note, no windows experience a reduction in annual or winter sunlight as a result of the proposed development.

COMMENTARY

The ground floor window facing Independence House experiences a 26% reduction in VSC. This is considered a minor adverse and isolated impact. Based on the layout of 7 West Sheen Vale (likely to be a mirror image of the unit in question), this room is likely to be a secondary bedroom. Furthermore, the retained level of daylight (16% VSC) is likely to be similar or greater than that retained by the similarly positioned window in 5 West Sheen Vale facing its neighbour at Nos. 9 to 17.



As such, given the isolated and minor nature of this impact, the contextually appropriate level of retained VSC and the good levels of NSL and APSH, the overall impact to this building is acceptable in our view.



6 INTERNAL DAYLIGHT & SUNLIGHT ANALYSIS

The results of the internal daylight and sunlight analysis are included in Appendix 3. We have assessed the internal daylight within the scheme using the illuminance method.

For internal daylight, the UK National Annex to BS EN 17037 gives the following median illuminances to be exceeded over at least 50% of the assessment points in the room for at least half of the daylight hours:

- 100 lux in bedrooms
- 150 lux in living rooms
- 200 lux in kitchens.

As per paragraph C17 of the BRE Guidelines, the target for a combined living/dining/kitchen room has been set to that of a living room in cases where the kitchens have been added to the main living space in order to avoid small separate kitchens in the design. In these cases, the primary use of the room is as a living room and the kitchen area is there solely for food preparation etc.

For internal sunlight, the BRE Guidelines state that a dwelling will appear reasonably sunlit provided that at least one main window wall faces within 90° of due south and a habitable room, preferably a main living room, can receive a total of at least 1.5 hours of sunlight on 21 March.

RESULTS

In daylight terms, 50 out of 51 rooms meet their target daylight value. The remaining room is a first floor bedroom.

In sunlight terms, 17 out of 21 units meet the target sunlight value.

COMMENTARY

In our view, the scheme is well daylight on the whole. The one bedroom that does not receive its target daylight value still achieves 100 lux over 32% of its area and records a median lux over its whole area of 82 lux i.e. close to the 100 lux target value. Given all other rooms in this unit are well daylight, including the main living space, and that the unit meets the target sunlight value, the daylighting for the proposal is considered acceptable overall.

Regarding sunlight, the BRE Guidelines acknowledge that it may be difficult to achieve the target level in all units in larger developments:

“3.1.7 ... The aim should be to minimise the number of dwellings whose living rooms face solely north, northeast or northwest, unless there is some



compensating factor such as an appealing view to the north."

And:

"3.1.8 ...For larger developments, it may not be possible to have every living room facing within 90 degrees of due south."

The Guidelines go on to suggest ways of improving the position, which include:

"Arranging the flats so that the living rooms are placed on the end corners of the building and hence can be dual aspect. That way, living rooms on the north side of the building can also have an east or west facing window that receives some sun."

Two of the four living rooms that do not meet their target value in question are positioned on the corner of the block and receive at least 0.7 hours sunlight vs the target 1.5 hours. Additionally, all four units have access to an exterior private amenity space which will provide an alternative source of sunlight amenity. In our view, therefore, the guidance has been followed with north-facing living positioned on the corners of the proposal where possible, thus minimising *"the number of dwellings whose living rooms face solely north"*. As the BRE acknowledge that it may not be possible to ensure all living rooms face towards the southern sky, the sunlighting results are considered acceptable overall.



7 CONCLUSIONS

This is a report into the impact of the proposed development at Independence House, Richmond on the daylight and sunlight to surrounding residential properties, amenity spaces, and internally to the scheme itself. This analysis has been based upon scheme drawings provided by Wimshurst Pelleriti, a photogrammetric survey, and site imagery.

The analysis has been carried out in accordance with the methodologies contained in the BRE Guidelines, which is used by the local authority to determine the acceptability of a proposal in terms of its effect on neighbouring daylight and sunlight amenity.

The analysis shows that all rooms and windows in the surrounding residential properties meet the target values for NSL (daylight) and APSH (sunlight). One window, likely serving a secondary bedroom, experiences a minor adverse reduction in VSC; the room itself meets the NSL target value and remains well sunlit, as well as retaining what is considered a contextually appropriate level of VSC. In our view, therefore, this isolated impact should be considered acceptable.

Internally, 98% of rooms meet their target daylight value; one bedroom falls a little short of its target but is located in a well daylight and sunlit unit. The internal daylighting position is therefore considered acceptable overall. In sunlight terms, 17 out of 21 units meet the target value; two of the remaining units are positioned on the corners of the proposal and so follow the BRE Guidelines' recommendations to provide such units with some sun and so the number of north-facing living rooms are "*minimised*", in line with the BRE's recommendations. The BRE acknowledge that not all units can face due south in larger developments and overall, therefore, the internal daylight and sunlight position is considered acceptable.



APPENDIX 1

Drawings

SOURCES OF INFORMATION:

WP
 IR04 (RECEIVED 14.10.2020)

ACCUCITIES
 IR05 (RECEIVED 12.10.2020)

SITE PHOTOGRAPHS

SURROUNDING PROPERTY INFORMATION

NOTES:

EXISTING BUILDING SHOWN IN GREEN



PROJECT
 INDEPENDENCE HOUSE, RICHMOND
 LONDON, TW9

DRAWING
 PLAN VIEW
 EXISTING CONDITION

SCALE @ A3 **DATE**
 1:350 22.10.2020

MODELLED BY **DRAWN BY**
 VR ET

PROJECT No. **REL No. - DWG No.**
 2578 01-01

SOURCES OF INFORMATION:

WP
IR04 (RECEIVED 14.10.2020)

ACCUCITIES
IR05 (RECEIVED 12.10.2020)

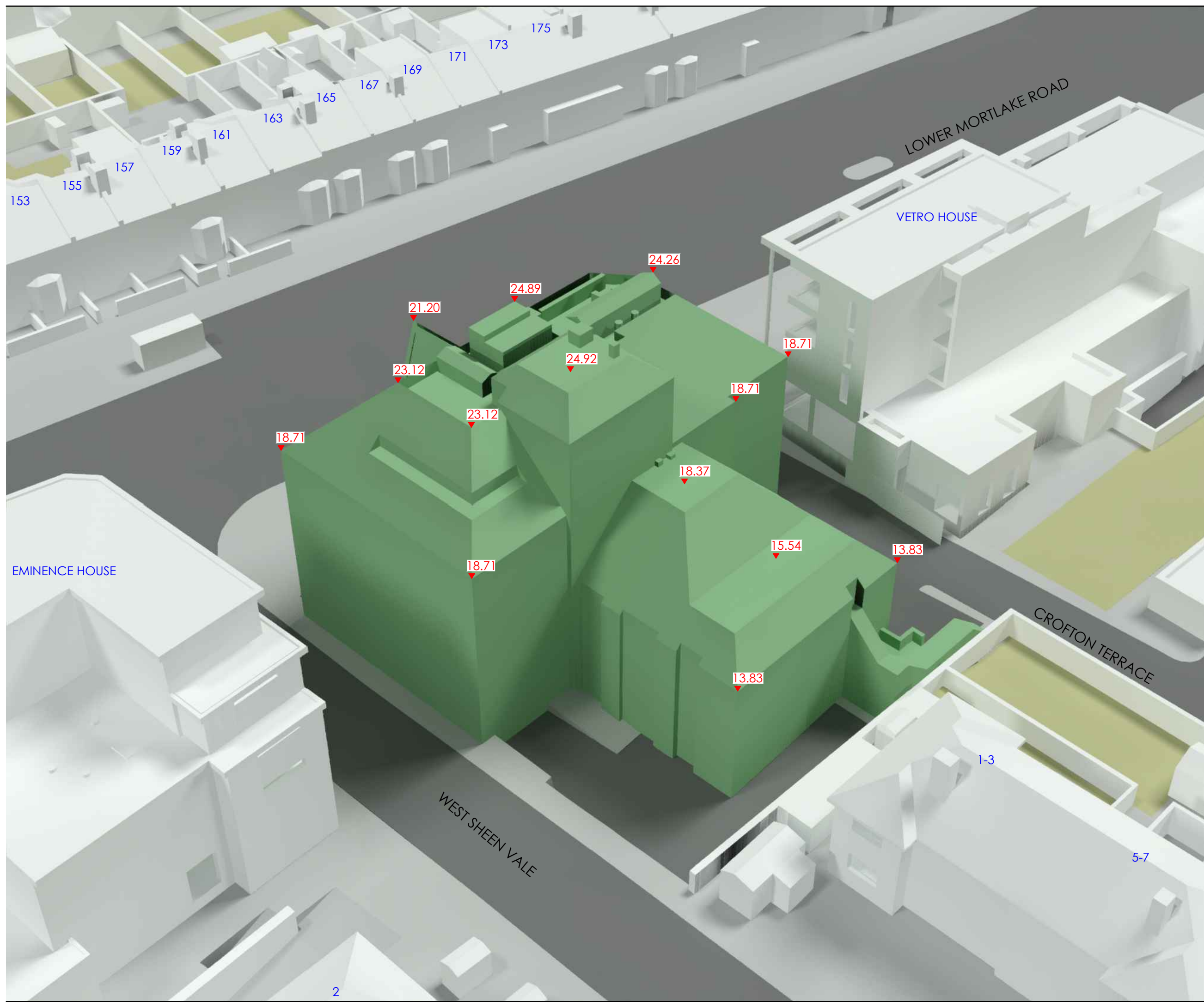
SITE PHOTOGRAPHS

SURROUNDING PROPERTY INFORMATION

NOTES:

EXISTING BUILDING SHOWN IN GREEN

AOD HEIGHTS SHOWN IN METRES



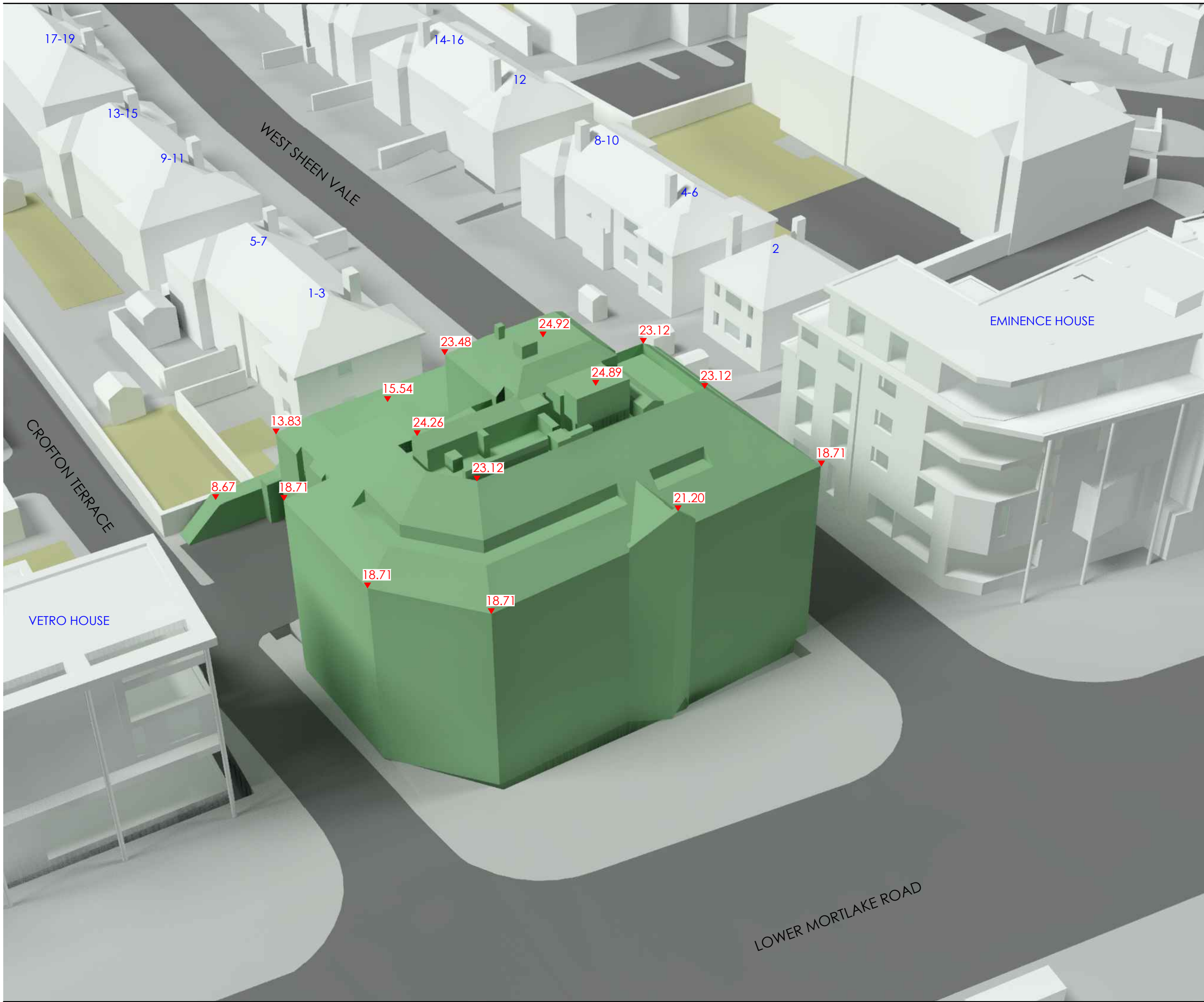
PROJECT
INDEPENDENCE HOUSE, RICHMOND
LONDON, TW9

DRAWING
3D VIEW
EXISTING CONDITION

SCALE @ A3 **DATE**
NTS 22.10.2020

MODELLED BY **DRAWN BY**
VR ET

PROJECT No. **REL No. - DWG No.**
2578 01-02



SOURCES OF INFORMATION:

WP
 IR04 (RECEIVED 14.10.2020)

ACCUCITIES
 IR05 (RECEIVED 12.10.2020)

SITE PHOTOGRAPHS

SURROUNDING PROPERTY INFORMATION

NOTES:

EXISTING BUILDING SHOWN IN GREEN

AOD HEIGHTS SHOWN IN METRES

PROJECT
 INDEPENDENCE HOUSE, RICHMOND
 LONDON, TW9

DRAWING
 3D VIEW
 EXISTING CONDITION

SCALE @ A3 **DATE**
 NTS 22.10.2020

MODELLED BY **DRAWN BY**
 VR ET

PROJECT No. **REL No. - DWG No.**
 2578 01-03



SOURCES OF INFORMATION:

WP
IR07 (RECEIVED 03.10.2023)

WALDRAMS LTD
2578_03

NOTES:

PROPOSED BUILDING SHOWN IN BLUE



PROJECT
INDEPENDENCE HOUSE, RICHMOND
LONDON, TW9

DRAWING
PLAN VIEW
PROPOSED SCHEME

SCALE @ A3 **DATE**
1:350 05.10.2023

MODELLED BY **DRAWN BY**
VR VR

PROJECT No. **REL No. - DWG No.**
2578 04-02

SOURCES OF INFORMATION:

WP
IR07 (RECEIVED 03.10.2023)

WALDRAMS LTD
2578_03

NOTES:

PROPOSED BUILDING SHOWN IN BLUE

AOD HEIGHTS SHOWN IN METRES



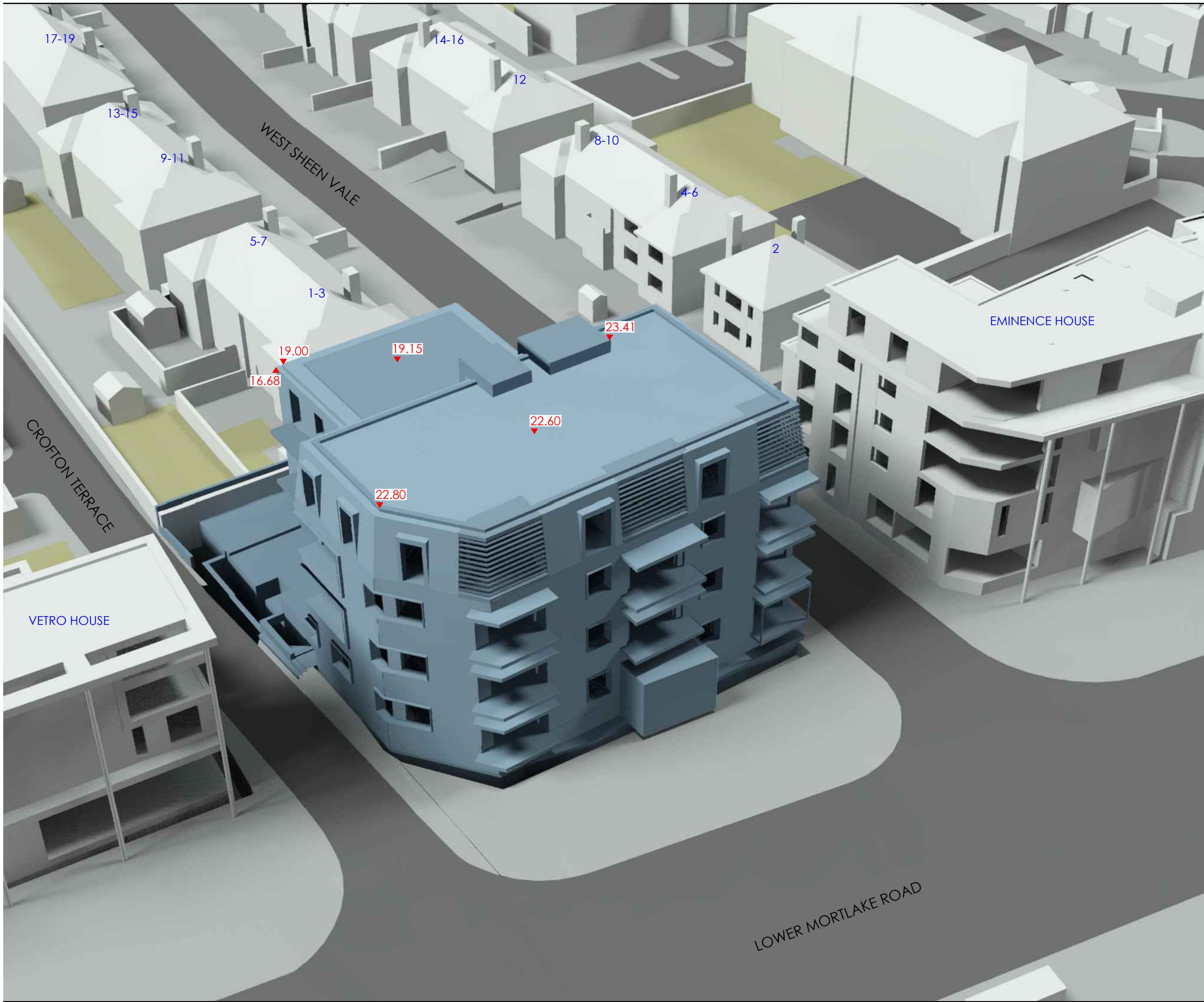
PROJECT
INDEPENDENCE HOUSE, RICHMOND
LONDON, TW9

DRAWING
3D VIEW
PROPOSED SCHEME

SCALE @ A3 **DATE**
NTS 05.10.2023

MODELLED BY **DRAWN BY**
VR VR

PROJECT No. **REL No. - DWG No.**
2578 04-03



SOURCES OF INFORMATION:

WP
IR07 (RECEIVED 03.10.2023)

WALDRAMS LTD
2578_03

NOTES:

PROPOSED BUILDING SHOWN IN BLUE

AOD HEIGHTS SHOWN IN METRES

PROJECT
INDEPENDENCE HOUSE, RICHMOND
LONDON, TW9

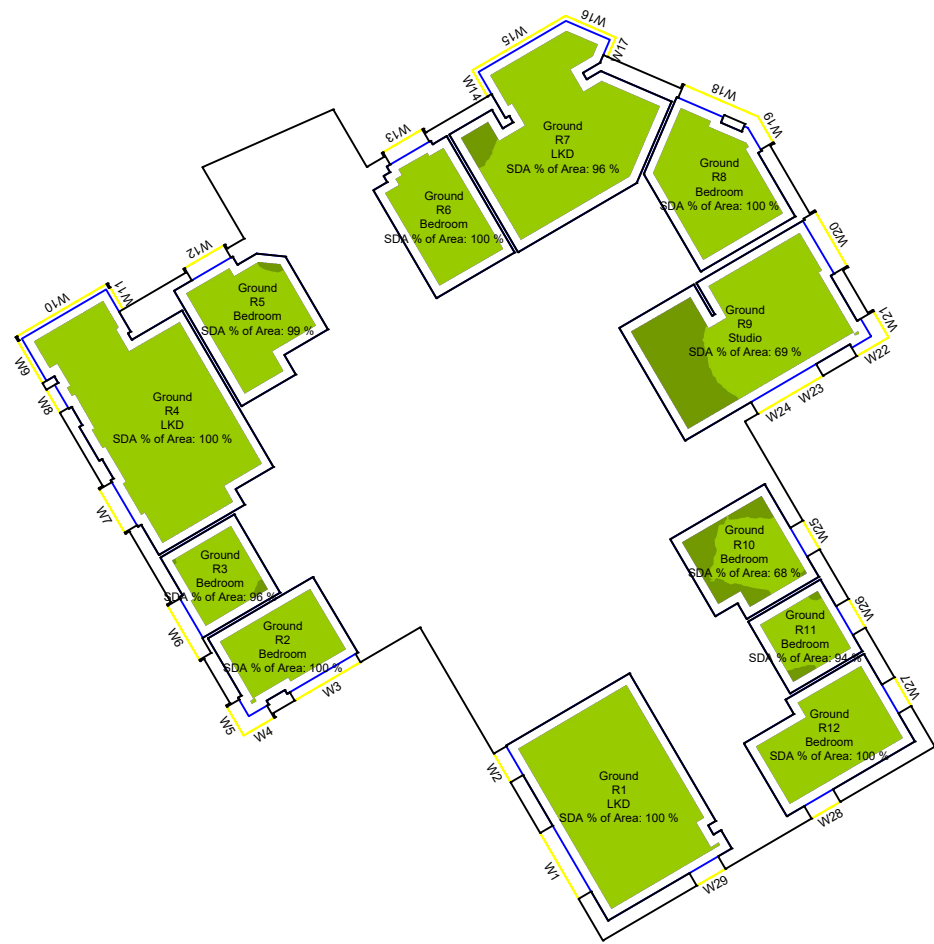
DRAWING
3D VIEW
PROPOSED SCHEME

SCALE @ A3 **DATE**
NTS 05.10.2023

MODELLED BY **DRAWN BY**
VR VR

PROJECT No. **REL No. - DWG No.**
2578 04-04

GROUND FLOOR



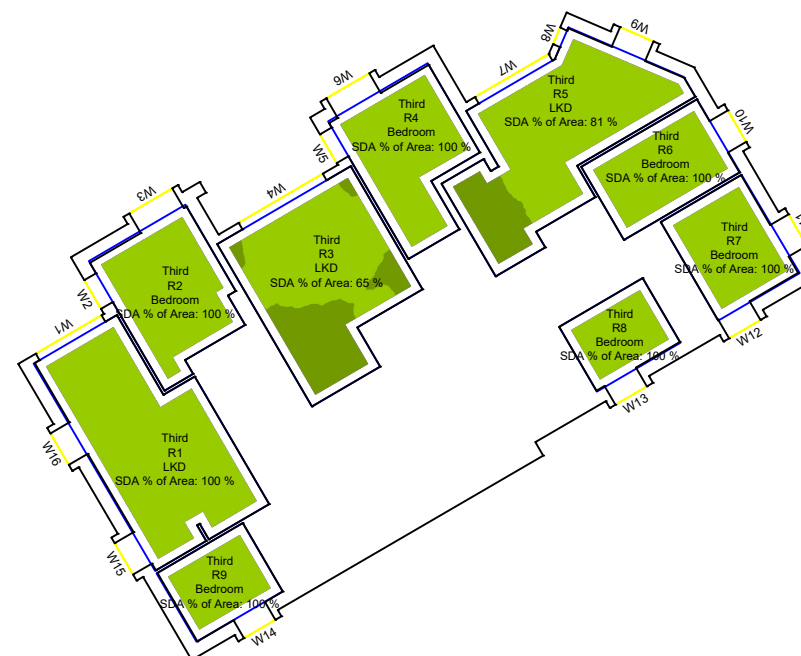
FIRST FLOOR



SECOND FLOOR



THIRD FLOOR



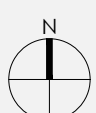
SOURCES OF INFORMATION:

WP
IR07 (RECEIVED 03.10.2023)

WALDRAMS LTD
2578_03

NOTES:

SDA % OF HOURS



PROJECT
INDEPENDENCE HOUSE, RICHMOND
LONDON, TW9

DRAWING
SPATIAL DAYLIGHT AUTONOMY

SCALE @ A3 1:250 **DATE** 05.10.2023

MODELLED BY VR **DRAWN BY** VR

PROJECT No. 2578 **REL No. - DWG No.** 04-01



APPENDIX 2

Daylight & Sunlight Results

Daylight_Sunlight Analysis Table
 Surroundings

					Vertical Sky Component			No Skyline				Annual Probable Sunlight Hours					
Address/Floor	Room Ref	Property Type	Room Usage	Window Ref	Existing VSC %	Proposed VSC %	Ratio Proposed /Existing VSC	Room Area m ²	Existing NSC %	Proposed NSC %	Ratio Proposed /Existing NSC	Existing Sunlight	Proposed Sunlight	Ratio	Existing Sunlight	Proposed Sunlight	Ratio
												Annual%	Annual%	Annual	Winter%	Winter%	Winter
The Vetro house																	
Ground	R1	Residential	LKD	W1	35.17	35.08	1.00	23.480132	99.526259	99.467144	1.00	77	76	0.99	25	25	1.00
Ground	R1	Residential	LKD	W2	35.14	35.06	1.00	23.480132	99.526259	99.467144	1.00	77	75	0.97	25	25	1.00
Ground	R1	Residential	LKD	W3	22.02	19.16	0.87	23.480132	99.526259	99.467144	1.00	43	40	0.93	15	16	1.07
Ground	R2	Residential	Bedroom	W4	18.7	17.93	0.96	10.42017	80.360232	80.740254	1.00	45	41	0.91	17	17	1.00
Ground	R2	Residential	Bedroom	W5	13.68	13.52	0.99	10.42017	80.360232	80.740254	1.00	1	1	North	0	0	North
Ground	R3	Residential	Unknown	W6	18.45	16.48	0.89	80.277668	99.478996	99.40887	1.00	31	27	0.87	11	8	0.73
Ground	R3	Residential	Unknown	W7	32.64	32.5	1.00	80.277668	99.478996	99.40887	1.00	10	9	North	0	0	North
First	R1	Residential	Circulation	W1	18.75	17.53	0.93	7.202217	90.470876	77.754917	0.86	46	45	0.98	19	17	0.89
First	R2	Residential	LKD	W2	24.85	21.31	0.86	29.236766	99.876873	99.29131	0.99	42	40	0.95	17	14	0.82
First	R2	Residential	LKD	W3	31.62	31.4	0.99	29.236766	99.876873	99.29131	0.99	9	9	North	0	0	North
First	R2	Residential	LKD	W4	32.17	32	0.99	29.236766	99.876873	99.29131	0.99	8	7	North	0	0	North
Second	R1	Residential	Circulation	W1	20.78	19.82	0.95	7.202217	94.813958	97.18707	1.03	48	47	0.98	19	18	0.95
Second	R2	Residential	LKD	W2	29.58	25.74	0.87	29.236766	100	99.941004	1.00	49	44	0.90	19	17	0.89
Second	R2	Residential	LKD	W3	28.37	24.52	0.86	29.236766	100	99.941004	1.00	50	41	0.82	15	15	1.00
Second	R2	Residential	LKD	W4	29.66	29.43	0.99	29.236766	100	99.941004	1.00	9	7	North	0	0	North
Third	R1	Residential	Circulation	W1	24.05	23.69	0.99	7.202217	99.828752	99.999973	1.00	51	50	0.98	20	20	1.00
Third	R2	Residential	LKD	W2	33.97	30.99	0.91	29.236766	100	100	1.00	58	51	0.88	20	19	0.95
Third	R2	Residential	LKD	W3	33.11	29.6	0.89	29.236766	100	100	1.00	56	51	0.91	18	15	0.83
Third	R2	Residential	LKD	W4	19.66	19.45	0.99	29.236766	100	100	1.00	8	8	North	0	0	North
2 West Sheen Vale																	
Ground	R1	Residential	Unknown	W1	28.03	26.72	0.95	7.269428	97.097316	88.294049	0.91	31	31	North	6	6	North
Ground	R2	Residential	Unknown	W2	28.98	27.85	0.96	10.24128	98.857774	96.78365	0.98	31	31	North	6	6	North
Ground	R3	Residential	Unknown	W3	29.64	28.54	0.96	7.269428	97.050097	88.59766	0.91	30	30	North	4	4	North
First	R1	Residential	Unknown	W1	26.52	25.3	0.95	7.269428	97.693882	89.507546	0.92	24	24	North	5	5	North
First	R2	Residential	Unknown	W2	27.33	26.26	0.96	10.24128	99.865692	98.075126	0.98	24	24	North	5	5	North
First	R3	Residential	Unknown	W3	27.91	26.89	0.96	7.269428	97.638994	89.974912	0.92	26	26	North	6	6	North
4 West Sheen Vale																	
Ground	R1	Residential	Bedroom	W1	31.49	30.59	0.97	13.2495	98.586372	98.586372	1.00	30	30	North	5	5	North
First	R1	Residential	Bedroom	W1	29.48	28.74	0.97	13.2495	98.835474	98.835484	1.00	25	25	North	5	5	North
6 West Sheen Vale																	
Ground	R1	Residential	Living Room	W1	29.94	29.27	0.98	16.1252	96.919679	96.919531	1.00	25	25	North	1	1	North
First	R1	Residential	Living Room	W1	29.24	28.79	0.98	16.1252	97.606612	97.606192	1.00	24	24	North	5	5	North
1 West Sheen Vale																	
Ground	R1	Residential	Bedroom	W1	31.95	31.93	1.00	13.2495	98.916618	98.771866	1.00	60	60	1.00	21	21	1.00
Ground	R2	Residential	Bedroom	W2	21.03	15.65	0.74	6.534	50.973651	44.478258	0.87	11	11	North	0	0	North
Ground	R3	Residential	Bedroom	W3	33.27	32.95	0.99	8.8814	95.119645	94.188823	0.99	33	33	North	6	6	North
First	R1	Residential	Bedroom	W1	30.03	30.04	1.00	13.2495	98.706012	98.703083	1.00	52	52	1.00	20	20	1.00
First	R2	Residential	Bedroom	W2	21.66	15.03	0.69	6.534	78.787687	45.361527	0.58	12	12	North	2	2	North
First	R3	Residential	Bedroom	W3	30.56	30.26	0.99	8.8814	95.172246	93.880467	0.99	25	25	North	5	5	North
Eminence House																	
Ground	R1	Residential	LKD	W1	31.78	31.76	1.00	30.27704	99.991316	99.991316	1.00	7	7	North	0	0	North

Daylight_Sunlight Analysis Table
 Surroundings

					Vertical Sky Component			No Skyline				Annual Probable Sunlight Hours					
Address/Floor	Room Ref	Property Type	Room Usage	Window Ref	Existing VSC %	Proposed VSC %	Ratio Proposed /Existing VSC	Room Area m ²	Existing NSC %	Proposed NSC %	Ratio Proposed /Existing NSC	Existing Sunlight	Proposed Sunlight	Ratio Proposed	Existing Sunlight	Proposed Sunlight	Ratio Proposed
												Annual%	Annual%	Annual	Winter%	Winter%	Winter
Ground	R1	Residential	LKD	W2	32.23	31.76	0.99	30.27704	99.991316	99.991316	1.00	6	3	North	0	0	North
Ground	R1	Residential	LKD	W3	24.38	22.54	0.92	30.27704	99.991316	99.991316	1.00	16	15	North	3	3	North
Ground	R2	Residential	Bedroom	W4	21.22	19.38	0.91	19.097049	85.238288	84.972427	1.00	20	19	North	5	4	North
Ground	R3	Residential	LKD	W5	19.35	17.31	0.89	42.873344	90.379369	90.988169	1.01	26	24	North	4	4	North
Ground	R3	Residential	LKD	W6	20.07	17.76	0.88	42.873344	90.379369	90.988169	1.01	27	25	North	4	4	North
Ground	R3	Residential	LKD	W7	28.55	28.55	1.00	42.873344	90.379369	90.988169	1.01	69	69	1.00	21	21	1.00
First	R1	Residential	LKD	W1	33.59	33.59	1.00	39.560747	99.355352	99.268132	1.00	4	4	North	0	0	North
First	R1	Residential	LKD	W2	34.91	34.9	1.00	39.560747	99.355352	99.268132	1.00	9	9	North	0	0	North
First	R1	Residential	LKD	W3	28.72	26.54	0.92	39.560747	99.355352	99.268132	1.00	19	18	North	4	4	North
First	R1	Residential	LKD	W4	25.91	23.15	0.89	39.560747	99.355352	99.268132	1.00	22	21	North	6	6	North
First	R2	Residential	Bedroom	W5	24.06	21.03	0.87	10.502407	81.875644	78.913792	0.96	27	27	North	6	6	North
First	R3	Residential	Bedroom	W6	24.94	21.75	0.87	16.197095	88.694564	88.75547	1.00	30	29	North	6	6	North
First	R3	Residential	Bedroom	W7	36.89	36.48	0.99	16.197095	88.694564	88.75547	1.00	80	78	0.98	28	28	1.00
Second	R1	Residential	LKD	W1	33.05	33.05	1.00	39.560747	100	99.647306	1.00	8	8	North	0	0	North
Second	R1	Residential	LKD	W2	33.2	33.2	1.00	39.560747	100	99.647306	1.00	8	8	North	0	0	North
Second	R1	Residential	LKD	W3	36.59	35.93	0.98	39.560747	100	99.647306	1.00	11	8	North	0	0	North
Second	R1	Residential	LKD	W4	32.33	30.5	0.94	39.560747	100	99.647306	1.00	23	19	North	4	4	North
Second	R1	Residential	LKD	W5	29.93	27.04	0.90	39.560747	100	99.647306	1.00	28	24	North	6	6	North
Second	R2	Residential	Bedroom	W6	28.29	25.05	0.89	10.502407	95.119638	87.796028	0.92	27	27	North	6	6	North
Second	R3	Residential	Bedroom	W7	29.1	25.9	0.89	16.197095	79.864493	75.116488	0.94	30	30	North	6	6	North
Second	R3	Residential	Bedroom	W8	14.84	14.61	0.98	16.197095	79.864493	75.116488	0.94	19	19	1.00	16	16	1.00
Third	R1	Residential	LKD	W1	17.6	17.6	1.00	39.560747	100	100	1.00	5	5	North	0	0	North
Third	R1	Residential	LKD	W2	20.16	20.16	1.00	39.560747	100	100	1.00	5	5	North	0	0	North
Third	R1	Residential	LKD	W3	36.43	35.9	0.99	39.560747	100	100	1.00	16	10	North	2	0	North
Third	R1	Residential	LKD	W4	33.89	32.31	0.95	39.560747	100	100	1.00	26	24	North	6	5	North
Third	R1	Residential	LKD	W5	28.73	26.59	0.93	39.560747	100	100	1.00	21	20	North	5	5	North
Third	R2	Residential	Bedroom	W6	28.13	25.92	0.92	7.982516	91.408997	91.408997	1.00	21	21	North	5	5	North
Third	R3	Residential	Bedroom	W7	28.39	26.52	0.93	13.574529	87.990242	83.438658	0.95	26	26	North	6	6	North
Third	R3	Residential	Bedroom	W8	23.26	23.2	1.00	13.574529	87.990242	83.438658	0.95	41	41	1.00	23	23	1.00
Fourth	R1	Residential	Living Room	W1	37.81	37.8	1.00	52.667763	100	100	1.00	9	9	North	0	0	North
Fourth	R1	Residential	Living Room	W2	38.08	38.08	1.00	52.667763	100	100	1.00	9	9	North	0	0	North
Fourth	R1	Residential	Living Room	W3	37.63	37.5	1.00	52.667763	100	100	1.00	15	15	North	0	0	North
Fourth	R1	Residential	Living Room	W4	36.24	35.66	0.98	52.667763	100	100	1.00	29	29	North	6	6	North
Fourth	R2	Residential	Dining Room	W5	35.55	34.54	0.97	32.458406	98.864301	98.864301	1.00	27	28	North	6	6	North
Fourth	R2	Residential	Dining Room	W6	35.15	34.29	0.98	32.458406	98.864301	98.864301	1.00	28	28	North	6	6	North
147 Lower Mortlake Road																	
Ground	R1	Residential	Unknown	W1	25.14	24.99	0.99	10.979798	99.273445	99.273445	1.00	50	49	0.98	13	12	0.92
Ground	R1	Residential	Unknown	W2	31.76	31.61	1.00	10.979798	99.273445	99.273445	1.00	81	80	0.99	24	23	0.96
Ground	R1	Residential	Unknown	W3	26.82	26.79	1.00	10.979798	99.273445	99.273445	1.00	60	60	1.00	21	21	1.00
Ground	R2	Residential	Unknown	W4	10.86	10.71	0.99	3.493457	99.707649	99.707649	1.00	19	19	1.00	17	17	1.00
Ground	R2	Residential	Unknown	W5	25.25	25.1	0.99	3.493457	99.707649	99.707649	1.00	55	55	1.00	20	20	1.00
Ground	R2	Residential	Unknown	W6	23.8	23.66	0.99	3.493457	99.707649	99.707649	1.00	48	48	1.00	16	16	1.00
First	R1	Residential	Unknown	W1	33.44	33.31	1.00	9.606474	92.034074	92.034074	1.00	84	84	1.00	27	27	1.00
149 Lower Mortlake Road																	

Daylight_Sunlight Analysis Table
 Surroundings

					Vertical Sky Component			No Skyline				Annual Probable Sunlight Hours					
Address/Floor	Room Ref	Property Type	Room Usage	Window Ref	Existing VSC %	Proposed VSC %	Ratio Proposed /Existing VSC	Room Area m ²	Existing NSC %	Proposed NSC %	Ratio Proposed /Existing NSC	Existing Sunlight Annual%	Proposed Sunlight Annual%	Ratio Proposed /Existing Annual	Existing Sunlight Winter%	Proposed Sunlight Winter%	Ratio Proposed /Existing Winter
Ground	R1	Residential	Unknown	W1	30.81	30.68	1.00	3.646399	96.777366	96.777366	1.00	70	70	1.00	18	18	1.00
Ground	R2	Residential	Unknown	W2	28.5	28.35	0.99	12.286689	99.946641	99.946641	1.00	55	55	1.00	14	14	1.00
Ground	R2	Residential	Unknown	W3	31.71	31.56	1.00	12.286689	99.946641	99.946641	1.00	77	77	1.00	21	21	1.00
Ground	R2	Residential	Unknown	W4	26.95	26.9	1.00	12.286689	99.946641	99.946641	1.00	60	60	1.00	19	19	1.00
First	R1	Residential	Unknown	W1	33.4	33.28	1.00	6.929928	89.883356	88.889742	0.99	83	83	1.00	27	27	1.00
First	R2	Residential	Unknown	W2	33.47	33.35	1.00	9.874744	88.408489	88.408489	1.00	83	83	1.00	27	27	1.00
153 Lower Mortlake Road																	
Ground	R1	Residential	Unknown	W1	25.47	25.28	0.99	11.334478	99.983832	99.973751	1.00	52	52	1.00	15	15	1.00
Ground	R1	Residential	Unknown	W2	31.42	31.22	0.99	11.334478	99.983832	99.973751	1.00	78	78	1.00	23	23	1.00
Ground	R1	Residential	Unknown	W3	28.53	28.45	1.00	11.334478	99.983832	99.973751	1.00	64	65	1.02	20	21	1.05
First	R1	Residential	Unknown	W1	33.31	33.15	1.00	12.003282	84.726084	83.224766	0.98	84	83	0.99	28	27	0.96
155 Lower Mortlake Road																	
Ground	R1	Residential	Unknown	W1	29.53	29.3	0.99	9.067776	97.749161	95.242869	0.97	69	69	1.00	16	16	1.00
Ground	R2	Residential	Unknown	W2	19.47	19.42	1.00	0.719984	100	100	1.00	35	34	North	5	4	North
Ground	R2	Residential	Unknown	W3	31.39	31.15	0.99	0.719984	100	100	1.00	77	76	0.99	21	20	0.95
Ground	R2	Residential	Unknown	W4	18.49	18.49	1.00	0.719984	100	100	1.00	42	42	1.00	15	15	1.00
First	R1	Residential	Unknown	W1	33.33	33.14	0.99	9.067776	87.29757	84.594475	0.97	81	80	0.99	25	24	0.96
157 Lower Mortlake Road																	
Ground	R1	Residential	Unknown	W1	11.17	10.94	0.98	4.812069	86.971134	82.414696	0.95	21	20	0.95	16	15	0.94
Ground	R1	Residential	Unknown	W2	26.15	25.91	0.99	4.812069	86.971134	82.414696	0.95	59	58	0.98	19	18	0.95
Ground	R2	Residential	Unknown	W3	31.53	31.29	0.99	10.999509	97.987408	95.428969	0.97	76	76	1.00	20	20	1.00
First	R1	Residential	Unknown	W1	33.29	33.09	0.99	10.999509	80.456011	77.01725	0.96	81	79	0.98	25	23	0.92
159 Lower Mortlake Road																	
Ground	R1	Residential	Unknown	W1	28.74	28.57	0.99	11.151619	99.910939	99.910939	1.00	56	56	1.00	15	15	1.00
Ground	R1	Residential	Unknown	W2	31.6	31.35	0.99	11.151619	99.910939	99.910939	1.00	78	78	1.00	22	22	1.00
Ground	R1	Residential	Unknown	W3	28.39	28.2	0.99	11.151619	99.910939	99.910939	1.00	65	64	0.98	21	20	0.95
Ground	R2	Residential	Unknown	W4	10.56	10.33	0.98	3.548497	93.88649	90.26839	0.96	18	17	0.94	16	15	0.94
Ground	R2	Residential	Unknown	W5	25.11	24.86	0.99	3.548497	93.88649	90.26839	0.96	56	55	0.98	21	20	0.95
Ground	R2	Residential	Unknown	W6	23.74	23.49	0.99	3.548497	93.88649	90.26839	0.96	48	47	0.98	16	15	0.94
First	R1	Residential	Unknown	W1	33.45	33.25	0.99	11.792745	81.190896	77.89164	0.96	81	80	0.99	25	24	0.96
161 Lower Mortlake Road																	
Ground	R1	Residential	Unknown	W1	0.12	0.13	1.08	4.623524	72.565602	65.966936	0.91	0	0	1.00	0	0	1.00
Ground	R1	Residential	Unknown	W2	5.06	4.9	0.97	4.623524	72.565602	65.966936	0.91	7	7	1.00	5	5	1.00
Ground	R2	Residential	Unknown	W3	31.63	31.38	0.99	10.810964	97.635802	95.214796	0.98	77	77	1.00	22	22	1.00
First	R1	Residential	Unknown	W1	33.55	33.35	0.99	10.810964	81.624292	78.492207	0.96	80	80	1.00	24	24	1.00
163 Lower Mortlake Road																	
Ground	R1	Residential	Unknown	W1	25.32	25.18	0.99	11.136338	99.895336	99.895336	1.00	53	53	1.00	16	16	1.00
Ground	R1	Residential	Unknown	W2	32.04	31.76	0.99	11.136338	99.895336	99.895336	1.00	80	79	0.99	24	23	0.96
Ground	R1	Residential	Unknown	W3	28.65	28.42	0.99	11.136338	99.895336	99.895336	1.00	67	66	0.99	23	22	0.96
Ground	R2	Residential	Unknown	W4	11.22	10.97	0.98	5.186709	95.423378	90.268953	0.95	22	21	0.95	19	18	0.95
Ground	R2	Residential	Unknown	W5	27.5	27.23	0.99	5.186709	95.423378	90.268953	0.95	59	59	1.00	18	18	1.00
First	R1	Residential	Unknown	W1	33.67	33.46	0.99	9.839855	87.459695	84.539288	0.97	81	81	1.00	25	25	1.00
First	R2	Residential	Unknown	W2	33.61	33.4	0.99	7.155042	76.430458	72.327844	0.95	82	82	1.00	26	26	1.00
165 Lower Mortlake Road																	

Daylight_Sunlight Analysis Table
 Surroundings

					Vertical Sky Component			No Skyline				Annual Probable Sunlight Hours					
Address/Floor	Room Ref	Property Type	Room Usage	Window Ref	Existing VSC %	Proposed VSC %	Ratio Proposed /Existing VSC	Room Area m ²	Existing NSC %	Proposed NSC %	Ratio Proposed /Existing NSC	Existing Sunlight Annual%	Proposed Sunlight Annual%	Ratio Proposed /Existing Annual	Existing Sunlight Winter%	Proposed Sunlight Winter%	Ratio Proposed /Existing Winter
Ground	R1	Residential	Unknown	W1	11.29	11.04	0.98	3.799951	69.571542	69.570476	1.00	20	18	0.90	17	15	0.88
Ground	R2	Residential	Unknown	W2	27.97	27.86	1.00	11.794692	99.983958	99.983958	1.00	53	53	1.00	14	14	1.00
Ground	R2	Residential	Unknown	W3	32.12	31.85	0.99	11.794692	99.983958	99.983958	1.00	80	80	1.00	23	23	1.00
Ground	R2	Residential	Unknown	W4	24.62	24.4	0.99	11.794692	99.983958	99.983958	1.00	57	58	1.02	20	21	1.05
First	R1	Residential	Unknown	W1	33.76	33.54	0.99	12.731093	87.567303	85.333611	0.97	84	83	0.99	27	26	0.96
151 Lower Mortlake Road																	
Ground	R1	Residential	Unknown	W1	31.32	31.15	0.99	11.055741	99.464255	98.269117	0.99	74	73	0.99	22	21	0.95
Ground	R2	Residential	Unknown	W2	32.2	32.08	1.00	5.838436	94.664901	94.664901	1.00	78	78	1.00	22	22	1.00
First	R1	Residential	Unknown	W1	33.42	33.28	1.00	11.055741	90.12822	89.014586	0.99	81	82	1.01	25	26	1.04
167 Lower Mortlake Road																	
Ground	R1	Residential	Unknown	W1	25.3	25.2	1.00	10.114777	100	100	1.00	52	51	0.98	15	14	0.93
Ground	R1	Residential	Unknown	W2	32.28	32	0.99	10.114777	100	100	1.00	80	79	0.99	23	22	0.96
Ground	R1	Residential	Unknown	W3	27.95	27.71	0.99	10.114777	100	100	1.00	63	62	0.98	21	20	0.95
Ground	R2	Residential	Unknown	W4	0.27	0.29	1.07	3.571468	98.44864	96.954183	0.98	0	0	1.00	0	0	1.00
Ground	R2	Residential	Unknown	W5	6.15	5.99	0.97	3.571468	98.44864	96.954183	0.98	11	11	1.00	9	9	1.00
First	R1	Residential	Unknown	W1	33.79	33.58	0.99	10.656569	91.652375	89.198499	0.97	85	83	0.98	28	26	0.93
169 Lower Mortlake Road																	
Ground	R1	Residential	Unknown	W1	11.31	11.09	0.98	3.841599	99.827287	99.827287	1.00	20	20	1.00	17	17	1.00
Ground	R1	Residential	Unknown	W2	24.98	24.75	0.99	3.841599	99.827287	99.827287	1.00	51	51	1.00	18	18	1.00
Ground	R1	Residential	Unknown	W3	26.12	25.89	0.99	3.841599	99.827287	99.827287	1.00	58	58	1.00	19	19	1.00
Ground	R2	Residential	Unknown	W4	28.36	28.27	1.00	11.177683	99.997755	99.997755	1.00	57	56	0.98	16	15	0.94
Ground	R2	Residential	Unknown	W5	32.31	32.05	0.99	11.177683	99.997755	99.997755	1.00	81	79	0.98	24	22	0.92
Ground	R2	Residential	Unknown	W6	25.39	25.14	0.99	11.177683	99.997755	99.997755	1.00	57	56	0.98	20	19	0.95
First	R1	Residential	Unknown	W1	33.84	33.65	0.99	11.944144	93.112529	91.154046	0.98	84	83	0.99	27	26	0.96



APPENDIX 3

Internal Daylight & Sunlight Results

Floor Ref	Room Ref	Room Attribute	Property Type	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Req Lux	Req % of Effective Area	Req % of Daylight Hours	Daylight Hours
Proposed Daylight													
Ground	R1	Residential	LKD		31.62	24.95	309	24.95	100%	150	50%	50%	4380
	R2	Residential	Bedroom		11.72	7.75	578	7.75	100%	100	50%	50%	4380
	R3	Residential	Bedroom		8.69	5.47	198	5.23	96%	100	50%	50%	4380
	R4	Residential	LKD		36.85	28.83	307	28.83	100%	150	50%	50%	4380
	R5	Residential	Bedroom		14.63	10.19	155	10.04	99%	100	50%	50%	4380
	R6	Residential	Bedroom		13.37	9.18	187	9.18	100%	100	50%	50%	4380
	R7	Residential	LKD		31.23	23.57	278	22.57	96%	150	50%	50%	4380
	R8	Residential	Bedroom		16.31	11.72	267	11.72	100%	100	50%	50%	4380
	R9	Residential	Studio		30.10	22.77	278	15.61	69%	200	50%	50%	4380
	R10	Residential	Bedroom		12.33	8.39	115	5.71	68%	100	50%	50%	4380
	R11	Residential	Bedroom		7.60	4.65	138	4.36	94%	100	50%	50%	4380
	R12	Residential	Bedroom		15.40	10.80	245	10.80	100%	100	50%	50%	4380
First	R1	Residential	LKD		24.12	18.30	488	18.30	100%	150	50%	50%	4380
	R2	Residential	Bedroom		10.40	6.86	209	6.78	99%	100	50%	50%	4380
	R3	Residential	Bedroom		10.74	7.13	169	6.34	89%	100	50%	50%	4380
	R4	Residential	Studio		28.34	21.25	636	21.25	100%	200	50%	50%	4380
	R5	Residential	LKD		28.56	21.09	468	21.09	100%	150	50%	50%	4380
	R6	Residential	Bedroom		11.12	7.35	238	7.35	100%	100	50%	50%	4380
	R7	Residential	LKD		35.18	26.67	310	22.88	86%	150	50%	50%	4380
	R8	Residential	Bedroom		12.04	7.97	180	7.97	100%	100	50%	50%	4380
	R9	Residential	LKD		29.25	21.54	349	20.28	94%	150	50%	50%	4380
	R10	Residential	Bedroom		12.42	8.41	220	8.41	100%	100	50%	50%	4380
	R11	Residential	Bedroom		7.82	4.66	113	2.91	62%	100	50%	50%	4380
	R12	Residential	LKD		23.39	17.60	670	17.60	100%	150	50%	50%	4380
	R13	Residential	Bedroom		10.48	6.94	85	2.26	32%	100	50%	50%	4380
	R14	Residential	Bedroom		10.20	6.72	215	6.72	100%	100	50%	50%	4380
	R15	Residential	LKD		24.28	18.11	301	18.11	100%	150	50%	50%	4380
Second	R1	Residential	LKD		24.12	18.30	654	18.30	100%	150	50%	50%	4380
	R2	Residential	Bedroom		10.40	6.86	320	6.86	100%	100	50%	50%	4380
	R3	Residential	Bedroom		10.74	7.13	201	6.60	93%	100	50%	50%	4380
	R4	Residential	Studio		28.34	21.25	916	21.25	100%	200	50%	50%	4380
	R5	Residential	LKD		28.56	21.09	551	21.09	100%	150	50%	50%	4380
	R6	Residential	Bedroom		11.12	7.35	251	7.35	100%	100	50%	50%	4380
	R7	Residential	LKD		35.18	26.67	333	23.43	88%	150	50%	50%	4380
	R8	Residential	Bedroom		12.04	7.97	191	7.97	100%	100	50%	50%	4380
	R9	Residential	LKD		29.25	21.54	380	20.61	96%	150	50%	50%	4380
	R10	Residential	Bedroom		12.42	8.41	236	8.41	100%	100	50%	50%	4380
	R11	Residential	Bedroom		7.82	4.66	127	3.98	85%	100	50%	50%	4380
	R12	Residential	LKD		23.39	17.60	1165	17.60	100%	150	50%	50%	4380
	R13	Residential	Bedroom		12.57	8.68	123	6.68	77%	100	50%	50%	4380
	R14	Residential	Bedroom		10.20	6.72	254	6.72	100%	100	50%	50%	4380
	R15	Residential	LKD		24.28	18.11	397	18.11	100%	150	50%	50%	4380
Third	R1	Residential	LKD		31.04	23.65	342	23.65	100%	150	50%	50%	4380
	R2	Residential	Bedroom		16.62	11.79	275	11.79	100%	100	50%	50%	4380
	R3	Residential	LKD		28.03	21.59	160	14.04	65%	150	50%	50%	4380
	R4	Residential	Bedroom		16.67	11.57	257	11.57	100%	100	50%	50%	4380
	R5	Residential	LKD		30.38	22.34	302	18.16	81%	150	50%	50%	4380
	R6	Residential	Bedroom		12.43	8.45	233	8.45	100%	100	50%	50%	4380
	R7	Residential	Bedroom		11.73	7.96	614	7.96	100%	100	50%	50%	4380
	R8	Residential	Bedroom		7.92	4.88	455	4.88	100%	100	50%	50%	4380
	R9	Residential	Bedroom		8.63	5.44	504	5.44	100%	100	50%	50%	4380

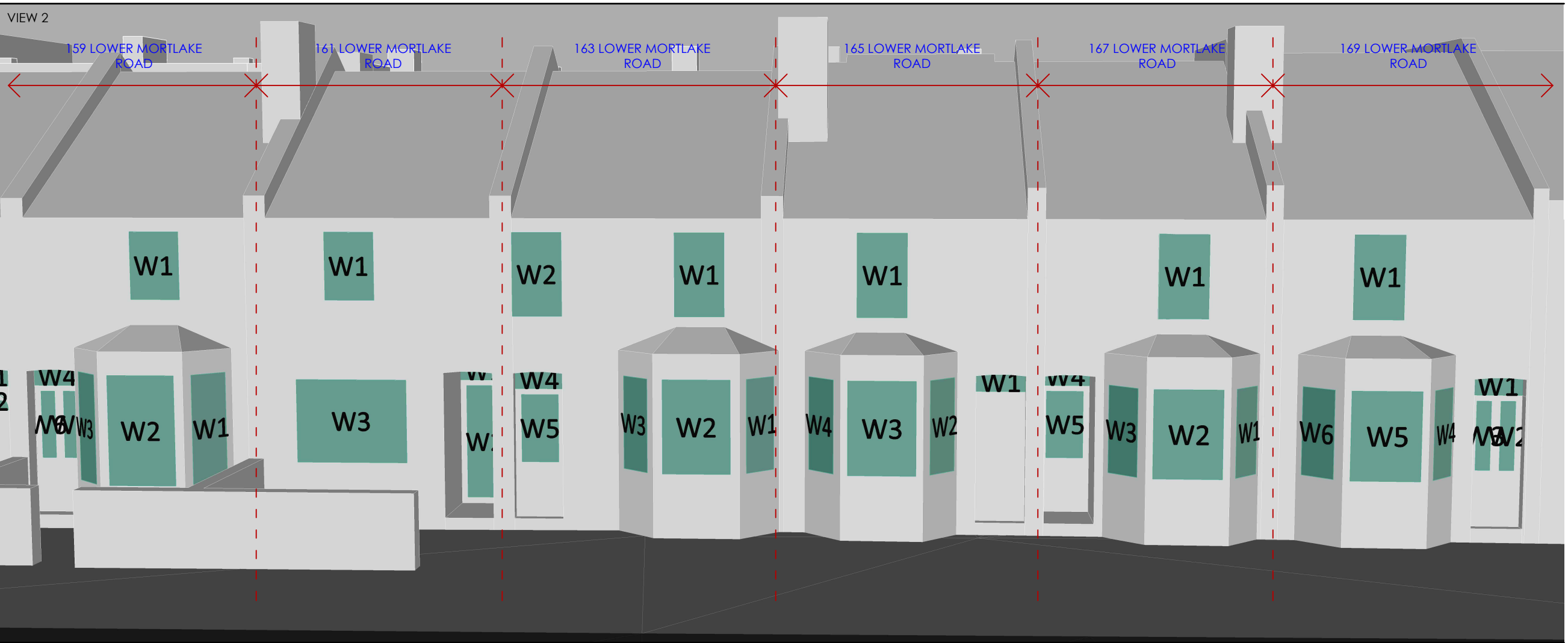
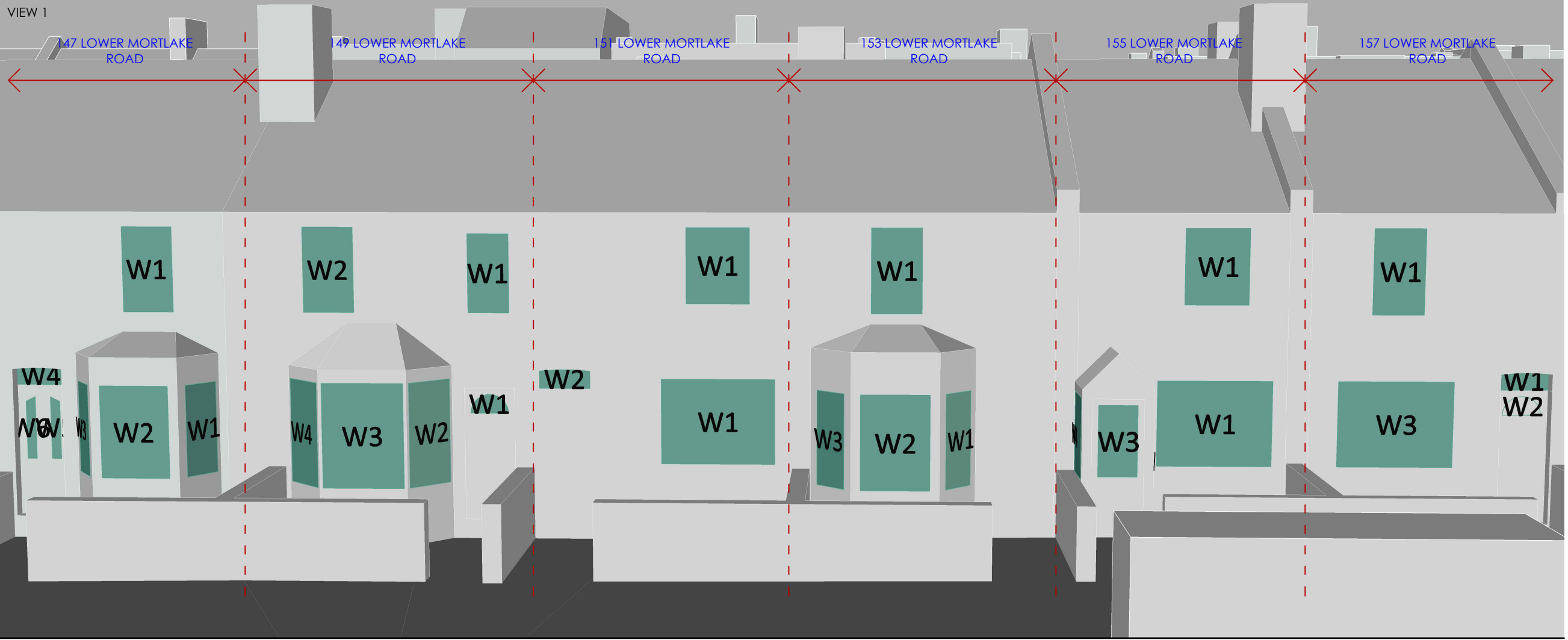
Floor Ref	Room Ref	Room Attribute	Property Type	Room Use	Window Ref	Window Orientation	Proposed Sunlight Exposure (Hours)
Proposed Sunlight							
Ground	R1		Residential	LKD	W1	240°	5.1
					W2	240°	3.4
					W29	150°	5.7
							9.4
Ground	R2		Residential	Bedroom	W3	150°	4.9
					W4	150°	6.9
					W5	240°	5.1
							6.9
Ground	R3		Residential	Bedroom	W6	240°	2.6
							2.6
Ground	R4		Residential	LKD	W7	240°	1.4
					W8	240°	0.8
					W9	240°	1.8
					W10	330°N	0
					W11	60°N	0
							2.4
Ground	R5		Residential	Bedroom	W12	330°N	0
							0
Ground	R6		Residential	Bedroom	W13	330°N	0
							0
Ground	R7		Residential	LKD	W14	240°	0.1
					W15	330°N	0.8
					W16	23°N	0
					W17	113°	0.3
							1.1
Ground	R8		Residential	Bedroom	W18	23°N	0
					W19	60°N	0
							0
Ground	R9		Residential	Studio	W20	60°N	1.5
					W21	60°N	3.1
					W22	150°	4.5
					W23	150°	3.5
					W24	150°	3
							4.5
Ground	R10		Residential	Bedroom	W25	60°N	0.4
							0.4
Ground	R11		Residential	Bedroom	W26	60°N	0.4
							0.4
Ground	R12		Residential	Bedroom	W27	60°N	0.4
					W28	150°	5.7
							5.7
First	R1		Residential	LKD	W1	240°	5.3
					W31	150°	5.7
							9.5
First	R2		Residential	Bedroom	W2	240°	4
							4
First	R3		Residential	Bedroom	W3	240°	3.8
							3.8
First	R4		Residential	Studio	W4	150°	5
					W5	150°	7
					W6	240°	3.8
							7
First	R5		Residential	LKD	W7	240°	2.1
					W8	240°	0.8
					W9	240°	2.5
					W10	330°N	0
					W11	60°N	0
							3
First	R6		Residential	Bedroom	W12	330°N	0
							0
First	R7		Residential	LKD	W13	240°	0.2
					W14	330°N	0.7
					W15	60°N	0
						0.7	
First	R8		Residential	Bedroom	W16	330°N	0

Floor Ref	Room Ref	Room Attribute	Property Type	Room Use	Window Ref	Window Orientation	Proposed Sunlight Exposure (Hours)
							0
First	R9		Residential	LKD	W17	240°	0.4
					W18	330°N	0.8
					W19	23°N	0
					W20	113°	0.3
							1.1
First	R10		Residential	Bedroom	W21	23°N	0
							0
First	R11		Residential	Bedroom	W22	60°N	0
							0
First	R12		Residential	LKD	W23	60°N	2.8
					W24	150°	4.8
					W25	150°	3.9
							4.8
First	R13		Residential	Bedroom	W26	60°N	0.4
							0.4
First	R14		Residential	Bedroom	W27	60°N	0.4
							0.4
First	R15		Residential	LKD	W28	60°N	0.4
					W29	60°N	0.5
					W30	150°	5.7
							5.7
Second	R1		Residential	LKD	W1	240°	5.3
					W31	150°	5.7
							9.5
Second	R2		Residential	Bedroom	W2	240°	4.2
							4.2
Second	R3		Residential	Bedroom	W3	240°	4.1
							4.1
Second	R4		Residential	Studio	W4	150°	6.1
					W5	150°	8.1
					W6	240°	4.4
							8.5
Second	R5		Residential	LKD	W7	240°	3.2
					W8	240°	2.4
					W9	240°	4.2
					W10	330°N	0.3
					W11	60°N	0
							4.6
Second	R6		Residential	Bedroom	W12	330°N	0
							0
Second	R7		Residential	LKD	W13	240°	1.8
					W14	330°N	1.3
					W15	60°N	0
							1.8
Second	R8		Residential	Bedroom	W16	330°N	0
							0
Second	R9		Residential	LKD	W17	240°	1.1
					W18	330°N	1.3
					W19	23°N	0.7
					W20	113°	0.9
							2.4
Second	R10		Residential	Bedroom	W21	23°N	0
							0
Second	R11		Residential	Bedroom	W22	60°N	0
							0
Second	R12		Residential	LKD	W23	60°N	2.8
					W24	150°	7
					W25	150°	5.5
							7
Second	R13		Residential	Bedroom	W26	60°N	0.4
							0.4
Second	R14		Residential	Bedroom	W27	60°N	0.4
							0.4
Second	R15		Residential	LKD	W28	60°N	0.4
					W29	60°N	0.5
					W30	150°	5.7
							5.7

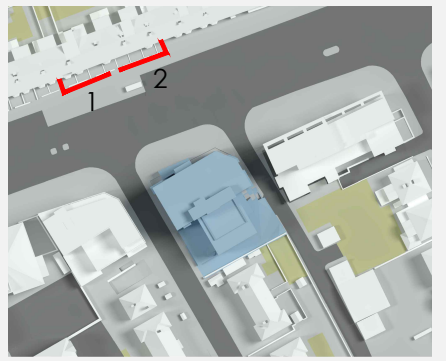


APPENDIX 4

Window Maps



- SOURCES OF INFORMATION:**
- WP
 - IR04 (RECEIVED 14.10.2020)
 - ACCUCITIES
 - IR05 (RECEIVED 12.10.2020)
 - SITE PHOTOGRAPHS
 - SURROUNDING PROPERTY INFORMATION



PROJECT
INDEPENDENCE HOUSE,
RICHMOND LONDON, TW9

DRAWING
WINDOW MAPS

SCALE @ A3 NTS	DATE 22.10.2020
MODELLED BY VR	DRAWN BY ET
PROJECT No. 2578	REL No.- DWG No. 01-11

VIEW 1
EMINENCE HOUSE



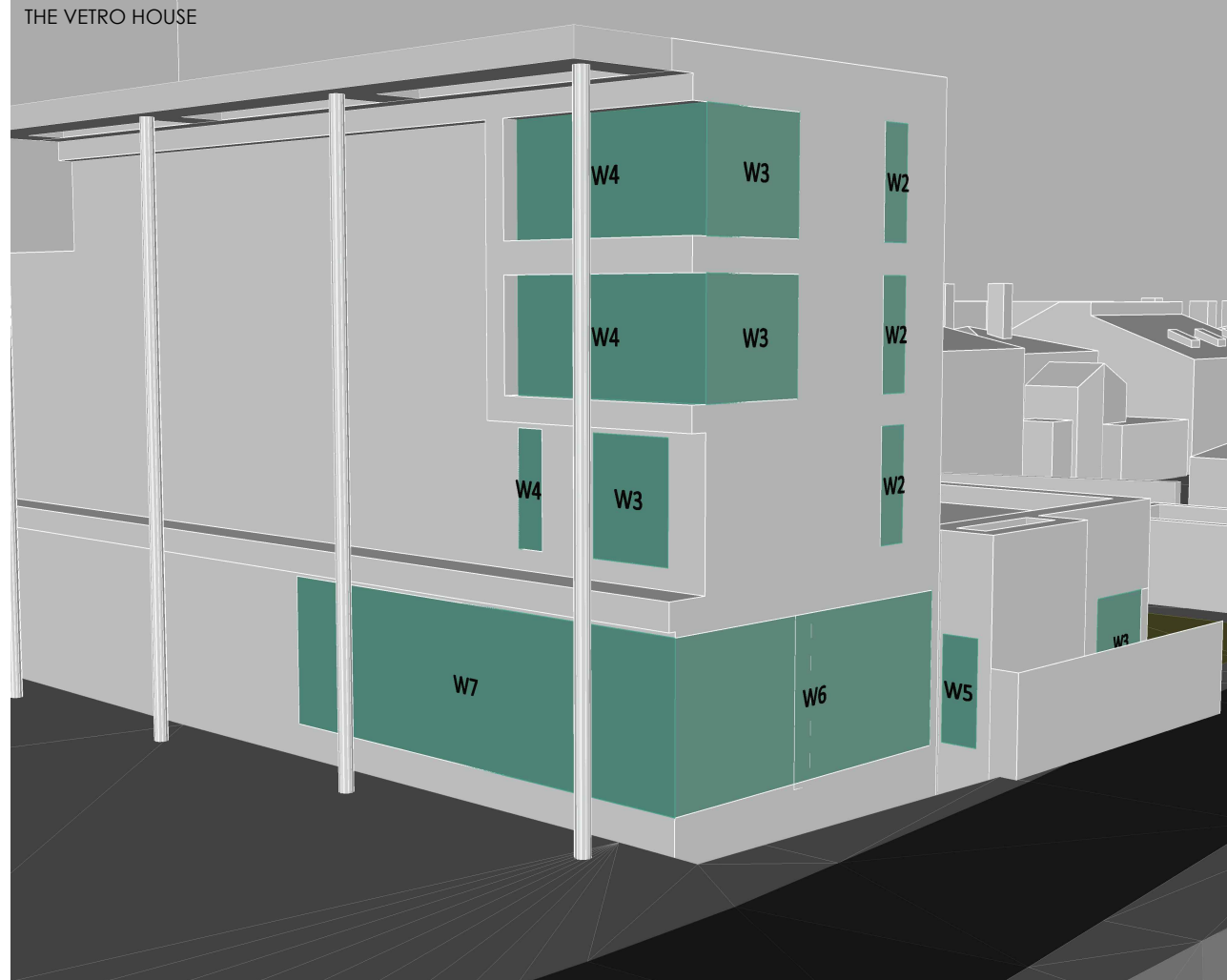
VIEW 2
EMINENCE HOUSE



VIEW 3
THE VETRO HOUSE



VIEW 4
THE VETRO HOUSE



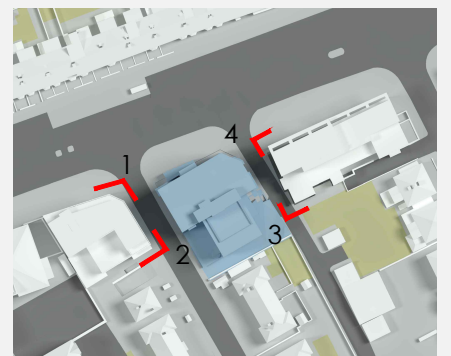
SOURCES OF INFORMATION:

WP
IR04 (RECEIVED 14.10.2020)

ACCUCITIES
IR05 (RECEIVED 12.10.2020)

SITE PHOTOGRAPHS

SURROUNDING PROPERTY INFORMATION



PROJECT
INDEPENDENCE HOUSE,
RICHMOND LONDON, TW9

DRAWING
WINDOW MAPS

SCALE @ A3 **DATE**
NTS 22.10.2020

MODELLED BY **DRAWN BY**
VR ET

PROJECT No. **REL No.- DWG No.**
2578 01-12

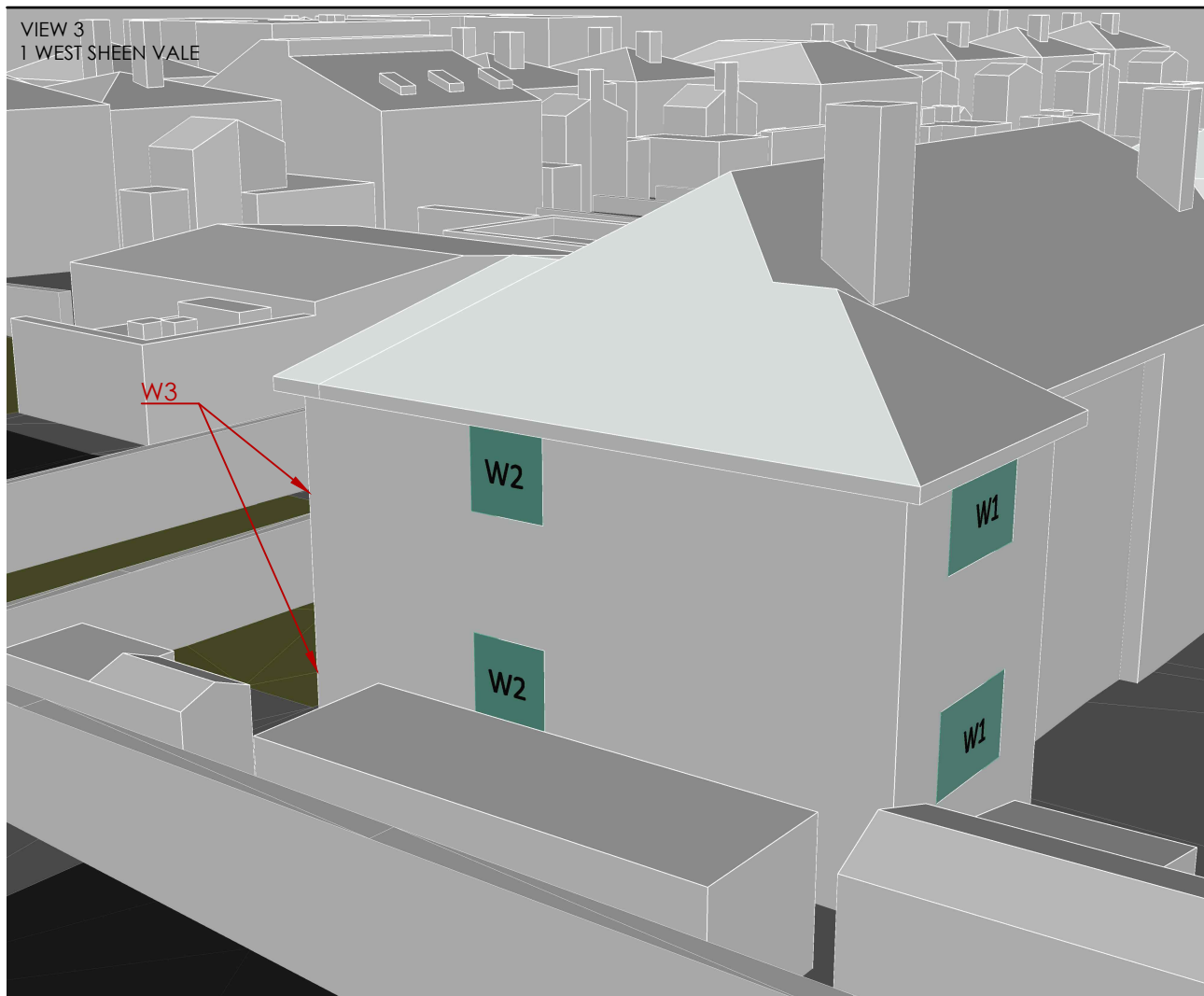
VIEW 1
2 WEST SHEEN VALE



VIEW 2
4 & 6 WEST SHEEN VALE



VIEW 3
1 WEST SHEEN VALE



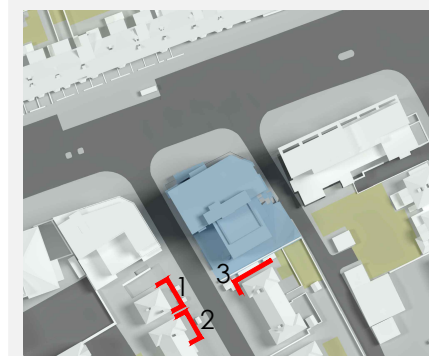
SOURCES OF INFORMATION:

WP
IRO4 (RECEIVED 14.10.2020)

ACCUCITIES
IRO5 (RECEIVED 12.10.2020)

SITE PHOTOGRAPHS

SURROUNDING PROPERTY INFORMATION



PROJECT
INDEPENDENCE HOUSE,
RICHMOND LONDON, TW9

DRAWING
WINDOW MAPS

SCALE @ A3 NTS	DATE 22.10.2020
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MODELLED BY VR	DRAWN BY ET
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PROJECT No. 2578	REL No.- DWG No. 01-13
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