



**DAYLIGHT &
SUNLIGHT
REPORT**

relating to the

**PROPOSED
DEVELOPMENT**

at

**THE BOATHOUSE
RANELAGH DRIVE,
TWICKENHAM
LONDON
TW1**

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**JUNE 2023
Ref: 200/FH rev-**

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1.0 EXECUTIVE SUMMARY

- 1.1 This Daylight and Sunlight Report considers the impact of the proposal upon daylight and sunlight for the nearest applicable neighbouring residential properties. In addition, the provision of daylight and sunlight within the proposal for future occupants has also been considered (relating to the proposed residential accommodation within the scheme).
- 1.2 The results of our examination are based upon the standard assessment procedure of the BRE Guide 'Site Layout Planning for Daylight and Sunlight - A Guide to Good Practice' 3rd Edition 2022 (The BRE Guide).
- 1.3 For daylight analysis to neighbouring residential properties, this has been considered, both in terms of the Vertical Sky Component (VSC) and Daylight Distribution.
- 1.4 The daylight analysis for neighbouring residential properties confirms that for review of daylight VSC for all main windows, these meet BRE Guide default target criteria. In terms of daylight distribution review, all neighbouring habitable rooms readily meet BRE Guide default target criteria.
- 1.5 For sunlight, there are no neighbouring windows serving habitable rooms with applicable orientation for sunlight review, and in terms of sunlight to neighbouring rear garden / amenity areas, in respect of the BRE Guide 2-hour sunlight availability review (21st March equinox), these readily meet BRE Guide default target criteria.
- 1.6 Therefore, we conclude, that where reductions are applicable to the daylight and sunlight to neighbouring residential properties, these readily meet the BRE Guide default target criteria and on that basis, should be considered acceptable.
- 1.7 For the provision of daylight and sunlight within the proposal (self-test review), all habitable rooms within the proposal would achieve the daylighting target considered for both bare branch / winter and also full leaf / summer review excepting for one isolated room in the full leaf scenario. In reference to the BRE Guide, given that minimum target levels of daylighting provision are fully achieved for bare branch / winter tree scenario (and effectively, also summer excepting one isolated instance), it is reasonable to conclude that adequate daylight would be provided year-round. Equally, for sunlight to the new dwellings, suitable provision is available, especially in consideration of a multi-unit scheme.

2.0 OVERVIEW

- 2.1 The proposals comprise; demolition of existing and erection of a 3-storey building plus lower ground to form 3 No. residential dwellings. The scheme proposals have been prepared by Silver Jetty.
- 2.2 In terms of neighbouring properties for review, this relates to the nearest neighbouring residential properties 21 and 22 Martineau Drive.
- 2.3 3D perspective views (existing and proposed) with neighbouring context (along with associated window references relating to the analysis tables) are provided within **Appendix A**, to enable the analysis tables and other descriptions within this report to be interpreted.

3.0 NEIGHBOURING REVIEW – DAYLIGHT & SUNLIGHT

3.1 BACKGROUND

3.1.1 Daylight and sunlight amenity are considerations that the local planning authority will ordinarily take into account when determining planning applications. There is no national planning policy relating to daylight and sunlight and overshadowing impacts although general guidance is, however, given on the need to protect existing amenity as set out in the National Planning Policy Framework (NPPF). NPPG paragraph 125 (c) states *“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).”*

3.1.2 Locally, consideration has been made to daylight and sunlight review in reference to applicable policies within the London Borough of Richmond Upon Thames.

3.1.3 Accordingly, this review has been undertaken in reference to the Building Research Establishment’s (BRE) ‘Site Layout Planning for Daylight and Sunlight - A Guide to Good Practice’ (3rd Ed / 2022) (The BRE Guide) which enables an objective assessment to be made as to whether the proposals will adversely affect the daylight and sunlight reaching neighbouring habitable rooms. The BRE Guide is the industry source reference for daylight and sunlight review although it is important to highlight that the Guide is not a set of planning rules, which are either passed or failed; the numerical values are given and used, not as proscriptive or prescriptive values but as a way of comparing situations and coming to a judgement.

3.2 METHODOLOGY

- 3.2.1 We have undertaken analysis of the existing and proposed situations following the methodology set out in the BRE Guide on Site Layout Planning for Daylight and Sunlight (3rd Ed / 2022). We have considered daylight, both in terms of Vertical Sky Component (VSC) and daylight distribution analysis and have also considered, as applicable, sunlight (again, by the method, if appropriate to review set out in the Guide for the proportion of the annual probable sunlight hours / APSHs and winter hours), that the surrounding windows / rooms will benefit from in the existing and proposed scenario.
- 3.2.2 We have utilised in part measured survey data, 3d photogrammetry modelling, and the architect's design drawings to enable a 3D model of the existing and proposed arrangement, with neighbouring context, ready for analysis with industry recognised specialist software for daylight/sunlight review. As the scheme drawings form part of the formal submission, these are not reproduced here.
- 3.2.3 In terms of neighbouring properties applicable for detailed daylight and sunlight review, we have assessed the effects of the proposals on applicable windows and rooms within 21 and 22 Martineau Drive.
- 3.2.4 Whilst we have not accessed neighbouring properties, we have made reasonable assumptions / interpreted where necessary, anticipated room arrangements ready for analysis where applicable.

3.3 DAYLIGHT VSC

3.3.1 The BRE Guide considers that in terms of Vertical Sky Component (VSC), as a target value, if the VSC with the new development in place is both, less than 27% and less than 0.8 times its former value (i.e. the latter, if exceeding a 20% reduction), occupants of the existing building will notice the reduction in the amount of skylight. The maximum value obtainable at a flat window in a vertical wall is effectively 40%.

3.3.2 VSC represents a ratio of the part of illuminance at a point on a given vertical plane (usually the centre point of window on the window wall face), that would be received directly from an overcast sky (CIE standard overcast sky) to illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. The VSC does not include reflected light, either from the ground or from other buildings.

3.3.3 Applicable windows within neighbouring 21 and 22 Martineau Drive have been analysed.

3.3.4 **Table 1 – VSC and Sunlight for surrounding buildings** within **Appendix B** sets-out the results of our analysis review with the existing and proposed VSC values presented along with the proportion of the former value stated from which we summarise the results as follows;

21 and 22 Martineau Drive: VSC reductions to windows are limited; ranging up to 9% thus readily meeting BRE Guide default target criteria.

3.4 DAYLIGHT DISTRIBUTION

3.4.1 The BRE Guide default target criteria, is if the daylight distribution to the neighbouring room under review with the new development in place is less than 0.8 times its former value (i.e. if exceeding a 20% reduction), occupants of the existing building will notice the reduction in the amount of daylight distribution within the room.

3.4.2 Daylight distribution relates to the area of the room (expressed as a percentage of the whole room area) that can see direct sky, at the working plane (working plane for residential is taken at 85 cm above floor level).

3.4.3 Applicable rooms within neighbouring 21 and 22 Martineau Drive have been analysed.

3.4.4 **Table 2 – Daylight Distribution for surrounding buildings** within **Appendix B** sets out the results of our analysis review with the existing and proposed daylight distribution values presented along with the proportion of the former value stated, from which we summarise the results as follows;

21 and 22 Martineau Drive: For applicable rooms analysed, there are effectively no reductions in daylight distribution, thus readily meeting BRE Guide default target criteria.

3.5 SUNLIGHT

- 3.5.1 For sunlight, only windows that face within 90° of South, that is to say, facing from 90° to 270°, are ordinarily considered in reference to sunlight BRE Guide review.
- 3.5.2 The BRE Guide recommendation is that windows facing within 90° of South, should have 25% of Annual Probable Sunlight Hours (APSHs) with 5% in the winter months (from the autumn equinox to the spring equinox). Where reductions below the recommended levels are contemplated, these should be targeted so that the proposed value is 0.8 times former value or above (unless a reduction of sunlight received over the whole year is not greater than 4% of annual probable sunlight hours).
- 3.5.3 To highlight, focus of analysis review of windows primarily relates to main living rooms and conservatories i.e. sun important rooms as per the BRE Guide (in reference to the BRE Guide, kitchens and bedrooms are less important, although care should be taken not to block too much sun). Our analysis review has considered all habitable rooms for sunlight review as considered previously for daylight.
- 3.5.4 In this particular instance, given that the rear elevations to neighbouring 21 and 22 Martineau Drive have windows facing in a broadly north-easterly direction i.e. not within 90 degrees of south (denoted 'North' within **Table 1 - Appendix B**), they are not of an appropriate orientation / not applicable for review.

3.6 SUN ON THE GROUND (Amenity review)

3.6.1 The BRE Guide states that for the garden (amenity space) of an existing property, it is recommended that for it to appear adequately sunlit throughout the year;

- 1) *at least half of a garden or amenity area should receive at least two hours of sunlight on 21st March.*
- 2) *If as a result of a new development an existing garden or amenity area does not meet the above, and the area which can receive two hours of sun on 21st March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable. If a detailed calculation cannot be carried out, it is recommended that the centre of the area should receive at least two hours of sunlight on 21st March.*

3.6.2 We have undertaken analysis of the nearest applicable surrounding amenity areas relating to the rear garden to 21 and 22 Martineau Drive. We now present the analysis for the amenity areas reviewed in **Table A** below:

TABLE A: Ability to receive 2-hour sun on the ground at the equinox (21st March)

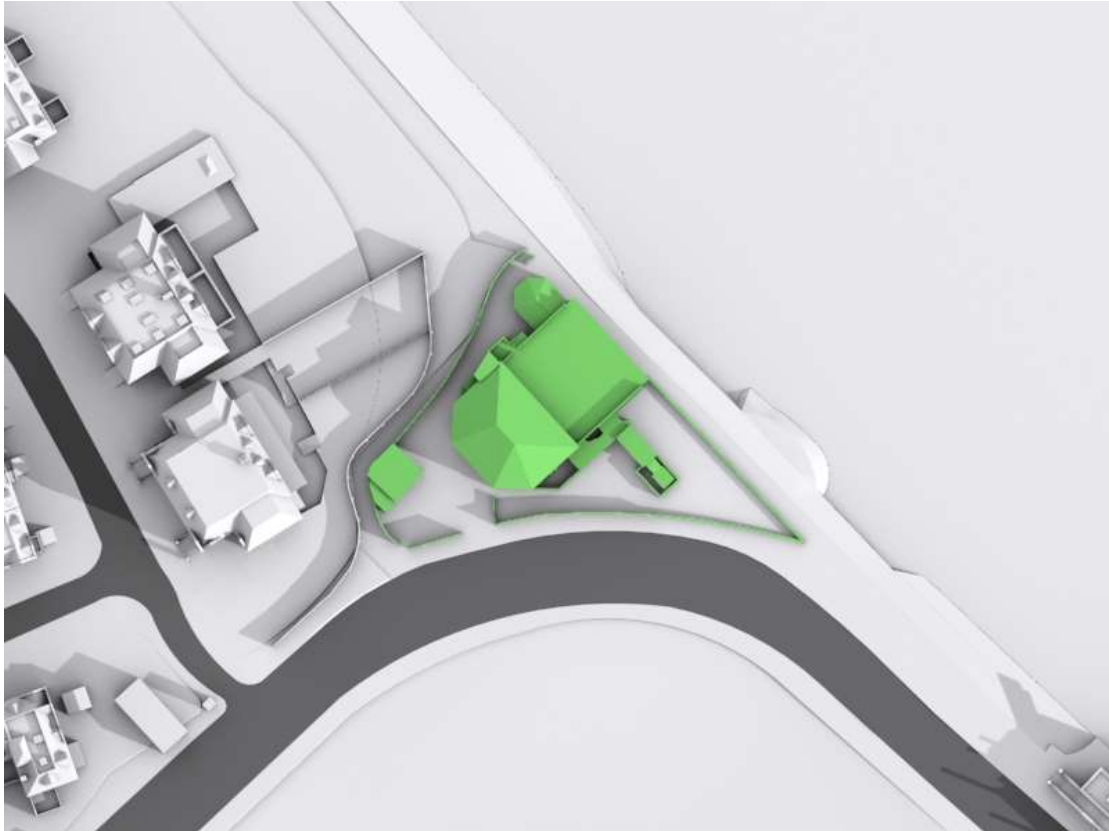
Property / Amenity Area	Existing 2-hour Area (ability to receive 2 hours sun at Equinox)		Proposed 2-hour Area (ability to receive 2 hours sun at Equinox)		Proposed / Existing for Sun
	Sun	Shaded	Sun	Shaded	
21 Martineau Drive	86%	14%	86%	14%	1.00
22 Martineau Drive	94%	6%	94%	6%	1.00

*The above is also presented as **Drawing No. 111**; areas that are hatched orange have the ability to receive 2 hours of sunlight at the equinox (please see **Appendix B**).*

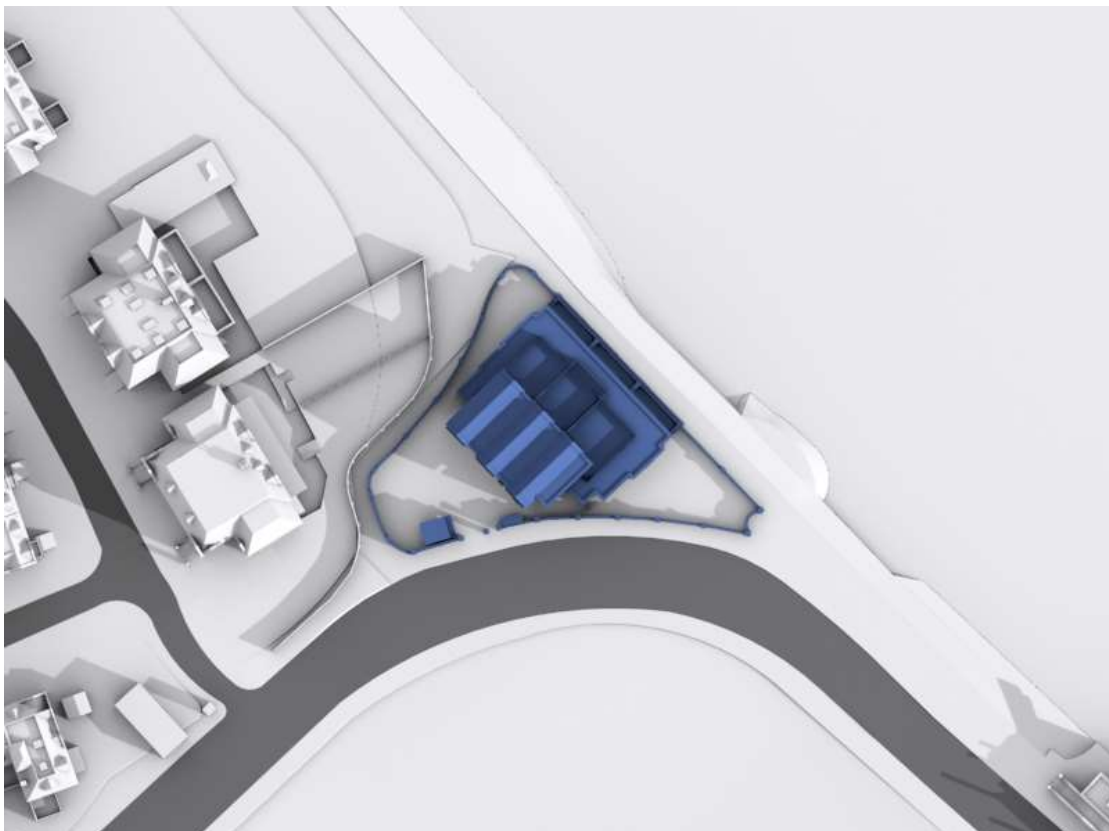
3.6.3 The analysis confirms that for the nearest applicable amenity areas, there are effectively no reductions, all rear garden amenity areas in the proposed scenario would still have the ability to receive to over half the area, at least 2 hours of sun on the ground on the 21st of March Equinox, thus readily meeting BRE Guide default target criteria.

3.6.4 For visual representation, we set out in the following pages, a series of images as existing and as proposed, taken at two-hourly intervals through the day on the Equinox to show the cast of the shadows pictorially. It is important to state that whilst the sequence highlights some shadowing change, this is obviously transient shadowing and any increase in shadowing is for limited parts of the day.

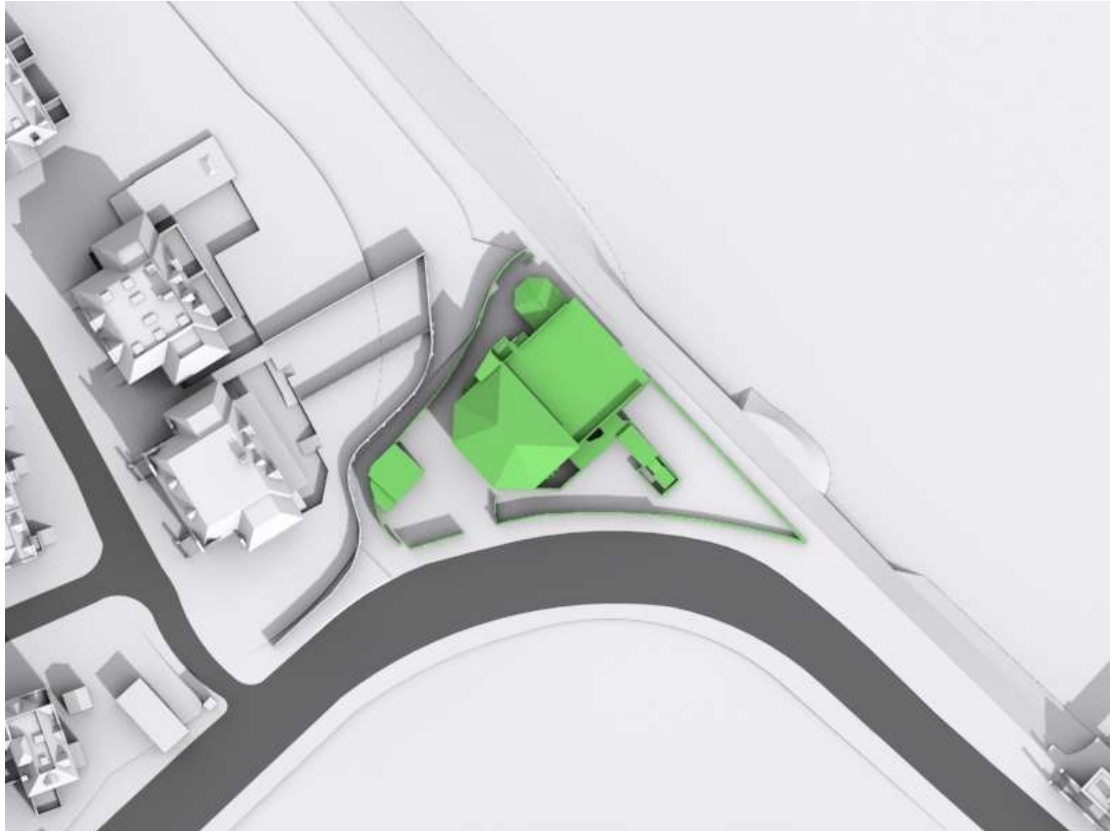
3.6.5 In summary, the proposals satisfy the BRE Guide target criteria / there is no material effect.



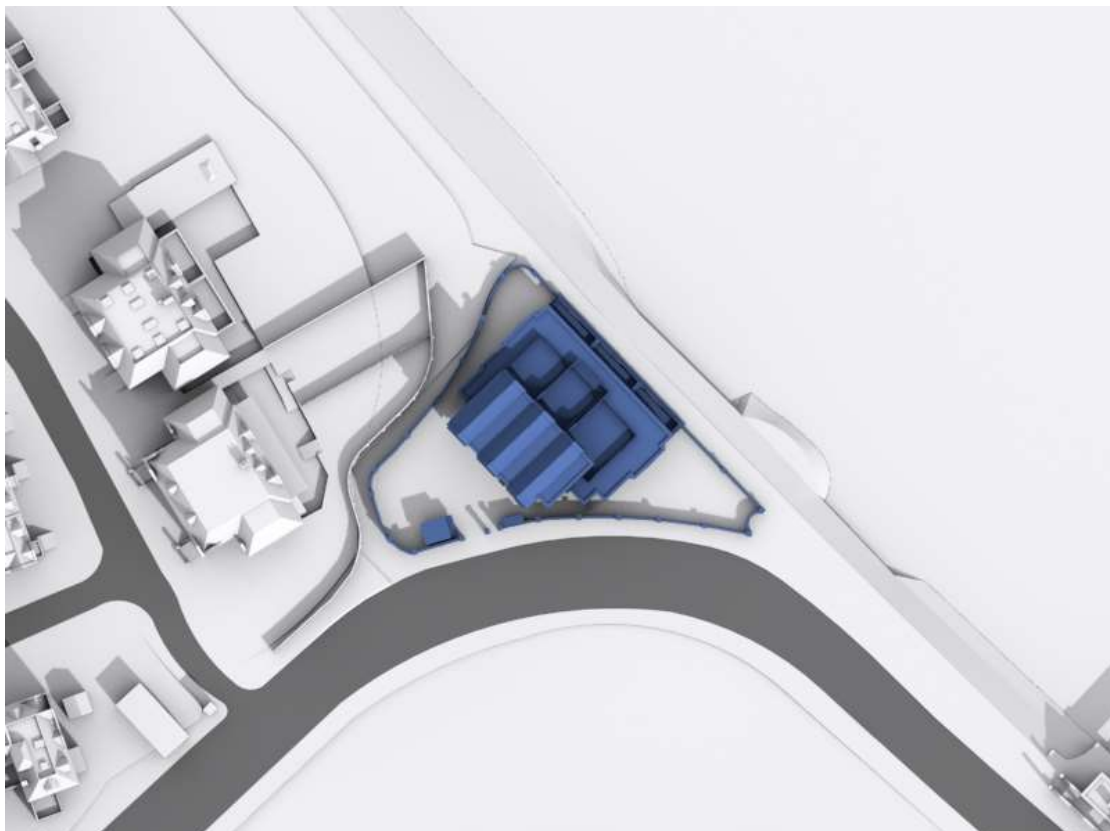
Shadow Diagram - 08.00 hours as existing on the 21st March Equinox



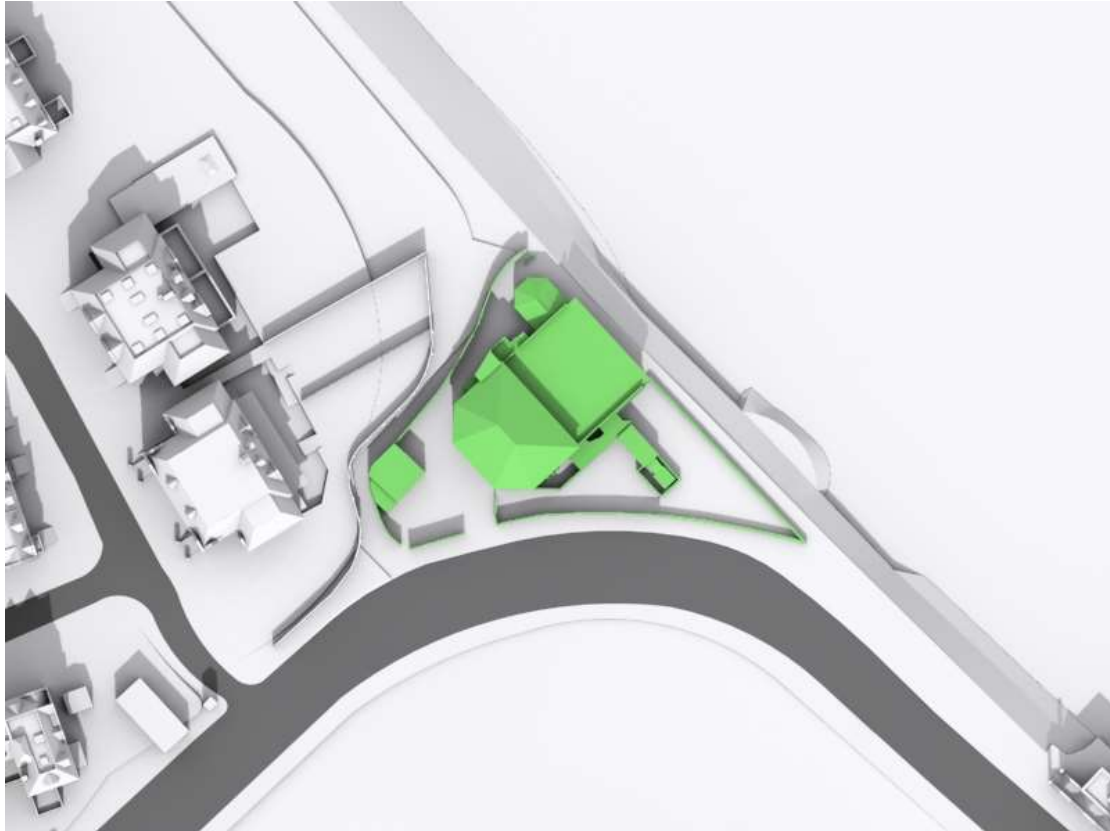
Shadow Diagram - 08.00 hours as proposed on the 21st March Equinox



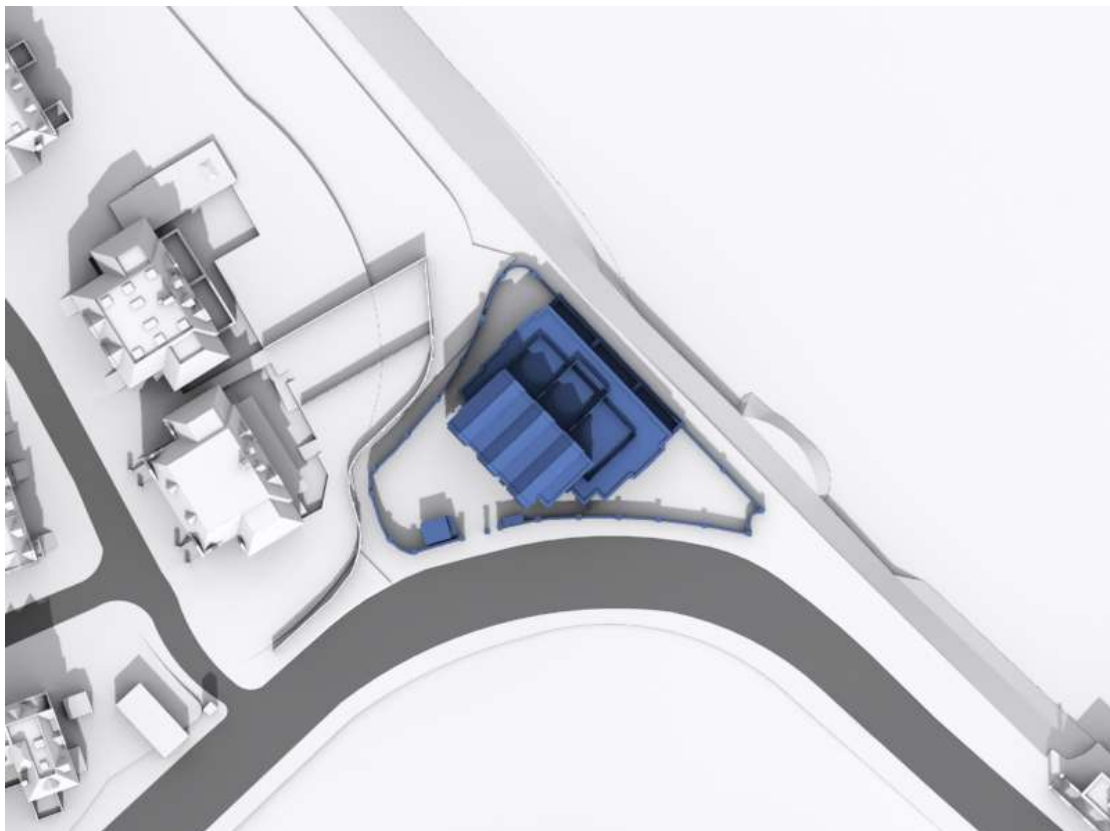
Shadow Diagram - 10.00 hours as existing on the 21st March Equinox



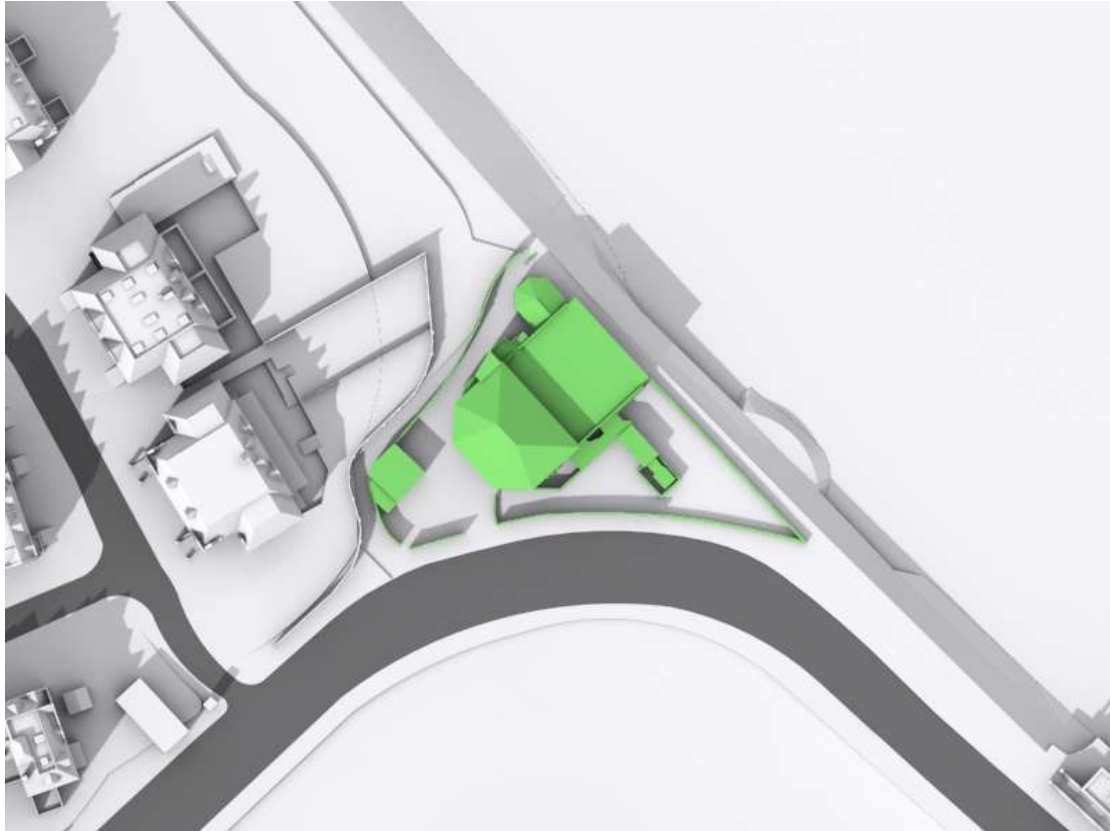
Shadow Diagram - 10.00 hours as proposed on the 21st March Equinox



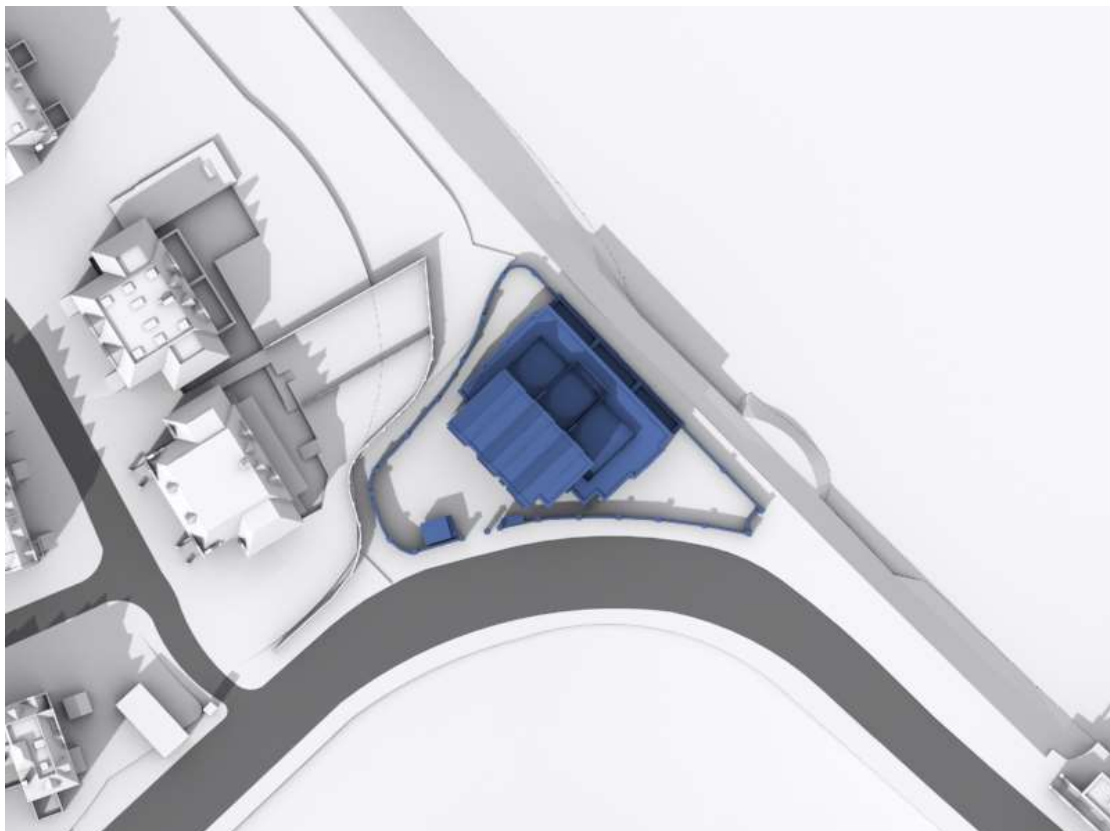
Shadow Diagram - 12.00 hours as existing on the 21st March Equinox



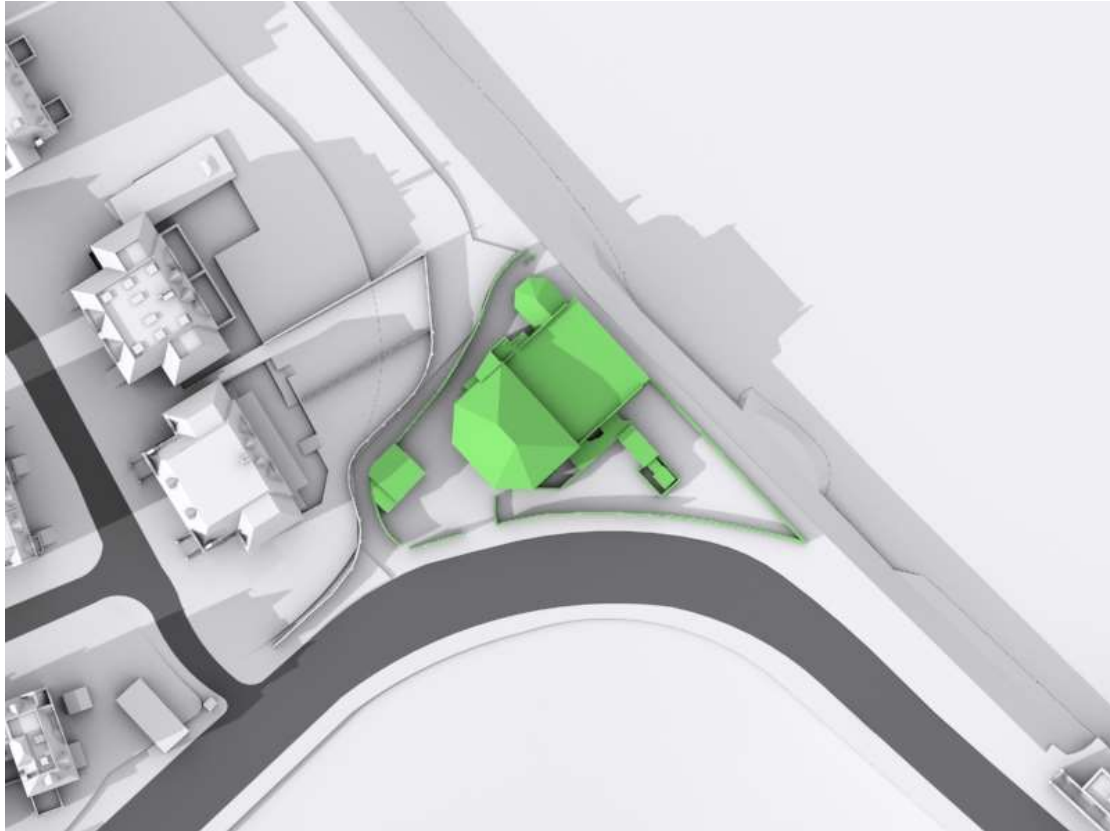
Shadow Diagram - 12.00 hours as proposed on the 21st March Equinox



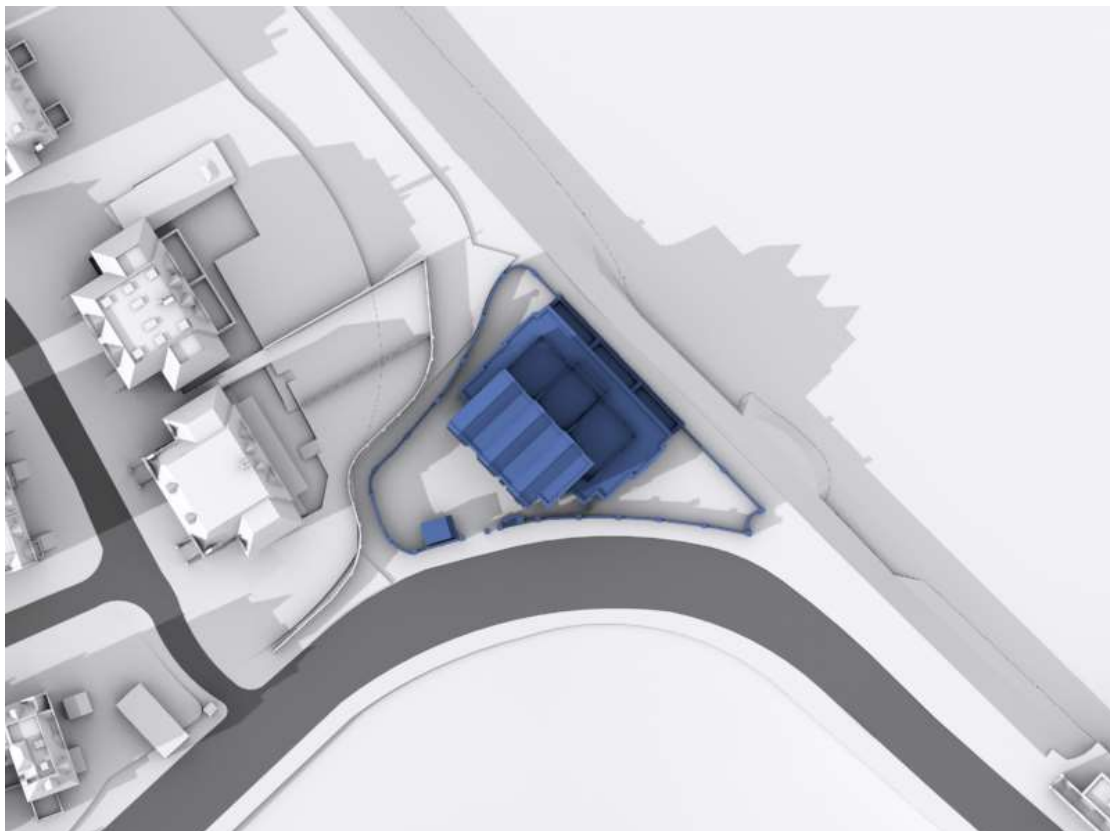
Shadow Diagram - 14.00 hours as existing on the 21st March Equinox



Shadow Diagram - 14.00 hours as proposed on the 21st March Equinox



Shadow Diagram - 16.00 hours as existing on the 21st March Equinox



Shadow Diagram - 16.00 hours as proposed on the 21st March Equinox

4.0 PROPOSAL SELF-TEST – DAYLIGHT & SUNLIGHT PROVISION

- 4.1 The proposed residential accommodation within the scheme has been reviewed for the provision of daylight and sunlight, including sunlight provision to amenity. The results of our examination are based upon the latest standard assessment procedure within the BRE Guide ‘Site Layout Planning for Daylight and Sunlight - A Guide to Good Practice’ Edition 2022 (The BRE Guide).

Daylighting

- 4.2 The new BRE Guide 3rd edition (2022) sets completely new methodology for the self-test review of daylight within the proposal, the main section applicable within the BRE Guide being ‘Appendix C: Interior daylight recommendations’. We examine the criteria and analysis output as follows;
- 4.3 The new methodology can follow either the ‘Illuminance method’ which involves using climatic data for the location of the site to calculate the illuminance from daylight (within the room on the assessment grid / working plane at hourly intervals for a typical year) OR the ‘Daylight Factor method’ which utilises a CIE standard overcast sky and expresses the ratio as a percentage of a point on the assessment grid / working plane within the room, divided by the illuminance on an unobstructed horizontal surface outdoors.
- 4.4 The BRE Guide highlights the specific recommendations for daylight provision in UK dwellings derived from a UK National Annex which gives specific minimum illuminance recommendations for habitable rooms in dwellings in the United Kingdom. The minimum recommendations are stated in para. C16 of the BRE Guide as;

‘C16: The UK National Annex gives illuminance recommendations of 100 lux in bedrooms, 150 lux in living rooms and 200 lux in kitchens. These are 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.’

- 4.5 We have followed the aforementioned target criteria although in instances of any applicable fully open-plan arrangements for ‘kitchen/living/dining rooms’, we have taken the target lux for the predominant room use which being primarily ‘living / dining room’, we have allowed a target of 150 lux (which differs to the default methodology within the BRE Guide but is recognised within the BRE Guide that this is a reasonable

approach if the kitchens are not treated as habitable spaces / an area within their own right, as it may avoid small separate kitchens in a design).

- 3.1 In respect of the trees and in reference to the BRE Guide, daylight assessment considers analysis results for both 'summer / full leaf' and 'winter / bare branch' (with the latter providing greater daylighting levels as less obstruction). The BRE Guide states in para.G2.8; *'For a room where the recommendation is exceeded in winter, but not in summer, daylight provision year-round is likely to be adequate, but it is clear that the trees are having some effect on daylight'*.
- 4.6 In terms of daylight analysis, we confirm below the inputting data utilised as;
Glass transmission: 0.68 for clear double-glazing with a low emissivity coating
Net area of glazing: we have utilised the surround opening less framework – framework allowance of 20%.
Room surface reflectance: 0.8 ceilings (white), 0.7 walls (white), 0.4 floor (light floor)
External surface reflectance: 0.2 surrounding buildings / massing, 0.2 ground.
- 4.7 For the assessment grid, this has been taken over the whole of the room, and as per the BRE Guide, less 300mm to the perimeter of the room.
- 4.8 We have utilised the 'Illuminance method' for review and the output of analysis is presented within **Table 3 – Self-test – Daylight SDA** (Spatial Daylight Autonomy) for both 'full leaf' / summer tree and 'bare branch' / winter tree analysis, and visually presented within **Drawing Nos. 112-113**, all within **Appendix C**.
- 4.9 From **Table 3**, we can confirm that all habitable rooms within the residential parts of the proposal would meet the illuminance target that we have considered for daylighting in both bare branch / winter tree review and also full leaf / summer tree review, excepting for the latter for one isolated room. In reference to the BRE Guide, given that minimum target levels of daylighting provision are fully achieved for bare branch / winter tree scenario (and effectively, also summer excepting one isolated instance), it is reasonable to conclude that adequate daylight would be provided year-round.

Sunlight

- 4.10 We have followed the methodology within the new BRE Guide 3rd edition (2022) for sunlight review with the main section applicable within the BRE Guide being section '3. Sunlighting – 3.1 New Development.'

- 4.11 The former review of Annual Probable Sunlight Hours (APSH) and winter hours is no longer applicable for self-test review and the new methodology recommendations are primarily stated in para. 3.1.10 of the BRE Guide as;

'3.1.10: For interiors, access to sunlight can be quantified. BS EN 17037 recommends that a space should receive a minimum of 1.5 hours of direct sunlight on a selected date between 1 February and 21 March with cloudless conditions. It is suggested that 21 March (equinox) be used. The medium level of recommendation is three hours and the high level of recommendation four hours. For dwellings, at least one habitable room, preferably a main living room, should meet at least the minimum criterion...'

- 4.12 However, for multi-unit developments, the following reference within the BRE Guide is also relevant;

'3.1.16: Where groups of dwellings are planned, site layout design should aim to maximise the number of dwellings with a main living room that meets the above recommendations'

(Background note on 3.1.16 – the 'above recommendation' being in reference to ...'For dwellings, at least one habitable room, preferably a main living room, should meet at least the minimum criterion'. The target is to 'maximise' the number of dwellings achieving the target within a multi-unit development but for such a development, it is recognised that not every dwelling is ordinarily able to achieve the sunlight target).

- 4.13 In terms of inputting data, we have selected the 21st March (equinox) review date as suggested by the BRE Guide.

- 4.14 The output of analysis is presented within **Table 4 – Self-test Sunlight Exposure** within **Appendix C** and this is based upon a full leaf scenario (bare branch not necessary to consider given the analysis results).

- 4.15 From **Table 4**, as for daylight we have analysed all applicable rooms for each dwelling and confirm that all living rooms within the dwellings would have the ability to receive 1.5 hours or more of sunlight on 21st March.

- 4.16 We conclude that suitable sunlight is provided for within this multi-unit development scheme, for this site and context orientation.

Sun provision to amenity area:

- 4.17 In terms of sunlight to the proposed development amenity area, the designated amenity areas / rear gardens demarked on **Drawing No. 114 - Appendix C**, would have the ability to receive 2 hours or more of sunlight at the Equinox to 60%, 61% and 86% of the respective areas. In reference to the BRE Guide target criteria for 50% or more of amenity area having the ability to receive 2 hours or more of sunlight at the 21st March, it can be considered that good sunlight provision is provided and should be considered acceptable.

Summary for provision of Daylight & Sunlight within the proposal

- 4.18 For the proposed new-build habitable rooms (self-test), given the analysis results adequate daylight and sunlight is considered to be provided in reference to minimum target criteria within the new BRE guide, and in our opinion should be considered acceptable. Equally, for sunlight to the new dwellings including amenity areas, suitable provision is available, especially in consideration of a multi-unit scheme.

APPENDICES

A. 3D Perspective Views with Neighbouring Context (existing and proposed), associated Window / Room Reference Plans:

Drawing No. 100 - Existing

Drawing No. 110 - Proposed

Drawing No. 103 - Neighbouring window reference map

B. Neighbouring Analysis:

Table 1 - VSC and Sunlight for surrounding buildings

Table 2 - Daylight Distribution for surrounding buildings

Drawing No. 111 - Neighbouring 2hr Sun on the ground amenity test

C. Self-test Analysis:

Table 3 - Self-test Daylight SDA

Table 4 - Self-test Sunlight Exposure

Drawing Nos. 112-113 - Self-test Daylight SDA visual plots

Drawing No. 114 - Self-test 2hr Sun on the ground amenity test

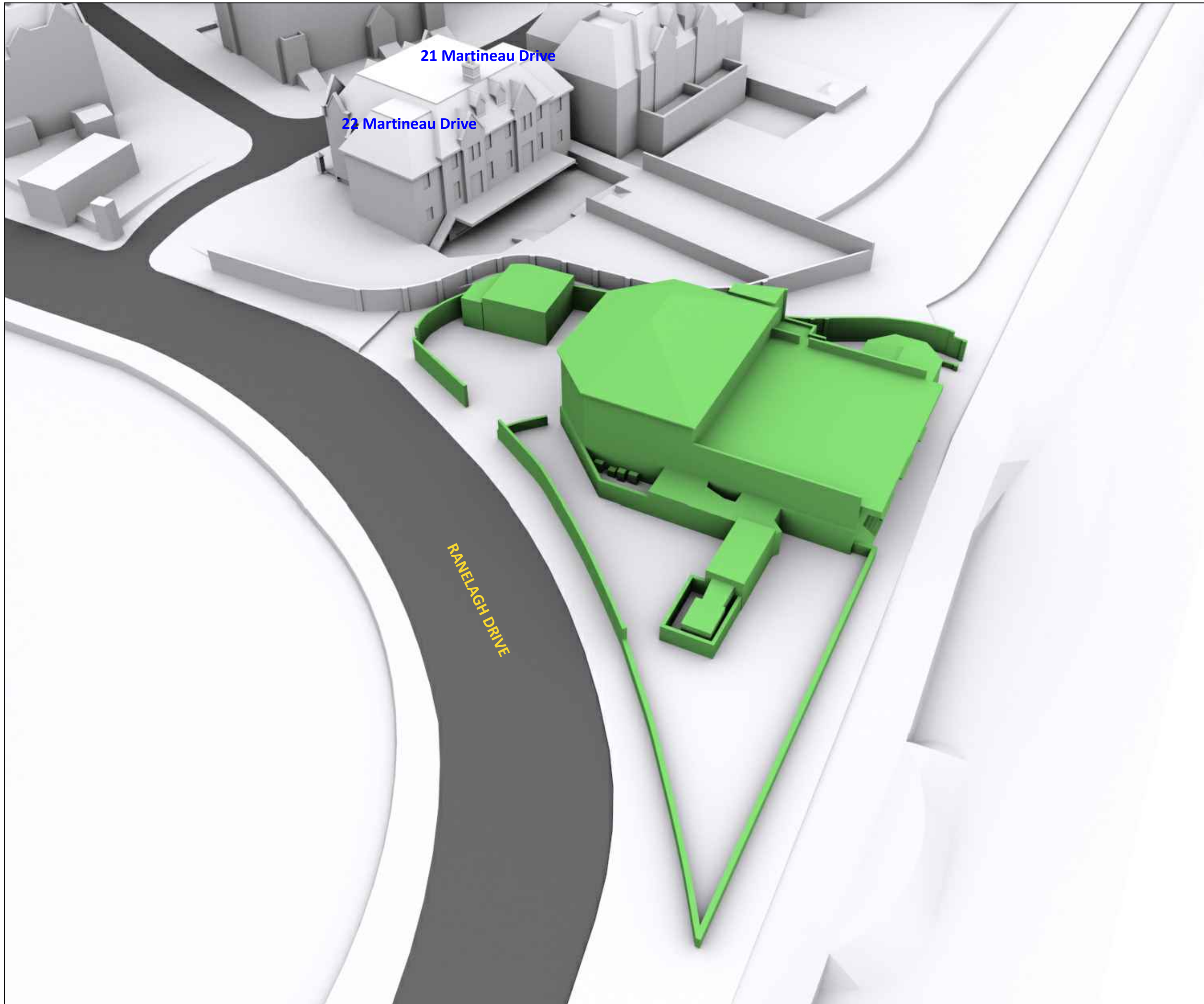
Appendix A

3D Perspective Views with Neighbouring Context (existing and proposed),
associated Window / Room Reference Plans:

Drawing No. 100 - Existing

Drawing No. 110 - Proposed

Drawing No. 103 - Neighbouring window reference map



21 Martineau Drive

22 Martineau Drive

RANELAGH DRIVE

REV.	NOTES	DWN	DATE

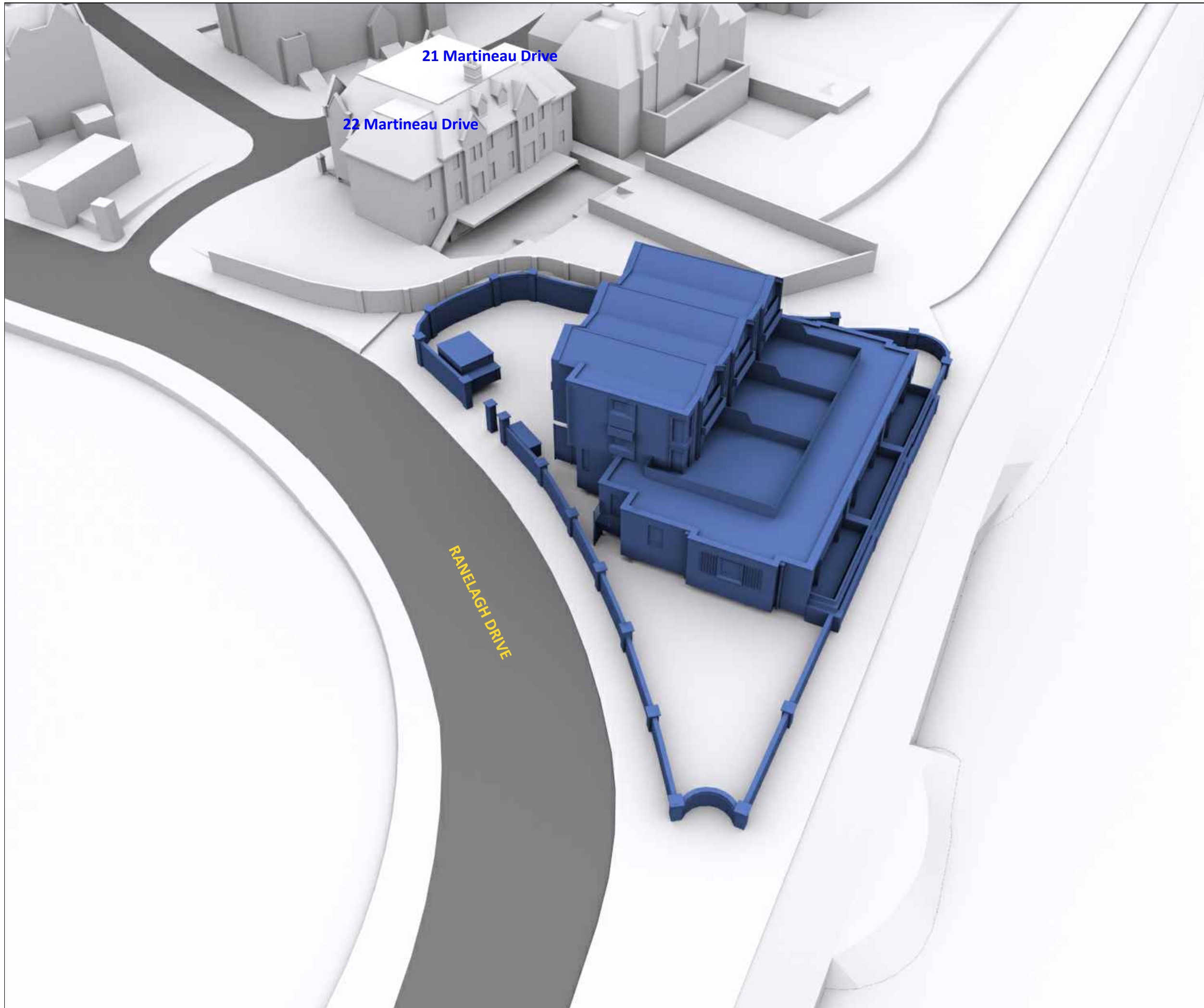
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The Boathouse, Twickenham TW1

Existing 3d View

Job No	Rev	Drawing Number
200/FH	-	100
Date : 26.09.2022		



21 Martineau Drive

22 Martineau Drive

RANELAGH DRIVE

REV.	NOTES	DWN	DATE

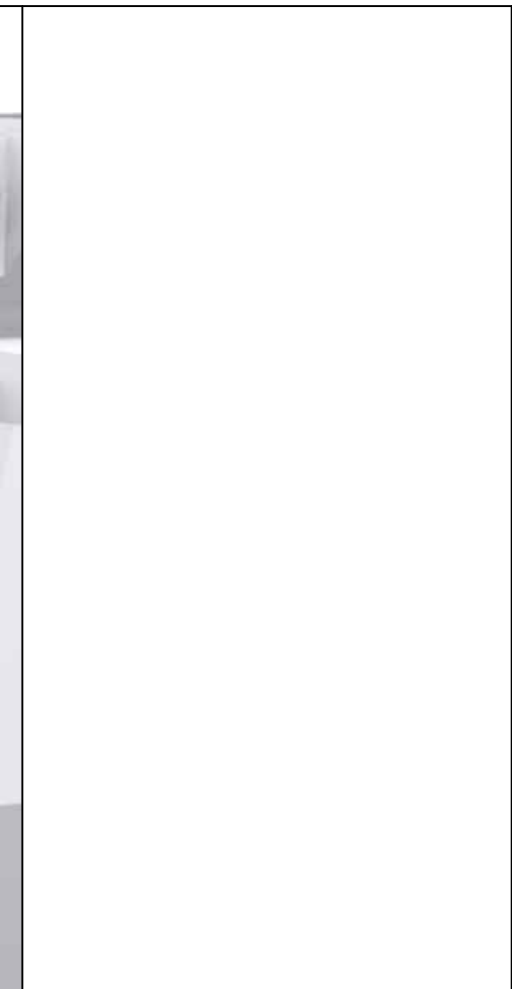
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		NTS (A3 Sheet)

The Boathouse, Twickenham TW1

Proposed 3d View

Job No	Rev	Drawing Number
200/FH	-	110
Date : 16.06.2023		



REV.	NOTES	DWN	DATE



Notes:

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The Boathouse, Twickenham TW1

Neighbouring Window Reference Map

Job No	Rev	Drawing Number
200/FH	-	103
Date : 26.09.2022		

Appendix B

Neighbouring Analysis:

Table 1 - VSC and Sunlight for surrounding buildings

Table 2 - Daylight Distribution for surrounding buildings

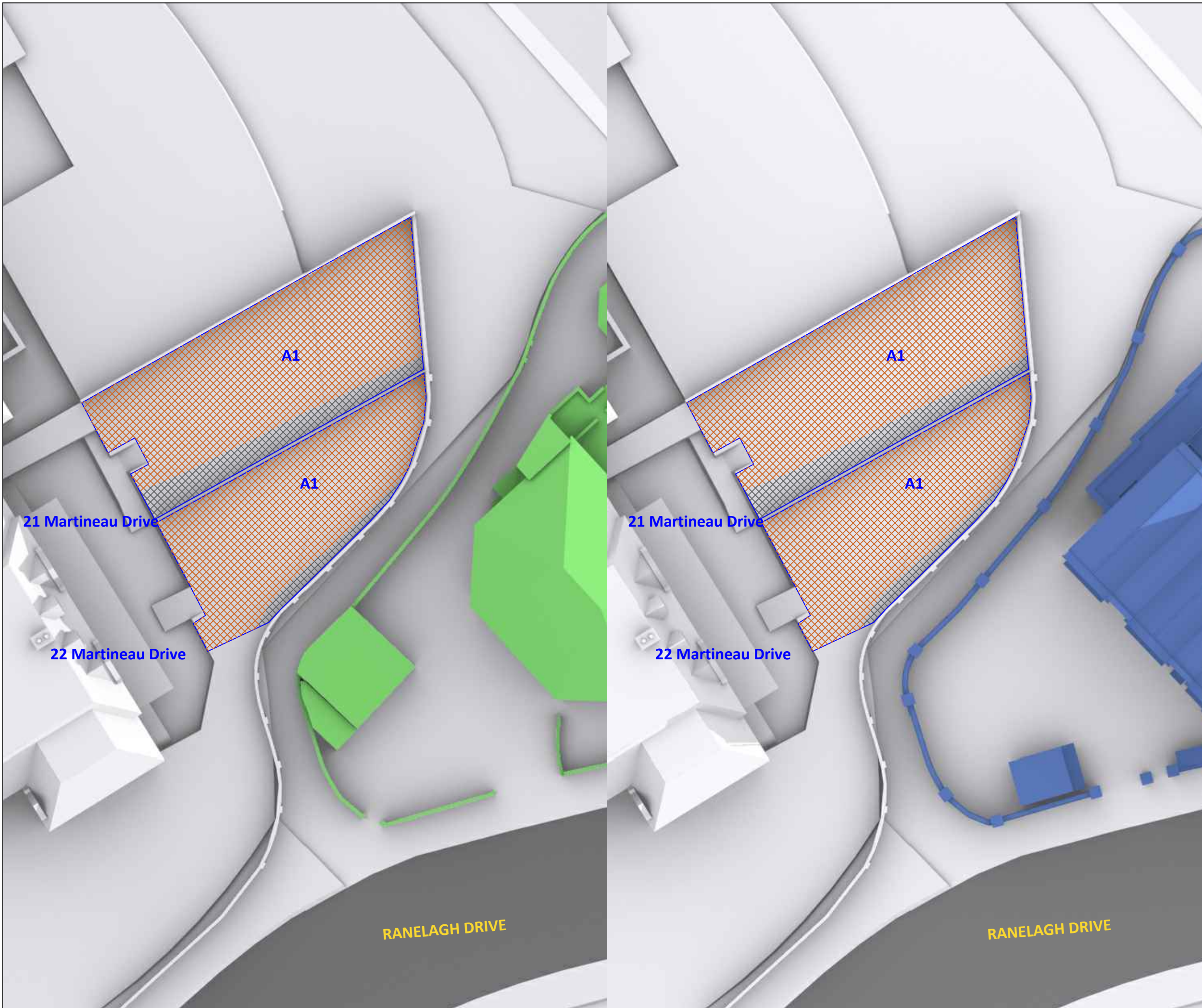
Drawing No. 111 - Neighbouring 2hr Sun on the ground amenity test


Table 1 - VSC and Sunlight for surrounding buildings

Floor Ref.	Room Ref.	Room Use	Window Ref.	VSC	Pr/Ex	Meets BRE Criteria	Annual	Winter	Total Suns per Room Annual	Pr/Ex	Meets BRE Criteria	Total Suns per Room Winter	Pr/Ex	Meets BRE Criteria
21 Martineau Drive														
Lower Ground	R1	Dining Room	W1	Existing Proposed	8.70 8.16	0.94	YES	*North	*North					
												*North		*North
Ground	R1	Living Room	W1	Existing Proposed	37.14 36.52	0.98	YES	*North	*North					
			W2	Existing Proposed	38.25 37.68	0.99	YES	*North	*North					
W3			Existing Proposed	36.61 36.10	0.99	YES	*North	*North						
	R2	WC	W4	Existing Proposed	- -	<i>n/a nonhabitable</i>						*North		*North
First	R1	Bedroom	W1	Existing Proposed	35.42 34.88	0.98	YES	*North	*North					
			W2	Existing Proposed	39.17 38.66	0.99	YES	*North	*North					
			W3	Existing Proposed	39.16 38.66	0.99	YES	*North	*North					
			W4	Existing Proposed	35.22 34.78	0.99	YES	*North	*North					
		R2	Bathroom	W5	Existing Proposed	- -	<i>n/a nonhabitable</i>						*North	
22 Martineau Drive														
Lower Ground	R1	Dining Room	W1	Existing Proposed	8.24 7.48	0.91	YES	*North	*North					
												*North		*North
Ground	R1	WC	W1	Existing Proposed	- -	<i>n/a nonhabitable</i>								
	R2	Living Room	W2	Existing Proposed	37.05 36.24	0.98	YES	*North	*North					
			W3	Existing Proposed	38.27 37.49	0.98	YES	*North	*North					
			W4	Existing Proposed	36.96 36.26	0.98	YES	*North	*North					
														*North
First	R1	Bathroom	W1	Existing Proposed	- -	<i>n/a nonhabitable</i>								
	R2	Living Room	W2	Existing Proposed	35.41 34.73	0.98	YES	*North	*North					
			W3	Existing Proposed	39.18 38.51	0.98	YES	*North	*North					
			W4	Existing Proposed	39.18 38.53	0.98	YES	*North	*North					
			W5	Existing Proposed	35.36 34.75	0.98	YES	*North	*North					*North

Table 2 - Daylight Distribution for surrounding buildings

Floor Ref.	Room Ref	Room Use	Room Area	Lit Area Existing	Lit Area Proposed	Pr/Ex	Meets BRE Criteria
21 Martineau Drive							
Lower Ground	R1	Dining Room	51.30	51.24 99.88%	51.24 99.88%	1.00	YES
Ground	R1	Living Room	37.71	37.27 98.83%	37.27 98.83%	1.00	YES
	R2	WC	<i>n/a - non-habitable</i>				
First	R1	Bedroom	34.00	33.54 98.65%	33.54 98.65%	1.00	YES
	R2	Bathroom	<i>n/a - non-habitable</i>				
22 Martineau Drive							
Lower Ground	R1	Dining Room	51.30	51.23 99.86%	51.23 99.87%	1.00	YES
Ground	R1	WC	<i>n/a - non-habitable</i>				
	R2	Living Room	37.71	37.25 98.78%	37.25 98.78%	1.00	YES
First	R1	Bathroom	<i>n/a - non-habitable</i>				
	R2	Living Room	34.00	33.58 98.75%	33.58 98.75%	1.00	YES



REV.		NOTES	DWN	DATE
Notes:				
[Blue Outline]		AMENITY AREA		
[Orange Hatching]		>2H SUNLIGHT (EQUINOX)		
[Grey Hatching]		<2H SUNLIGHT (EQUINOX)		
 <small>Chartered Building Surveyors Vox Studios - Unit 410, Durham Street, London SE11 5JH T 020 7582 880 E info@sbegg.co.uk W www.sbegg.co.uk</small>				
DRAWN	-			
CHECKED	-			
		SCALE		
		NTS (A3 Sheet)		
The Boathouse, Twickenham TW1				
2hr BRE Sun On The Ground Amenity Test				
Job No	Rev	Drawing Number		
200/FH	-	111		
Date	16.06.2023			

Appendix C

Self-test Analysis:

Table 3 - Self-test Daylight SDA

Table 4 - Self-test Sunlight Exposure

Drawing Nos. 112-113 – Self-test Daylight SDA visual plots

Drawing No. 114 – Self-test 2hr Sun on the ground amenity test

Table 3 – Self-test Daylight SDA

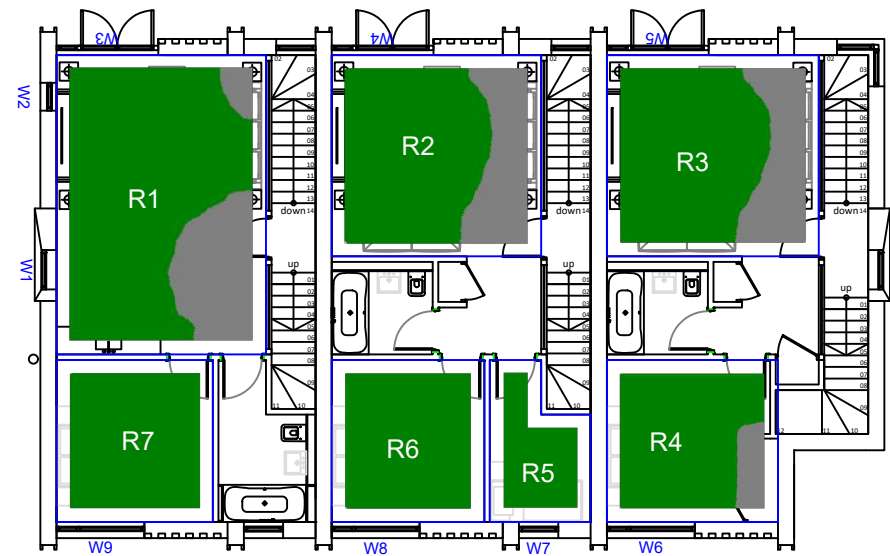
Floor Ref	Room Ref	Room Use	Room Area m2	Effective Area	Full-leaf / Summer			Bare-branch / Winter		
					Area Meeting Req Lux	% of Area Meeting Req Lux	Meets Criteria	Area Meeting Req Lux	% of Area Meeting Req Lux	Meets Criteria
Proposed										
Ground	R1	Living Room	72.21	60.70	60.70	100%	YES	60.70	100%	YES
	R2	Living Room	71.80	60.61	60.61	100%	YES	60.61	100%	YES
	R3	Living Room	77.55	66.31	66.31	100%	YES	66.31	100%	YES
	R4	Bedroom	15.01	9.99	9.97	100%	YES	9.97	100%	YES
	R5	Bedroom	11.98	7.45	3.88	52%	YES	6.85	92%	YES
	R6	Bedroom	15.69	11.11	4.43	40%	BELOW	6.77	61%	YES
	R7	Bedroom	15.59	10.96	6.99	64%	YES	10.96	100%	YES
	R8	Bedroom	11.07	5.76	5.76	100%	YES	5.76	100%	YES
First	R1	Living Room	29.31	23.07	18.04	78%	YES	19.03	83%	YES
	R2	Living Room	19.71	14.74	10.61	72%	YES	10.61	72%	YES
	R3	Living Room	19.92	14.92	10.91	73%	YES	10.91	73%	YES
	R4	Bedroom	12.95	8.99	8.01	89%	YES	8.01	89%	YES
	R5	Bedroom	6.37	3.32	3.32	100%	YES	3.32	100%	YES
	R6	Bedroom	11.55	7.83	7.83	100%	YES	7.83	100%	YES
	R7	Bedroom	11.83	8.06	8.06	100%	YES	8.06	100%	YES
Second	R1	Bedroom	23.45	17.40	17.40	100%	YES	17.40	100%	YES
	R2	Bedroom	23.75	17.70	17.70	100%	YES	17.70	100%	YES
	R3	Bedroom	23.54	17.17	17.17	100%	YES	17.17	100%	YES

Table 4 – Self-test Sunlight Exposure

Floor Ref	Unit Ref	Room Ref	Room Use	Window Ref	Window Orientation	Proposed Sunlight Exposure (Hours)	Rating
Proposed							
Ground	House 1	R1	Living Room	W3	316°N	0.4	
				W4	46°N	2.3	
				W11	90° Hz	4.2	
						6.9	High
Ground	House 2	R2	Living Room	W5	46°N	2.3	
				W12	90° Hz	0.9	
						3.2	Medium
Ground	House 3	R3	Living Room	W6	46°N	2.3	
				W7	136°	7	
				W13	90° Hz	6.4	
						7	High
Ground	House 3	R4	Bedroom	W8	136°	7.2	
						7.2	High
Ground	House 3	R5	Bedroom	W9	226°	1.5	
						1.5	Minimum
Ground	House 2	R6	Bedroom	W10	226°	1.6	
						1.6	Minimum
Ground	House 1	R7	Bedroom	W1	316°N	0.2	
						0.2	Below
Ground	House 1	R8	Bedroom	W2	316°N	0.6	
						0.6	Below
First	House 1	R1	Living Room	W1	316°N	0.2	
				W2	316°N	0.6	
				W3	46°N	2.1	
						2.7	Minimum
First	House 2	R2	Living Room	W4	46°N	2.1	
						2.1	Minimum
First	House 3	R3	Living Room	W5	46°N	2.1	
						2.1	Minimum
First	House 3	R4	Bedroom	W6	226°	4.9	
						4.9	High
First	House 2	R5	Bedroom	W7	226°	6	
						6	High
First	House 2	R6	Bedroom	W8	226°	4.9	
						4.9	High
First	House 1	R7	Bedroom	W9	226°	4.5	
						4.5	High
Second	House 1	R1	Bedroom	W1	316°N	1.7	
				W2	46°N	2.3	
				W3	46°N	2.3	
						4	Medium
Second	House 2	R2	Bedroom	W4	46°N	2.3	
				W5	46°N	2.3	
						2.3	Minimum
Second	House 3	R3	Bedroom	W6	46°N	2.3	
				W7	46°N	2.3	
				W8	136°	7.1	
				W9	136°	6.4	
						7.1	High



GROUND FLOOR



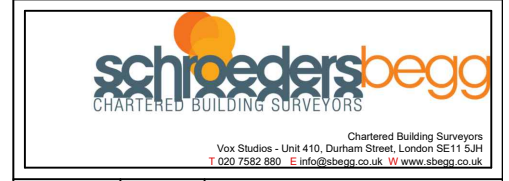
FIRST FLOOR



SECOND FLOOR

REV.	NOTES	DWN	DATE

- Notes:
- ANALYSED ROOM AREA
 - AREA MEETING TARGET
 - AREA BELOW TARGET



DRAWN	-
CHECKED	-

SCALE
NTS (A3 Sheet)

The Boathouse, Twickenham TW1

Self-test Daylight SDA - Full-leaf / Summer

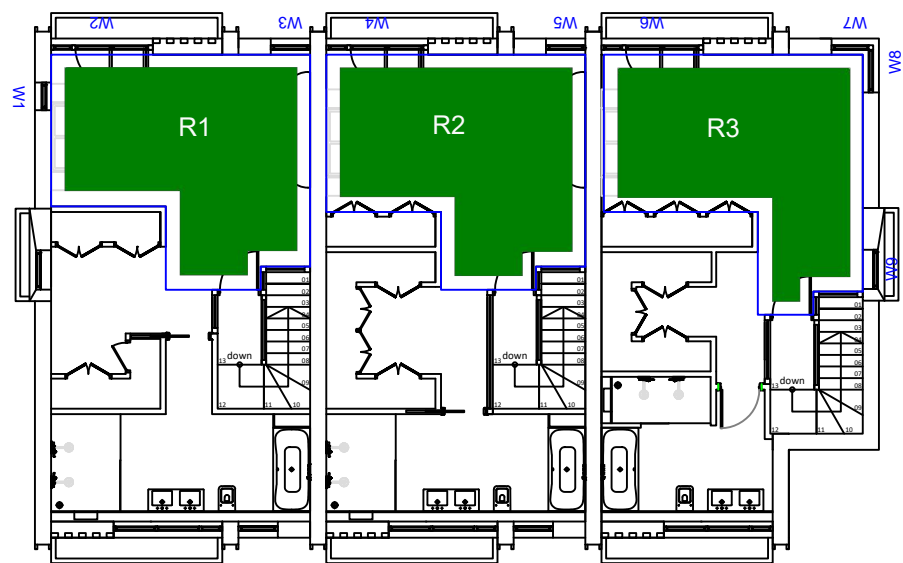
Job No	Rev	Drawing Number
200FH	-	112
Date : 14.06.2023		



GROUND FLOOR



FIRST FLOOR

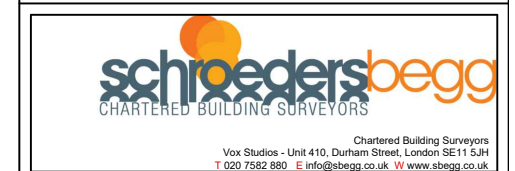


SECOND FLOOR

REV.	NOTES	DWN	DATE

Notes:

- ANALYSED ROOM AREA
- AREA MEETING TARGET
- AREA BELOW TARGET



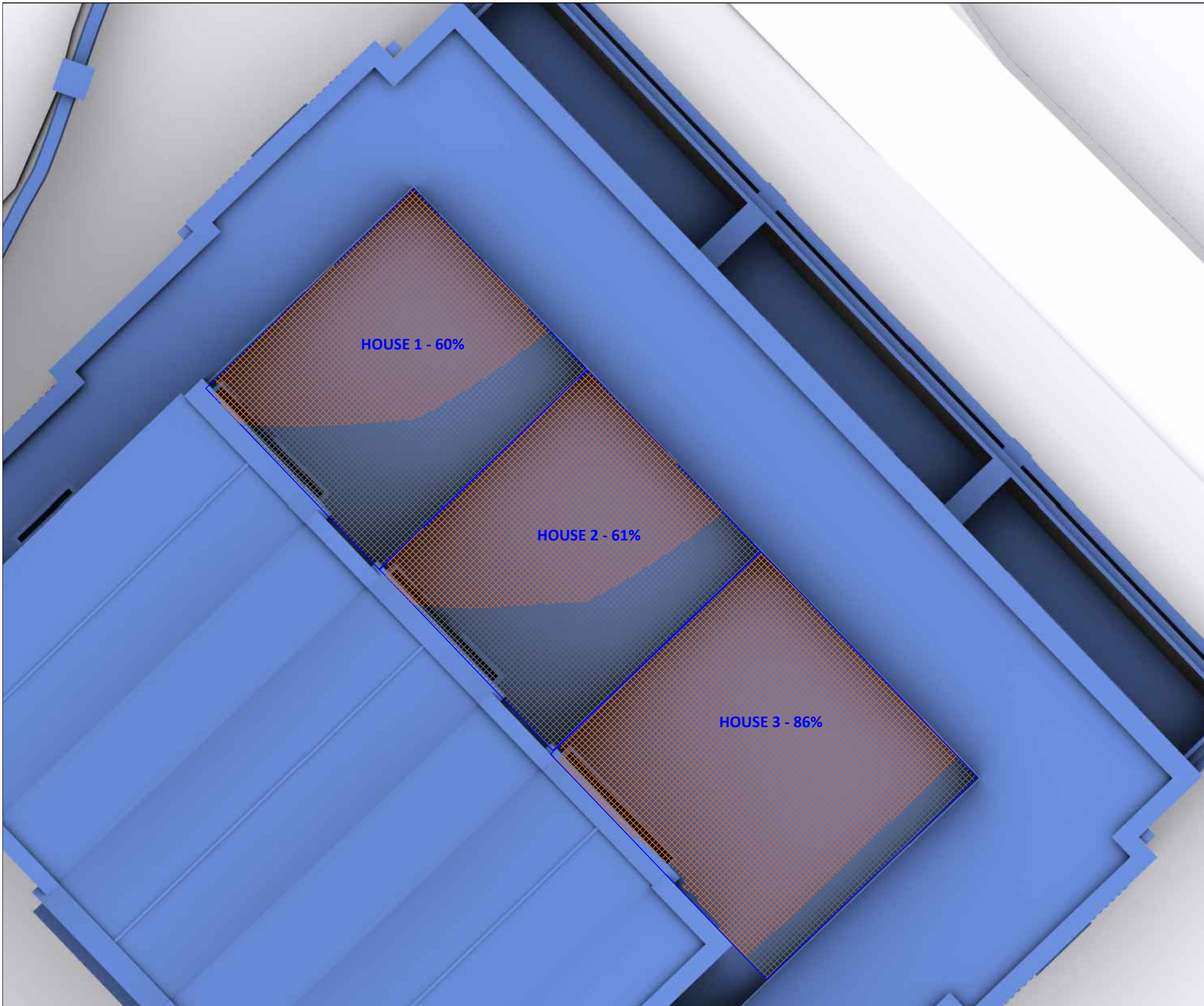
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SCALE	
NTS (A3 Sheet)	

The Boathouse, Twickenham TW1




Self-test Daylight SDA - Bare-branch / Winter

Job No	Rev	Drawing Number
200FH	-	113
Date : 14.06.2023		



REV.	NOTES	DWN	DATE

Notes:

-  AMENITY AREA
-  >2H SUNLIGHT (EQUINOX)
-  <2H SUNLIGHT (EQUINOX)

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DRAWN	-	
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		SCALE
		NTS (A3 Sheet)

The Boathouse, Twickenham TW1

2hr BRE Sun On The Ground Amenity

Job No	Rev	Drawing Number
200/FH	-	114
Date : 16.06.2023		