PROPOSED SCHEME DAYLIGHT, SUNLIGHT & OVERSHADOWING ASSESSMENT

Charville Lane

Produced by XCO2 for London Borough of Hillingdon

August 2023

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	01	02					
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Checked by	TK	TK					
Authorised by	RM	RM					
Date	04/08/2023	04/08/2023					
Project reference	9.971	9.971					

EXECUTIVE SUMMARY

The onsite assessment indicates that the habitable rooms of the proposed development will achieve good levels of daylight and sunlight.

Daylight and Sunlight analysis was carried out for the proposed development at Charville Lane, located within the London Borough of Hillingdon. This report outlines the results of the analysis for the planning application, evaluating daylight and sunlight levels within the residential units of the proposed scheme.

The methodology set out in this report is in accordance with BRE's "Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice" by PJ Littlefair et al. (2022) which is accepted as good practice by Planning Authorities.

Computer modelling software was used to carry out the assessments. The model used was based on drawings and a 3D model provided by the design team together with desktop research on neighbouring properties.

The following assessments were carried out for a sample of residential units within the proposed scheme:

- Daylight: Spatial Daylight Autonomy (sDA)
- Sunlight: Sunlight Exposure
- Sunlight: Sunlight Access

DAYLIGHT ASSESSMENT

The rooms evaluated in the internal daylight assessment include 6 kitchen/dining (KD) spaces, 12 living rooms, 6 study rooms and 18 bedrooms within the proposed residential buildings.

The assessment was carried out for all habitable rooms across the scheme.

The results indicated that of the 6 KD spaces assessed, 4 meet the BRE recommendations, with 1 KD space achieving daylight levels within 80% of these recommendations (i.e., sDA of 40%) and 1 within 60% (i.e., sDA of 30%).

Of the 12 living rooms assessed, all were found to exceed the BRE recommendations.

Among the 6 study rooms assessed, 2 meet the BRE recommendations, 1 study with sDA of above 30%, and 3 studies not meeting not meeting the recommendations as set out above. These study spaces are likely to be more transient in use whereas the more frequently occupied living rooms are performing well. It should be noted that one of the study rooms that does not meet the recommendations has its window in close proximity to an adjacent building.

Of the 18 bedrooms assessed, 17 meet the BRE recommendations, with the remaining 1 not achieving the recommendations. It should be noted that bedrooms are likely to be occupied most frequently at night and therefore may have less expectation for daylight.

Overall, the proposed development as a whole is anticipated to achieve good levels of daylighting to all dwellings and habitable spaces, and is therefore considered to provide good quality of accommodation to the future occupants in terms of daylight. Of the 42 rooms assessed, 35 (83%) were found to meet the BRE recommendations.

SUNLIGHT ASSESSMENT

The assessment was carried out for all buildings across the scheme. A total of 12 living rooms were therefore assessed for sunlight exposure.

The analysis shown that 6 of the 12 assessed living rooms will achieve at least 4 hours of sunlight exposure on 21 March, thus being regarded as achieving a 'high' level of sunlight exposure in the context of the BRE recommendations.

A further 2 living rooms were found to be achieving at least 1.5 hours which is the minimum recommendation for sunlight exposure within the BRE guide.

The remaining 4 spaces were found to not be meeting the above recommended levels, but they belong to units with at least one other room meeting the minimum recommendations and therefore the units are considered to achieve good levels of sunlight as a whole, as per BRE recommendations.

Overall, it can be concluded that the proposed design offers optimum accessibility to sunlight all living spaces within the Charville Lane development. Of the 6 dwellings assessed, all (100%) were found to be compliant with the minimum BRE recommendations for sunlight exposure.

OVERSHADOWING ASSESSMENT

A solar access analysis was undertaken for 2 communal and 7 private amenity spaces at ground level for the full 24 hours on 21st of March as per the BRE guidance.

The analysis indicated that the 2 communal amenity spaces are predicted to achieve a minimum of 2 hours of sunlight on 21st of March over an area significantly greater than 50% of the area, with 80% of the space achieving good levels of sunlight.

Among the 7 private amenity spaces assessed, 4 achieve the above recommended levels with a further 1 achieving slightly below the recommended area at 48%.

The remaining 2 did not achieve the recommended recommendations. However, it should be noted that this assessment is based on 21st of March, whereas the spaces are expected to be used most frequently during summer where the angle of sun is higher. As such, these spaces are due to be less bound by obstruction during summer and therefore are expected to achieve 2 hours of sunlight over a greater area.

Overall, it can be concluded that the proposed design offers good accessibility to sunlight in the open spaces. Of the 9 amenity spaces assessed, 6 (67%) were found to meet the BRE recommendations.

INTRODUCTION

The site is located in an urban environment and the interpretation of the results requires careful consideration of the BRE guidance.

SITE

The proposed development is a new-build scheme within the London Borough of Hillingdon and is located at the corner of Charville Lane and Ridings Lane.

The proposal is for redevelopment of an existing Children's Home to provide new build residential institution development (use class C2), consisting of 3 No. 2 storey buildings, providing accommodation for 12 young people, with associated staff facilities, plant, access, parking, amenity gardens, soft landscaping and a Multi Uses Games Area..

Figure 1: Site location

METHODOLOGY

The assessment is based on guidelines set out in the BRE "Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice" (2022).

The methodology is based on the British Research Establishment's (BRE) publication "Site Layout Planning for Daylight and Sunlight - A Guide to Good Practice," by PJ Littlefair et al. (2022).

The BRE publication Site Layout Planning for Daylight and Sunlight gives advice on site layout planning to achieve good daylighting in buildings. It is important to note that the advice given in the BRE guide is *"not mandatory"* and *"its aim is to help rather than constrain the designer".*

DAYLIGHT

The BRE guidelines refer to the British Standard BS EN 17037 *Daylight in Buildings* recommendations. This stipulates the calculation of the amount of daylight in a space using one of two methods: prediction of illuminance levels using hourly data, or the use of the daylight factor. For this assessment, the method predicting illuminance levels using hourly data is used. For daylight levels in dwellings, BS EN 17037 refers to the UK National Annex which outlines the illuminance level needed in a room according to its occupancy. These are as follows:

- 100 lux for bedrooms
- 150 lux for living rooms and
- 200 lux for kitchens, rooms with kitchens, offices/study rooms

The calculation is carried out taking into consideration the relative illuminance values, the amount of daylight hours, and the area of the room. For a room to be compliant with the BRE guidance it must reach the required illuminance levels for at least 50% of the daylight hours across 50% of the room area.

This is measured by the Spatial Daylight Autonomy (sDA) metric. sDA is defined as the percentage area of the analysed space that is above a certain lux level for a certain percentage of time.

In addition to the amount of light reaching the working plane, this assessment takes into consideration surface materials and in particular their reflectance.

These calculations are carried out using Radiance based software approved by the BRE.

SUNLIGHT

Sunlight is valued within a space, and according to the BRE guidance 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 the 21st of March – the equinox. The guidance rates the amount of access to daylight as below:

- 1.5 hours as the minimum
- 3 hours as a medium level
- 4 hours as a high level

The BRE guidance states that *"in housing, the main requirement for sunlight is in living rooms, where it is valued at any time of day but especially in the afternoon. Sunlight is also required in conservatories. It is viewed as less important in bedrooms and in kitchens, where people prefer it in the morning rather than the afternoon."*

The guidance states at least one habitable room is required to meet the criteria per dwelling.

OVERSHADOWING

Open spaces should retain a reasonable amount of sunlight throughout the year. The BRE states that for an amenity space to *"appear adequately sunlit throughout the year, at least half of the area should receive at least two hours of sunlight on 21 March".*

DAYLIGHT ASSESSMENT

The analysis indicates that the habitable spaces of the proposed development will receive good levels of daylighting.

The assessment was carried out for all habitable rooms across the scheme.

The references of the evaluated dwellings and the corresponding habitable rooms can be found in the appendix. The tables below show the daylight results for all the assessed rooms.

For the calculations, the following assumptions have been made:

- 60% interior wall reflectance
- 80% interior ceiling reflectance
- 30% interior floor reflectance
- 20% exterior surface reflectance
- 68% light transmission for vertical glazing

The 6 dwellings consist of 6 KDs, 12 living rooms, 6 study rooms and 18 bedrooms.

The results indicated that of the 6 KD spaces assessed, 4 meet the BRE recommendations, with 1 KD space achieving daylight levels within 80% of these recommendations (i.e., sDA of 40%) and 1 within 60% (i.e., sDA of 30%).

Of the 12 living rooms assessed, all were found to exceed the BRE recommendations.

Among the 6 study rooms assessed, 2 meet the BRE recommendations, 1 study with sDA of above 30%, and 3 studies not meeting not meeting the recommendations as set out above. These study spaces are likely to be more transient in use whereas the more frequently occupied living rooms are performing well. It should be noted that one of the study rooms that does not meet the recommendations has its window in close proximity to an adjacent building.

Of the 18 bedrooms assessed, 17 meet the BRE recommendations, with the remaining 1 not achieving the recommendations. It should be noted that these bedrooms are likely to be occupied most frequently at night when sunlight isn't expected, rather than during the day.

Overall, the proposed development as a whole is anticipated to achieve good levels of daylighting to all dwellings and habitable spaces, and is therefore considered to provide good quality of accommodation to the future occupants in terms of daylight.

This daylight distribution is shown in Appendix A – Proposed Scheme Room Reference and Daylight Contour Plots. Detailed results can be found within Appendix B - Detailed Daylight Results.

Table 1: Daylight results summary for proposed dwellings

Number of habitable rooms tested	42
Number of kitchen/dining rooms	6
Number of kitchen/dining rooms meeting the BRE recommendations	4
Number of kitchen/dining meeting within 80% or above of the BRE recommendations (sDA of at least 40%)	1
Number of kitchen/dining meeting within 60% or above of the BRE recommendations (sDA of at least 30%)	1
Number of kitchen/dining not meeting any of the above criteria	0
Number of living rooms	12
Number of living rooms meeting the BRE recommendations	12
Number of living rooms not meeting any of the above criteria	0
Number of study rooms	6
Number of study rooms meeting the BRE recommendations	2
Number of study rooms meeting within 80% or above of the BRE recommendations (sDA of at least 40%)	0
Number of study rooms meeting within 60% or above of the BRE recommendations (sDA of at least 30%)	1
Number of study rooms not meeting any of the above criteria	3
Number of bedrooms	18
Number of bedrooms meeting the BRE recommendations	17
Number of bedrooms meeting within 80% or above of the BRE recommendations (sDA of at least 40%)	0
Number of bedrooms meeting within 60% or above of the BRE recommendations (sDA of at least 30%)	0
Number of bedrooms not meeting any of the above criteria	1

SUNLIGHT ASSESSMENT

The analysis indicates that the south facing living spaces of the proposed development will receive good levels of sunlight.

The assessment was carried out for all buildings across the scheme. A total of 12 living rooms were therefore assessed for sunlight exposure.

The analysis shown that 6 of the 12 assessed living rooms will achieve at least 4 hours of sunlight exposure on 21 March, thus being regarded as achieving a 'high' level of sunlight exposure in the context of the BRE recommendations.

A further 2 living rooms were found to be achieving at least 1.5 hours which is the minimum recommendation for sunlight exposure within the BRE guide.

The remaining 4 spaces were found to not be meeting the above recommended levels, but they belong to units with at least one other room meeting the minimum recommendations and therefore the units are considered to achieve good levels of sunlight as a whole, as per BRE recommendations.

Overall, it can be concluded that the proposed design offers optimum accessibility to sunlight all living spaces within the Charville Lane development.

Detailed results can be found within Appendix C – Detailed Sunlight Results.

Table 2. Sunlight Results for Charville Lane

Number of living rooms tested	12
Number of living rooms meeting the high level of sunlight recommendation	6
Number of living rooms meeting the medium level of sunlight recommendation	0
Number of living rooms meeting the minimum level of sunlight recommendation	2
Number of living rooms not meeting any of the above recommendation but were found to be within properties which had another room meeting the criteria, therefore satisfying the BRE recommendations	4

OVERSHADOWING ASSESSMENT

The analysis indicates that the open spaces of the proposed development will receive adequate sunlight.

A review of the site plan showed that there are 2 communal amenity spaces and 7 private amenity spaces which are part of the proposed development, as shown in the figure below. A Solar Access Analysis was undertaken on these amenity areas for the full 24 hours on 21 March as set out by the BRE.

The analysis indicated that the 2 communal amenity spaces is predicted to achieve a minimum of 2 hours of sunlight on 21st of March over an area significantly greater than 50% of the area, with 80% of the space achieving good levels of sunlight.

Among the 7 private amenity spaces assessed, 4 achieve the above recommended levels, 1 achieving slightly below the recommended area at 48%

The remaining 2 did not achieve the recommended recommendations. However, it should be noted that this assessment is based on 21st of March, whereas the spaces are expected to be used most frequently during summer where the angle of sun is higher. As such, these spaces are due to be less bound by obstruction during summer and therefore are expected to achieve 2 hours of sunlight over a greater area.

Overall, it can be concluded that the proposed design offers good accessibility to sunlight in the open spaces.

Figure 2: Amenity spaces within the development site. A5 & A6 are communal amenity spaces, with the rest (A1-A4; A7-A9) being private amenity spaces.

Figure 3: Overshadowing results for the proposed scheme

Table 3: Overshadowing results summary for the proposed scheme

Amenity Reference	Amenity Area (m²)	Lit Area Proposed (m²)	Proposed Lit Area (%)	Meets BRE Criteria
A1	94.6	54.2	57%	Yes
A2	63.4	7.7	12%	No
A3	60.3	10.1	17%	No
A4	174.5	84.5	48%	No
A5	204.4	168.3	82%	Yes
A6	102.2	87.2	85%	Yes
A7	262.4	244.2	93%	Yes
A8	45.1	32.8	73%	Yes
A9	28.2	15.9	56%	Yes

CONCLUSION

The onsite assessment indicates that the habitable rooms of the proposed development will achieve good levels of daylight and sunlight.

DAYLIGHT ASSESSMENT

The results indicated that of the 6 KD spaces assessed, 4 meet the BRE recommendations, with 1 KD space achieving daylight levels within 80% of these recommendations (i.e., sDA of 40%) and 1 within 60% (i.e., sDA of 30%).

Of the 12 living rooms assessed, all were found to exceed the BRE recommendations.

Among the 6 study rooms assessed, 2 meet the BRE recommendations, 1 study with sDA of above 30%, and 3 studies not meeting not meeting the recommendations as set out above. These study spaces are likely to be more transient in use whereas the more frequently occupied living rooms are performing well. It should be noted that one of the study rooms that does not meet the recommendations has its window in close proximity to an adjacent building.

Of the 18 bedrooms assessed, 17 meet the BRE recommendations, with the remaining 1 not achieving the recommendations. It should be noted that these bedrooms are likely to be occupied most frequently at night when sunlight isn't expected, rather than during the day.

Overall, the proposed development as a whole is anticipated to achieve good levels of daylighting to all dwellings and habitable spaces, and is therefore considered to provide good quality of accommodation to the future occupants in terms of daylight. Of the 42 rooms assessed, 35 (83%) were found to meet the BRE recommendations.

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Overall, it can be concluded that the proposed design offers optimum accessibility to sunlight all living spaces within the Charville Lane development. Of the 6 dwellings assessed, all (100%) were found to be compliant with the minimum BRE recommendations for sunlight exposure.

OVERSHADOWING ASSESSMENT

The analysis indicated that the 2 communal amenity spaces is predicted to achieve a minimum of 2 hours of sunlight on 21st of March over an area significantly greater than 50% of the area, with 80% of the space achieving good levels of sunlight.

Among the 7 private amenity spaces assessed, 4 achieve the above recommended levels with a further 1 achieving slightly below the recommended area at 48%.

The remaining 2 did not achieve the recommended recommendations. However, it should be noted that this assessment is based on 21st of March, whereas the spaces are expected to be used most frequently during summer where the angle of sun is higher. As such, these spaces are due to be less bound by obstruction

during summer and therefore are expected to achieve 2 hours of sunlight over a greater area.

Overall, it can be concluded that the proposed design offers good accessibility to sunlight in the open spaces. Of the 9 amenity spaces assessed, 6 (67%) were found to meet the BRE recommendations.

APPENDIX A – PROPOSED SCHEME ROOM REFERENCE AND DAYLIGHT CONTOUR PLOTS

DO NOT SCALE

BACKGROUND DRAWING INFORMATION

FILE NAME	ORIGINATOR NAME	DESCRIPTION NAME	REV	DATE REC'D

Notes

SDA % of Hours > req. lux

- 50.00
- 45.00
- 40.00
- 35.00
- 30.00
- 25.00
- 20.00
- 15.00
- 10.00
- 5.00
- 0.00

R5
Living Room
SDA % of Area: 76 %
SE: 1.5

R6
KD
SDA % of Area: 25 %
SE: 0.0

R7
Living Room
SDA % of Area: 83 %
SE: 0.0

R8
KD
SDA % of Area: 84 %
SE: 0.0

R9
Living Room
SDA % of Area: 84 %
SE: 0.0

R10
Study
SDA % of Area: 0 %
SE: 1.8

R11
Living Room
SDA % of Area: 100 %
SE: 8.0

R4
KD
SDA % of Area: 89 %
SE: 1.5

R12
Study
SDA % of Area: 54 %
SE: 8.0

R1
Living Room
SDA % of Area: 95 %
SE: 8.0

R2
Study
SDA % of Area: 45 %
SE: 7.6

R3
Living Room
SDA % of Area: 95 %
SE: 6.5

R11
Living Room
SDA % of Area: 100 %
SE: 0.1

R12
Study
SDA % of Area: 19 %
SE: 0.1

R10
Study
SDA % of Area: 69 %
SE: 2.9

R9
Living Room
SDA % of Area: 100 %
SE: 8.0

R1
Living Room
SDA % of Area: 59 %
SE: 0.0

R2
Study
SDA % of Area: 20 %
SE: 1.5

R8
KD
SDA % of Area: 100 %
SE: 8.0

R7
Living Room
SDA % of Area: 100 %
SE: 8.0

R3
Living Room
SDA % of Area: 72 %
SE: 1.5

R6
KD
SDA % of Area: 78 %
SE: 8.0

R5
Living Room
SDA % of Area: 100 %
SE: 8.0

R4
KD
SDA % of Area: 65 %
SE: 8.0

Rev	Date	Description	Chk'd	Appr

DRAFT

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Client: London Borough of Hillingdon

Architect: Hunters

Project: Charville Lane

Title: sDA Contours and Room References Ground Floor

Scale@A3	Drawn	Checked	Date
N.T.S	TK	FH	01.08.23

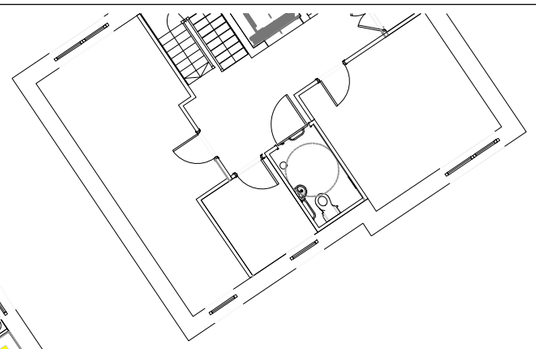
Drawing Number: 9971_DLSL-01A

Revision: A

DO NOT SCALE

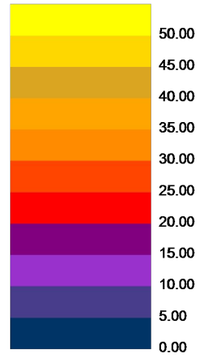
BACKGROUND DRAWING INFORMATION

FILE NAME	ORIGINATOR NAME	DESCRIPTION NAME	REV	DATE RECD



Notes

SDA % of Hours > req. lux



Rev	Date	Description	Chk'd	Appr

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Client: London Borough of Hillingdon

Architect: Hunters

Project: Charville Lane

Title: sDA Contours and Room References First Floor

Scale@A3	Drawn	Checked	Date
N.T.S	TK	FH	01.08.23

Drawing Number: 9971_DLSL-02A

Revision: A

APPENDIX B - DETAILED DAYLIGHT RESULTS

Charville Lane
9.971
SDA BS En17037 Analysis - Proposed Scheme
01/08/2023

								Criteria				
Floor Ref	Room Ref	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	Meets Criteria
Houses ABC												
Ground	R1	Living Room	11.14	7.24	170	4.30	59%	150	50%	50%	4380	YES
	R2	Study	7.07	4.08	106	0.82	20%	200	50%	50%	4380	NO
	R3	Living Room	10.13	6.36	207	4.59	72%	150	50%	50%	4380	YES
	R4	KD	15.51	10.56	265	6.83	65%	200	50%	50%	4380	YES
	R5	Living Room	18.75	13.89	375	13.89	100%	150	50%	50%	4380	YES
	R6	KD	14.97	10.67	263	8.37	78%	200	50%	50%	4380	YES
	R7	Living Room	14.86	10.42	410	10.42	100%	150	50%	50%	4380	YES
	R8	KD	6.80	4.03	591	4.03	100%	200	50%	50%	4380	YES
	R9	Living Room	10.49	6.71	566	6.71	100%	150	50%	50%	4380	YES
	R10	Study	5.23	2.51	214	1.72	69%	200	50%	50%	4380	YES
	R11	Living Room	8.87	5.55	300	5.55	100%	150	50%	50%	4380	YES
	R12	Study	7.19	4.29	98	0.80	19%	200	50%	50%	4380	NO
First	R1	Bedroom	17.80	13.06	176	11.79	90%	100	50%	50%	4380	YES
	R2	Bedroom	11.98	7.56	306	7.31	97%	100	50%	50%	4380	YES
	R3	Bedroom	15.06	10.40	198	10.40	100%	100	50%	50%	4380	YES
	R4	Bedroom	15.39	10.83	378	10.83	100%	100	50%	50%	4380	YES
	R5	Bedroom	12.30	8.27	487	8.27	100%	100	50%	50%	4380	YES
	R6	Bedroom	14.36	9.96	405	9.96	100%	100	50%	50%	4380	YES
	R7	Bedroom	14.56	9.62	205	9.38	98%	100	50%	50%	4380	YES
	R8	Bedroom	14.05	9.83	393	9.83	100%	100	50%	50%	4380	YES
	R9	Bedroom	15.77	11.19	51	2.57	23%	100	50%	50%	4380	NO
Houses EFG												
Ground	R1	Living Room	11.14	7.24	341	6.89	95%	150	50%	50%	4380	YES
	R2	Study	7.07	4.08	171	1.86	45%	200	50%	50%	4380	NO
	R3	Living Room	10.13	6.36	326	6.05	95%	150	50%	50%	4380	YES
	R4	KD	15.51	10.56	147	3.73	35%	200	50%	50%	4380	NO
	R5	Living Room	18.75	13.89	182	10.59	76%	150	50%	50%	4380	YES
	R6	KD	14.97	10.67	124	2.71	25%	200	50%	50%	4380	NO
	R7	Living Room	14.86	10.42	202	8.69	83%	150	50%	50%	4380	YES
	R8	KD	6.80	4.03	253	3.38	84%	200	50%	50%	4380	YES
	R9	Living Room	10.49	6.71	244	5.65	84%	150	50%	50%	4380	YES
	R10	Study	5.23	2.51	41	0.00	0%	200	50%	50%	4380	NO
	R11	Living Room	8.87	5.55	516	5.55	100%	150	50%	50%	4380	YES
	R12	Study	7.19	4.29	200	2.32	54%	200	50%	50%	4380	YES
First	R1	Bedroom	14.36	9.96	350	9.96	100%	100	50%	50%	4380	YES
	R2	Bedroom	12.30	8.27	382	8.27	100%	100	50%	50%	4380	YES
	R3	Bedroom	15.39	10.83	351	10.83	100%	100	50%	50%	4380	YES
	R4	Bedroom	15.06	10.40	237	10.40	100%	100	50%	50%	4380	YES
	R5	Bedroom	11.98	7.56	311	7.56	100%	100	50%	50%	4380	YES
	R6	Bedroom	17.80	13.06	174	12.98	99%	100	50%	50%	4380	YES
	R7	Bedroom	15.77	11.19	225	11.19	100%	100	50%	50%	4380	YES
	R8	Bedroom	14.05	9.83	224	9.67	98%	100	50%	50%	4380	YES
	R9	Bedroom	14.56	9.62	226	9.54	99%	100	50%	50%	4380	YES

APPENDIX C - DETAILED SUNLIGHT RESULTS

Charville Lane
9.971
Sunlight Exposure Analysis - Proposed Scheme
01/08/2023

Floor Ref	Room Ref	Room Use	Window Ref	Window Orientation	Proposed Sunlight Exposure (Hours)	Rating
Houses ABC						
Ground	R1	Living Room	W1	326°N	0	
					0	Failed
Ground	R2	Study	W2	326°N	1.5	
					1.5	Minimum
Ground	R3	Living Room	W3	326°N	1.5	
					1.5	Minimum
Ground	R4	KD	W4	146°	8	
					8	High
Ground	R5	Living Room	W5	146°	8	
					8	High
Ground	R6	KD	W6	146°	8	
					8	High
Ground	R7	Living Room	W7	146°	8	
					8	High
Ground	R8	KD	W8	146°	8	
					8	High
Ground	R9	Living Room	W9	146°	8	
					8	High
Ground	R10	Study	W10	56°N	2.9	
					2.9	Minimum
Ground	R11	Living Room	W11	326°N	0.1	
					0.1	Failed
Ground	R12	Study	W12	326°N	0.7	
					0.7	Failed
First	R1	Bedroom	W1	326°N	0	
					0	Failed
First	R2	Bedroom	W2	326°N	1.5	
					1.5	Minimum
First	R3	Bedroom	W3	326°N	1.5	
					1.5	Minimum
First	R4	Bedroom	W4	146°	8	
					8	High
First	R5	Bedroom	W5	146°	8	
					8	High
First	R6	Bedroom	W6	146°	8	
					8	High
First	R7	Bedroom	W8	146°	8	
					8	High
First	R8	Bedroom	W9	56°N	2.9	
			W10	326°N	0.1	
					3	Medium
First	R9	Bedroom	W11	326°N	0.8	
					0.8	Failed
Houses EFG						
Ground	R1	Living Room	W1	146°	8	
					8	High
Ground	R2	Study	W2	146°	7.6	
					7.6	High
Ground	R3	Living Room	W3	146°	6.5	
					6.5	High
Ground	R4	KD	W4	326°N	1.5	
					1.5	Minimum
Ground	R5	Living Room	W5	326°N	1.5	
					1.5	Minimum
Ground	R6	KD	W6	326°N	0	
					0	Failed
Ground	R7	Living Room	W7	326°N	0	
					0	Failed
Ground	R8	KD	W8	326°N	0	
					0	Failed
Ground	R9	Living Room	W9	326°N	0	
					0	Failed
Ground	R10	Study	W10	56°N	1.8	
					1.8	Minimum
Ground	R11	Living Room	W11	146°	8	
					8	High
Ground	R12	Study	W12	146°	8	
					8	High
First	R1	Bedroom	W1	146°	8	
					8	High
First	R2	Bedroom	W2	146°	8	
					8	High
First	R3	Bedroom	W3	146°	7.7	
					7.7	High
First	R4	Bedroom	W4	326°N	1.5	

Charville Lane
9.971
Sunlight Exposure Analysis - Proposed Scheme
01/08/2023

Floor Ref	Room Ref	Room Use	Window Ref	Window Orientation	Proposed Sunlight Exposure (Hours)	Rating
					1.5	Minimum
First	R5	Bedroom	W5	326°N	1.5	
					1.5	Minimum
First	R6	Bedroom	W6	326°N	0	
					0	Failed
First	R7	Bedroom	W7	326°N	0	
					0	Failed
First	R8	Bedroom	W8	326°N	0	
					0	Failed
First	R9	Bedroom	W9	146°	8	
					8	High

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