

Our Ref: 02C100233
Your Ref:

13 February 2023

Duncan Tindale
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Carrington House
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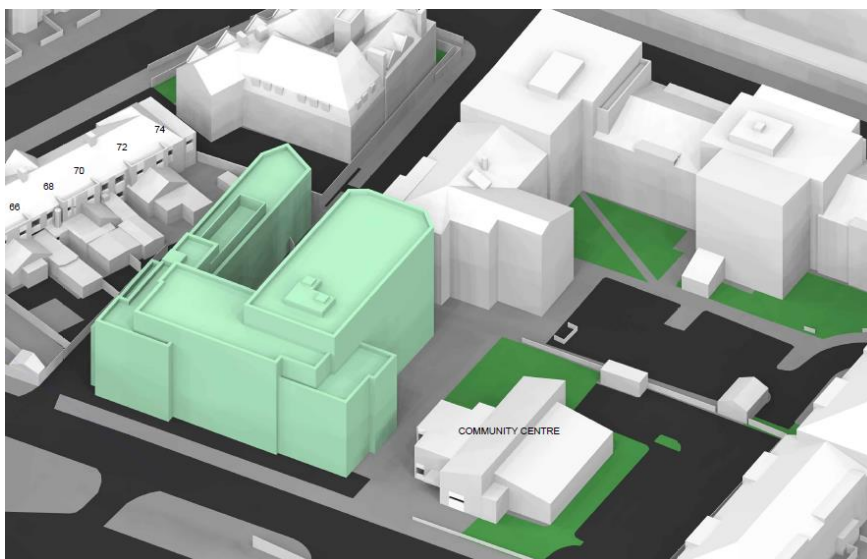
Dear Duncan

Carmoor Road – Daylight/Sunlight

Avison Young have been asked to consider the potential daylight, sunlight and overshadowing implications associated with a purpose built student accommodation development at Carmoor Road, Manchester, M13 0FB, and its potential impact upon the daylight, sunlight, and overshadowing amenity within the Afro Caribbean & Friends Community Association (ACFCA) community centre located to the north.

This follows a Daylight/Sunlight report produced by Avison Young in support of the Development, dated November 2022.

The proposed development (the '*Development*;' illustrated in Figure 01 below) includes the demolition of existing buildings, and the construction of purpose-built student accommodation that includes 172 beds in a mix of studio and cluster units alongside ancillary facilities and shared amenity space, site access, and other associated works in a development of three to six storeys with a site area of 0.21 ha.



1. Scope of Report

- 1.1 It is our understanding that concerns have been expressed in relation to the daylight, sunlight and overshadowing impact that the Development may have on the Afro Caribbean & Friends Community Association (ACFCA) community centre located to the north.
- 1.2 In consideration of this, Avison Young were instructed by the applicant to undertake a series of daylight, sunlight and overshadowing assessments in accordance with the BRE Guidelines (2022), to assess the impact which may be caused to the community centre.
- 1.3 A 3D computer model of the community centre was constructed using site photography, a photogrammetry model produced by AccuCities, and estimated room dimensions.
- 1.4 As it has not been possible to obtain internal layouts from online public sources, reasonable assumptions as to the internal layouts of the rooms behind the fenestration have been made. Internal layouts are only relevant for the NSL (No Sky Line - daylight distribution) assessment. The primary daylight (VSC – Vertical Sky Component) and sunlight (APSH – Annual Probable Sunlight Hours) assessments are calculated at the window face and therefore do not require floor plans.

2. Summary of BRE Guidelines

- 2.1 The daylight, sunlight and overshadowing assessments undertaken in support of this report are based upon the methodologies set out in the BRE (Building Research Establishment) Guidelines.
- 2.2 The Guidelines are not fixed standards but should be applied flexibly to take account of the specific circumstances of each case.
- 2.3 The Introduction of the Guidelines states:

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

- 2.4 The 'flexibility' should reflect the specific characteristics of each case being considered. For example, as the numerical targets within the Guidelines have been derived on the basis of a low density suburban housing model, it is entirely appropriate to apply a more flexible approach when dealing with higher rise developments in a denser urban environment where the general scale of development is greater. The Guidelines go on to state:

'Although it gives numerical guidelines, these should be interpreted flexibly... in certain circumstances the developer or planning authority may wish to use different target values...'

'Note that numerical values given here are purely advisory. Different criteria may be used based upon the requirements for daylighting in an area viewed against other site constraints'.

- 2.5 This does not mean that the recommendations and targets within the Guidelines can be disregarded but, instead, the 'flexibility' that should be applied should be founded on sound scientific principles that can be supported and justified. This requires a certain level of professional judgement and experience. The 'flexibility' recommended in the Guidelines should reflect the specific characteristics of each site being considered.

3. BRE Methodology

- 3.1 The 2011 BRE Guidelines refer to two methods for assessing daylight within neighbouring properties which are; Vertical Sky Component (VSC) and No Sky Line (NSL) and one method for sunlight; Annual Probable Sunlight Hours (APSH).

Daylight - VSC

- 3.2 The Vertical Sky Component (VSC) method of assessment is defined in the BRE Guidelines as the "ratio of that part of illuminance at a point on a given vertical plane that is received directly from a CIE standard overcast sky, to illuminate on a horizontal plane due to an unobstructed hemisphere of this sky".
- 3.3 This ratio is the percentage of the total unobstructed view that is available, once obstructions (e.g. the Proposed Development), are placed in front of the point of view.
- 3.4 The assessment is calculated from the centre of a window on the outward face and measures the amount of light available on a vertical wall or window following the introduction of visible barriers, such as buildings.
- 3.5 The VSC has been calculated by using a 'Waldram Diagram'. The Waldram Diagram is effectively a snapshot that is taken from that point of the sky in front of the window, together with all relevant obstructions to it, i.e. the buildings.
- 3.6 The maximum VSC value is almost 40% for a completely unobstructed vertical wall or window. In terms of assessment criteria, the BRE Guidelines state that:

"if the VSC, with the development in place, is both less than 27% and less than 0.8 times its former value, occupants of the existing building will notice the reduction in the amount of skylight. The area lit by the window may appear more gloomy and electric lighting will be needed more of the time."

Daylight - NSL

- 3.7 The BRE Guidelines advise that where room layouts are known, the effect on the daylight distribution can be calculated by plotting the No Sky Line (NSL). In terms of the neighbouring receptors, it has not been possible to obtain room layouts for all of the

properties and therefore their layouts have been assumed where information has been unavailable.

- 3.8 The NSL is a measure of the distribution of daylight at the 'working plane' within a room. The 'working plane' means a horizontal 'desktop' plane 0.85m in height for residential properties. The NSL divides those areas of the working plane which can receive direct sky light from those which cannot. If a significant area of the working plane (normally more than 20%) lies beyond the NSL (i.e. it receives no direct sky light), then the distribution of daylight in the room will look poor and supplementary electric lighting may be required.
- 3.9 The potential effects of daylighting distribution in an existing building can be identified by plotting the NSL in each of the main rooms. For residential dwellings, this will include living rooms, dining rooms and kitchens. Bedrooms should also be analysed, although they are less important. The BRE Guidelines identify that if the area of a room that does receive direct sky light is reduced to less than 0.8 times its former value, then this would be noticeable to its occupants.

Sunlight - APSH

- 3.10 With regard to sunlight, the same skylight indicator is used as the VSC assessment using the same reference point to calculate Annual Probable Sunlight Hours (APSH), which is expressed as a percentage. The BRE guidelines state:

"Access to sunlight should be checked for the main window of each room which faces within 90 degrees (°) of due south".

The BRE Guidelines state in Section 3.2.3 that:

"[...] kitchens and bedrooms are less important, although care should be taken not to block too much sun."

- 3.11 The BRE Guidelines propose that the appropriate date for undertaking a sunlight assessment is on 21st March, being the spring equinox. Calculations of both summer and winter availability are made with the winter analysis covering the period from the 21st September to 21st March.
- 3.12 The BRE Guidelines identify that a window may be adversely affected if a point at the centre of the window receives in the year less than 25% of the annual probable sunlight hours, including at least 5% of the annual probable sunlight hours (APSH) during the winter months (21st September to 21st March) and less than 0.8 times its former sunlight hours during either period.
- 3.13 Further information on the daylight and sunlight principles outlined in the BRE Guidelines can be found in Appendix I.

4. Summary of Results Daylight/Sunlight Results

Daylight (VSC and NSL)

- 4.1 A copy of the technical analysis can be found in Appendix 3.
- 4.2 In total nine site facing windows in the Community Centre have been identified which may be sensitive to alterations in light, should the Development be constructed.
- 4.3 Avison Young have undertaken a series of technical studies to determine the existing levels of VSC (daylight) and APSH (sunlight) hitting these nine windows in the existing context, and then again in the proposed Development scenario. We have also estimated the internal room layouts and uses, based upon external observation, as no floor plans were available, for the NSL daylight assessment.
- 4.4 Of the nine windows assessed, six were found to adhere to the BRE target criteria, as they either retain an VSC of greater than 27%, or where the VSC either falls below 27% or is already below this quantum, the absolute change in VSC is less than 20% its existing value.
- 4.5 One of the three windows that falls below the BRE criteria, serves a ground floor room (a suspected kitchen which we have identified as room 'R1/30' for the purposes of this assessment – *see contour maps located in Appendix 3*).
- 4.6 This room appears to be served by two windows (W1/30 and W2/30). Analysis found that window W2/30 will see a reduction in VSC from 23% to 13%, which equates to a greater than 20% change. The second window (W1/30) retains a VSC of 28%, which is marginally greater than the 27% recommended by the BRE. The NSL (daylight distribution) analysis indicates that a c.18% reduction in NSL will occur, which is within the recommended BRE tolerance. In consideration of these results, it seems clear that whilst there will be a change in sky visibility to one window serving this room, the overall daylight amenity impact is unlikely to be significant.
- 4.7 The two remaining windows are located at first floor level.
- 4.8 Window W2/31 appears to serve a dual aspect room (use unknown), and benefits from a second window (W1/31) that does not directly face the Development. Analysis found that this second window will retain a VSC of 30%, whilst the site facing window will fall from 32% to 20% VSC. The NSL analysis indicates that a less than 1% change in daylight distribution will occur, and that the room will retain daylight distribution to over 96% of the room area. This suggests that despite a loss of sky visibility to window W2/31, that the room as a whole will not likely experience a material loss of daylight amenity.
- 4.9 The final window (W3/31) appears to serve one, single aspect room (R2/31). This window will see a reduction in VSC from 29% to 18.5%; whilst the room will see a reduction in NSL from 99% to 49%. The reduction in VSC and NSL does indicate that there will be a noticeable loss of daylight to this room.

Sunlight (APSH)

- 4.10 All nine windows facing the Development were assessed for APSH.
- 4.11 Eight of the nine windows were found to meet the criteria, as they either retain an annual probable sunlight hours of greater than 25%; and 5% of the annual probable sunlight hours (APSH) during the winter months (i.e., 21st September to 21st March); or less than 0.8 times its former sunlight hours during either period. One window will see no change in APSH.
- 4.12 Just one window (W7/31) serving room R5/31 will see a change in winter sunlight that will fall from 7%, to 1%. However, the room as a whole will enjoy good levels of sunlight over the rest of the year, with only a marginal change from 43% to 41%, comfortably over the 25% target.

5. Sun Hours on Ground

- 5.1 A Sun Hours on Ground assessment has been undertaken in accordance with the BRE Guidelines.
- 5.2 To meet this criteria, over 50% of the space being assessed must achieve over 2hrs of direct sunlight on the 21st of March. A copy of our analysis is located in Appendix 4.
- 5.3 Analysis found that on the 21st of March over 82.49% of the area assessed (*see Figure 02*), will achieve over 2hrs of direct sunlight. This is a slight improvement on the existing quantum of sun hours on ground achieved in this area, of 81.12%. This slight improvement is due to the position of the Development moving further to the south, in comparison to the existing structure which is located on the site boundary.
- 5.4 The quantum of sun hours on ground will increase to 99% of the area by the 21st of June.
- 5.5 In consideration of this, the amenity area will comfortably meet the BRE criteria for sun hours on ground.

6. Summary

- 6.1 Avison Young have undertaken a daylight, sunlight and overshadowing assessment in accordance with the BRE Guidelines (2022), to determine the impact that the Development will have upon the ACfCA community centre to the north.
- 6.2 Analysis indicates that six of the nine windows assessed will meet the VSC daylight criteria.

- 6.3 Three windows serving three separate rooms will experience alterations in VSC that fall below the BRE targets.
- 6.4 Two of the three windows serve two ground floor rooms. Each room has a second mitigating window, each of which retains a VSC of greater than 28%. Furthermore, both rooms will retain an NSL to between 77% and 96% of their room areas and with a percentage change of less than 20%. On this basis the loss of daylight amenity to these rooms is likely to be modest in our opinion.
- 6.5 One first floor window will experience a loss of VSC that is likely to be perceptible, reducing from 29% to 18.5%. This room that this one window serves will see a reduction in NSL that is likely to be noticeable (49%), with a retained NSL of just below 50%.
- 6.6 That being so, a retained VSC's of c.18% is not uncommon in an urban or historic city centre type location (as acknowledged by the BRE in Appendix F, paragraph F4), and can ensure a reasonable quantum of daylight amenity is achieved. Furthermore, it was not possible to determine the use of this window. If it is found to serve a non-habitable space (i.e., a bathroom, circulation space, storeroom, or a space with a low requirement for natural light), it may be discounted in accordance with the BRE Guidelines.
- 6.7 Just one window (W7/31) serving room R5/31 will see a change in winter sunlight that will fall from 7%, to 1%. However, the room as a whole will enjoy good levels of sunlight over the rest of the year. All other windows meet the APSH criteria.
- 6.8 The external amenity space will comfortably meet the sun hours on ground technical assessment, achieving more than 2hrs of direct sunlight to over 50% of its amenity area on the 21st of March. This is a slight improvement over the existing quantum of sun hours on ground achieved.
- 6.9 In consideration of the above, the daylight/sunlight and overshadowing impact to the ACFCA community centre is considered to be isolated and acceptable in our opinion.

Yours sincerely

Mark Feighery
Principal, Managing Director
Rights of Light | Daylight & Sunlight | Party Wall
For and on behalf of Avison Young (UK) Limited

Appendix 1

BRE Principles

Daylight & Sunlight Principles

The BRE Guidelines – Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice are well established and are adopted by most Local Authorities as the appropriate scientific and empirical methods of measuring daylight and sunlight in order to provide objective data upon which to apply their planning policies. The Guidelines are not fixed standards but should be applied flexibly to take account of the specific circumstances of each case.

The Introduction of the Guidelines states:

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

The 'flexibility' recommended in the Guidelines should reflect the specific characteristics of each case being considered. For example, as the numerical targets within the Guidelines have been derived on the basis of a low density suburban housing model, it is entirely appropriate to apply a more flexible approach when dealing with higher rise developments in a denser urban environment where the general scale of development is greater. In addition, where existing and proposed buildings have specific design features such as projecting balconies, deep recesses, bay windows etc., it is also equally valid to apply a degree of flexibility to take account of the effect of these particular design features. This does not mean that the recommendations and targets within the Guidelines can be disregarded but, instead, the 'flexibility' that should be applied should be founded on sound scientific principles that can be supported and justified. This requires a certain level of professional value judgement and experience.

Daylighting

In respect of daylighting, the BRE Guidelines adopt different methods of measurement depending on whether the assessment is for the impact on existing neighbouring premises or for measuring the adequacy of proposed new dwellings. For safeguarding the daylight received by existing neighbouring residential buildings around a proposed development, the relevant recommendations are set out in Section 2.2 of the Guidelines.

The adequacy of daylight received by existing neighbouring dwellings is measured using two methods of measurement. First, it is necessary to measure the Vertical Sky Component (VSC) followed by the measurement of internal Daylight Distribution by plotting the position of the 'existing' and 'proposed' no sky line contour.

VSC is measured at the mid-point on the external face of the window serving a habitable room. For the purpose of the Guidelines, a "habitable" room is defined as a Kitchen, Living Room or Bedroom. Bathrooms, hallways and circulation space are excluded from this definition. In addition, many Local Authorities make a further distinction in respect of small kitchens. Where the internal area of a small kitchen limits the use to food preparation and is not of sufficient size to accommodate some other form of "habitable" use such as dining, the kitchen need not be classed as a "habitable" room in its own right.

VSC is a 'spot' measurement taken on the face of the window and is a measure of the availability of light from the sky from over the "existing" and "proposed" obstruction caused by buildings or structures in front of the window. As it is measured on the outside face of the window, one of the inevitable shortcomings is that it does not take account of the size of the window or the size or use of the room served by the window. For this reason, the BRE Guidelines require internal Daylight Distribution to be measured in addition to VSC.

The 'No Sky Line' contour plotted for the purpose of measuring internal Daylight Distribution identifies those areas within the room usually measured on a horizontal working plane set at table top level, where there is direct sky visibility. This therefore represents those parts within the room where the sky can be seen through the window. This second measure therefore takes account of the size of the window and the size of the room but is only more reliable than VSC when the actual room uses, layouts and dimensions are known. When interpreted in conjunction with the VSC value, the likely internal lighting conditions, and hence the quality of lighting within the room, can be assessed.

For VSC, the Guidelines states that:

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

To put this in context, the maximum VSC value that can be received for a totally unobstructed vertical window is 40%. There are however circumstances where the VSC value is already below 27%. In such circumstances, it is permissible to reduce the existing VSC value by a factor of 0.2 (i.e. 20%) so that the value on the 'proposed' conditions remains more than 0.8 times its former value. The scientific reasoning for this permissible margin of reduction is that existing daylight (and sunlight) levels can be reduced by a factor of 20% before the loss becomes materially noticeable. This factor of reduction applies to VSC, daylight distribution, sunlight and overshadowing.

By contrast, the adequacy of daylight for proposed 'New-Build' dwellings is measured using the standards in the British Standard Code of Practice for Daylighting, BS8206 Part 2.

The British Standard relies upon the use of Average Daylight Factors (ADF) rather than VSC and Daylight Distribution. The use of ADF is referred to in the BRE Guidelines (Appendix C) but its use is usually limited as a supplementary 'check' of internal lighting conditions once the VSC and Daylight Distribution tests have been completed.

ADF is sometimes seen as a more accurate and representative measure of internal lighting conditions as it comprises a greater number of design factors and input variables/coefficients. That is, the value of ADF is derived from:

- The actual amount of daylight received by the window(s) serving the room expressed as the "angle of visible sky" which is derived from the VSC value and therefore represents the amount of light striking the face of the window.
- The loss of transmittance through the glazing.
- The size of the window (net area of glazing).
- The size of the room served by the window(s) (net internal surface area of the room).
- The internal reflectance values of the internal finishes within the room.
- The specific use of the room.

One of the main reasons why ADF is more appropriate for New-Build dwellings is that any of the above input variables can be changed during the course of the design process in order to achieve the required internal lighting values. The ability to make such changes is not usually available when dealing with existing neighbouring buildings.

Unlike the application of VSC and daylight distribution, the British Standard differentiates between different room uses. It places the highest ADF standard on Family Kitchens where the minimum target value is 2% df. Living Rooms should achieve 1.5% df, and Bedrooms 1.0% df.

Sunlighting

The requirements for protecting sunlight to existing residential buildings are set out in section 3.2 of the BRE Guidelines.

The availability of sunlight varies throughout the year with the maximum amount of sunlight being available on the summer solstice and the minimum on the winter solstice. In view of this, the internationally accepted test date for measuring sunlight is the spring equinox (21 March), on which day the United Kingdom has equal periods of daylight and darkness and sunlight is available from approximately 08:30hrs to 17:30hrs. In addition, on that date, sunlight received perpendicular to the face of a window would only be received where that window faces within 90° of due south. The BRE Guidelines therefore limit the extent of testing for sunlight where a window faces within 90° of due south.

The sunlight standards are normally applied to the principal Living Room within each dwelling rather than to kitchens and bedrooms.

The recommendation for sunlight is:

"If this window reference point can receive more than one quarter of annual probable sunlight hours, including at least 5% of annual probable sunlight hours during the winter months of 21 September and 21 March, then the room should still receive enough sunlight .

Any reduction in sunlight access below this level should be kept to a minimum. If the availability of sunlight hours are both less than the amounts given and less than 0.8 times their former value, either over the whole year or just during the winter months, then the occupants of the existing building will notice the loss of sunlight."

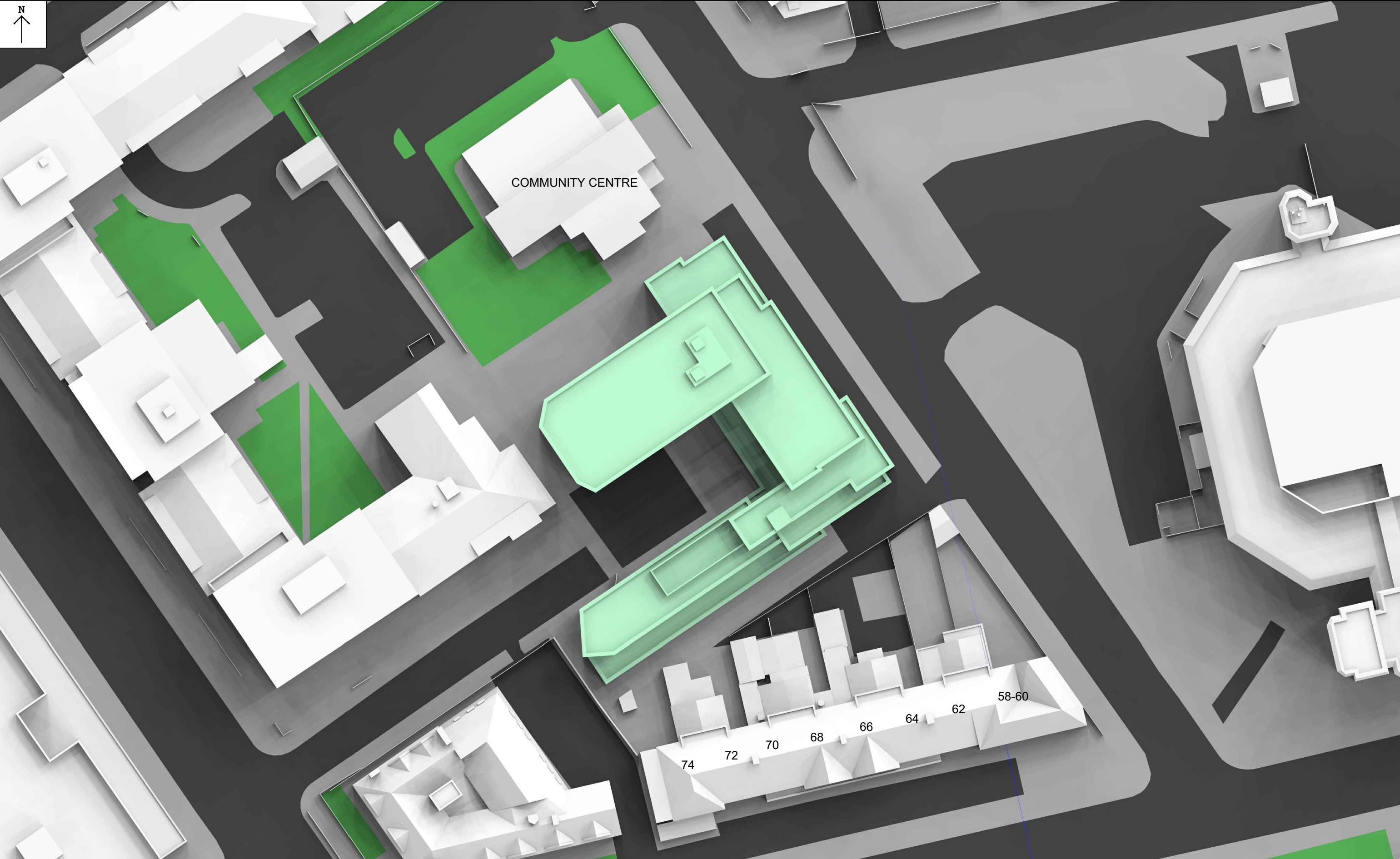
A good level of sunlight will therefore be achieved where a window achieves more than 25% APSH, of which 5% should be in the winter months. Where sunlight levels fall below this suggested recommendation, a comparison with the existing condition should be undertaken and if the reduction ratio is less than 0.2, i.e. the window continues to receive more than 0.8 times its existing sunlight levels, the impact on sunlight will be acceptable.

Appendix 2

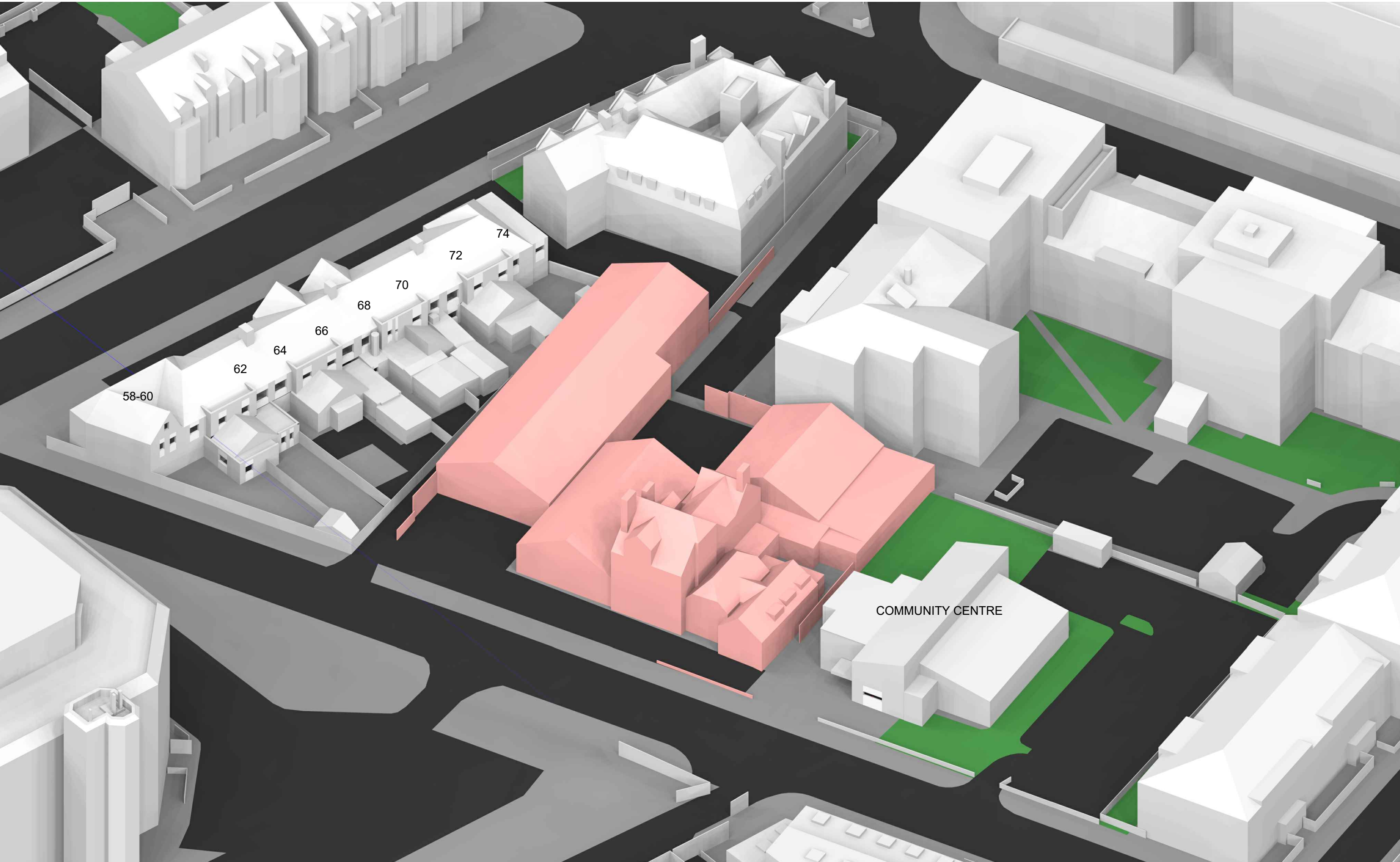
Existing and Proposed Plots



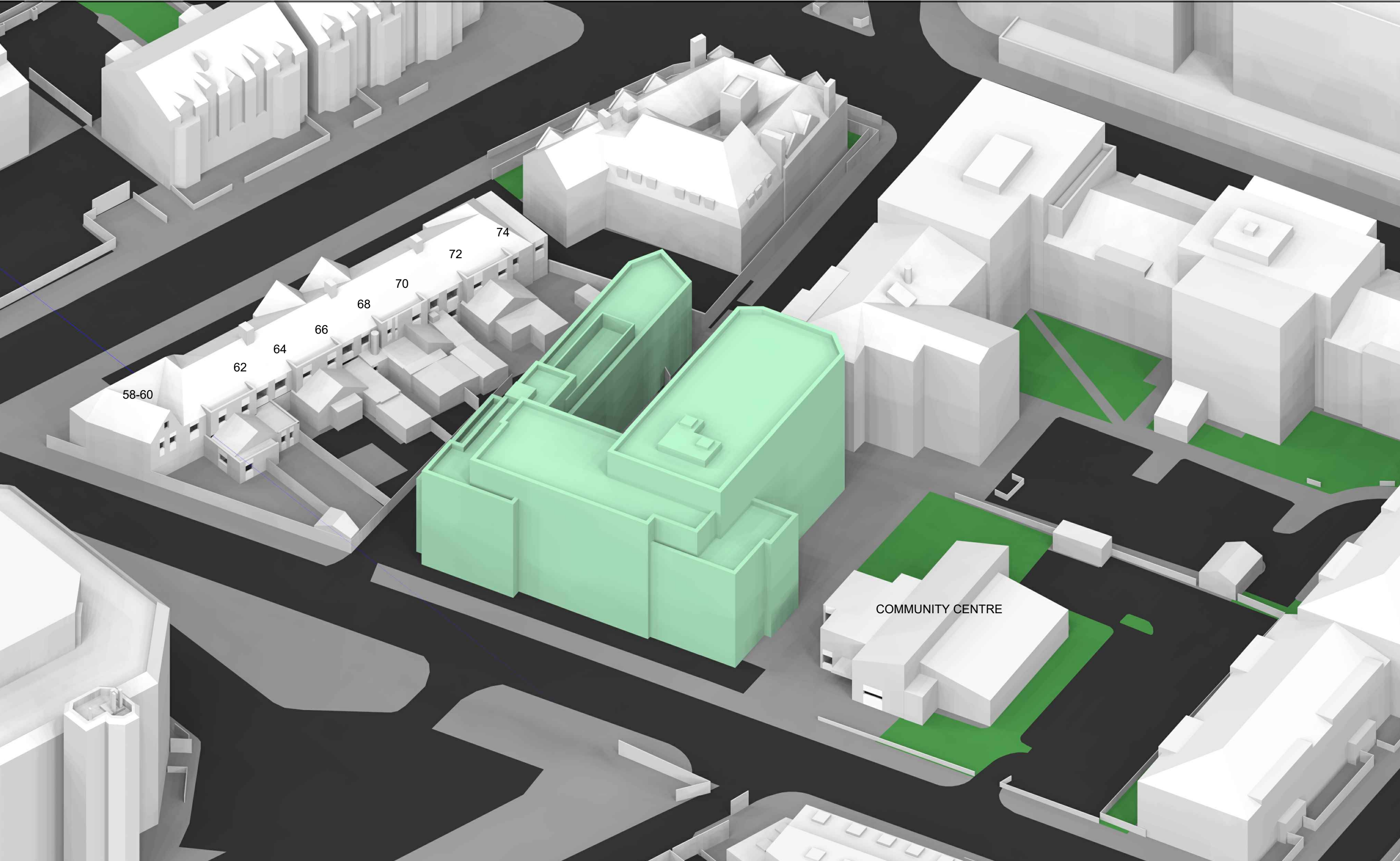
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Key: Existing Proposed Consented Surrounding Context	Sources of information				Project Name	Drawn By	Scale @ A3	Date	AVISON YOUNG 65 Gresham Street, London, EC2V 7NQ 08449 02 03 04 www.avisonyoung.co.uk
	Existing building		Surrounding buildings		Consented	RV	N/A	06 FEB 2023	
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			ROOMS AND WINDOWS ESTIMATED		2205-LHA-A-SK-010_P04 Level 00 Plan				
					Drawing Title				
					PLAN VIEW FOR				
					PROPOSED SITE	Project No.	Drawing No.	Revision	
						CA195/07	BRE/03	-	



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			ROOMS AND WINDOWS ESTIMATED						
					Drawing Title	Project No.	Drawing No.	Revision	
					3D VIEW FOR	CA195/07	BRE/02	-	
					EXISTING SITE				



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	Drawing Title 3D VIEW FOR PROPOSED SITE				Project No. CA195/07	Drawing No. BRE/04	Revision -			

Appendix 3

Daylight/Sunlight Results and Contour Plots

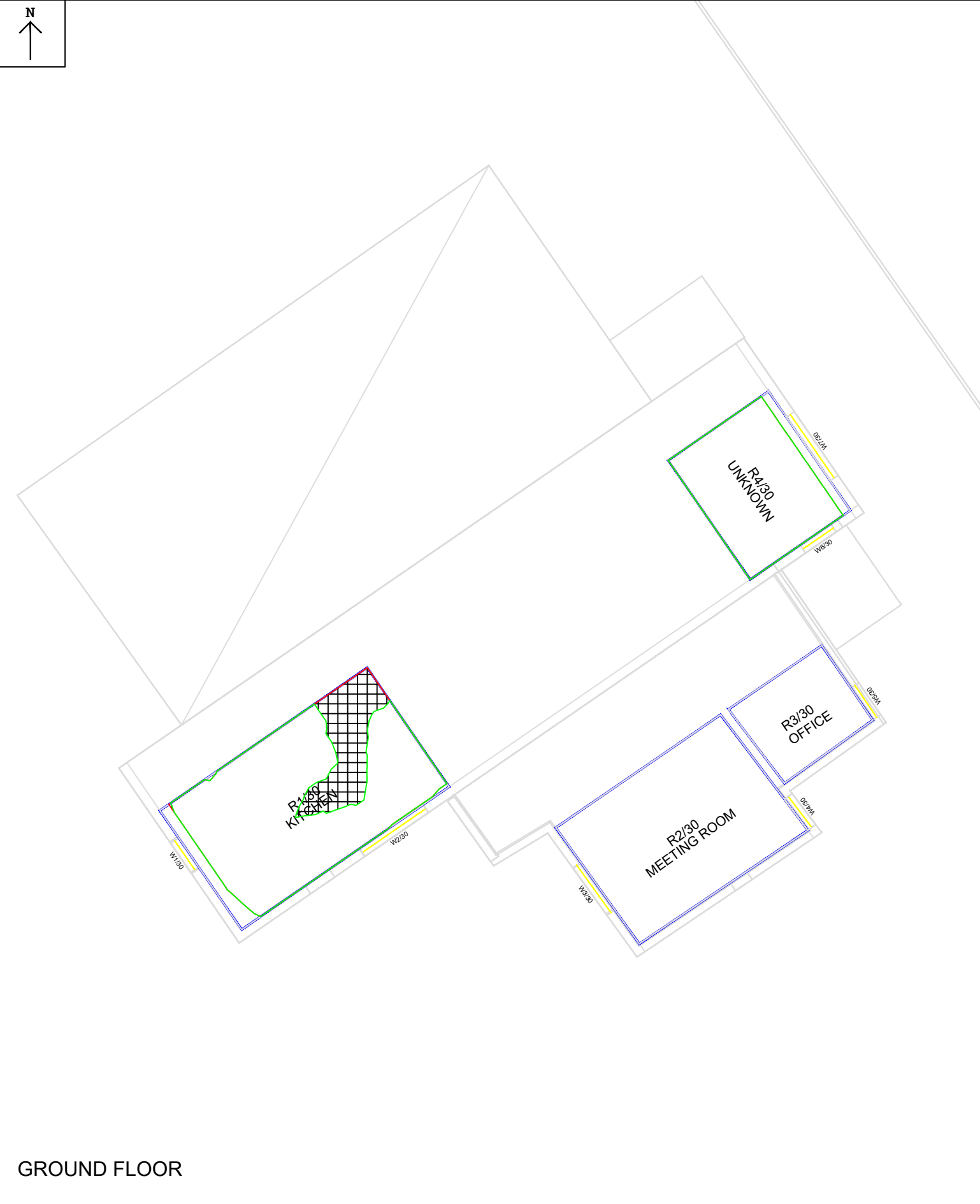
CARMOOR ROAD - MANCHESTER
06-Feb-23
JOB 07 - DAYLIGHT RESULTS

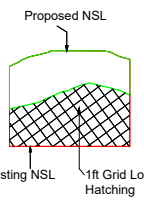
Room/Floor	Room Use	Window	%VSC			% Daylight Factor			Daylight Distribution					
			Exist	Prop	% Loss	Exist	Prop	% Loss	Room Area sq ft	Existing Area sq ft	Existing % of Room Area	Proposed Area sq ft	Proposed % of Room Area	% Loss of Existing
COMMUNITY CENTRE - CA195/06														
Gnd Floor														
R1/30	KITCHEN	W1/30	28.98	28.29	>27	0.84	0.59	29.32%	379.9	359.6	94.66%	293.9	77.36%	18.27%
		W2/30	22.97	13.08	43.06%									
R4/30	UNKNOWN	W6/30	3.22	3.06	4.97%	0.82	0.81	0.86%	183.8	170.4	92.71%	170.4	92.71%	0.00%
		W7/30	35.94	35.87	>27									
1st Floor														
R1/31	UNKNOWN	W1/31	31.05	30.34	>27	1.14	0.96	15.54%	188.1	182.7	97.13%	181	96.23%	0.93%
		W2/31	31.82	20.11	36.80%									
R2/31	UNKNOWN	W3/31	29.40	18.54	36.94%	1.42	0.99	29.90%	184.5	182.3	98.81%	91.3	49.49%	49.92%
R4/31	UNKNOWN	W5/31	30.39	26.09	14.15%	1.02	0.92	10.06%	165	158.1	95.82%	146.4	88.73%	7.40%
R5/31	UNKNOWN	W7/31	26.94	21.84	18.93%	1.26	1.08	14.61%	183.8	180.7	98.31%	146.4	79.65%	18.98%

CARMOOR ROAD - MANCHESTER
06-Feb-23
JOB 07 - SUNLIGHT RESULTS

Available sunlight as a percentage of
annual unobstructed total (1486.0 Hrs)

		Existing %			Proposed %					
Room use	Window Ref	Summer	Winter	Total	Summer	Winter	Total	% Loss of Summer	% Loss of Winter	% Loss of Total
COMMUNITY CENTRE - CA195/06										
Gnd Floor										
KITCHEN	W1/30	39.00	14.00	53.00	38.00	9.00	47.00	2.56%	35.71%	11.32%
KITCHEN	W2/30	41.00	17.00	58.00	32.00	7.00	39.00	21.95%	58.82%	32.76%
UNKNOWN	W6/30	8.00	0.00	8.00	8.00	0.00	8.00	0.00%	0.00%	0.00%
UNKNOWN	W7/30	27.00	3.00	30.00	27.00	2.00	29.00	0.00%	33.33%	3.33%
1st Floor										
UNKNOWN	W1/31	42.00	17.00	59.00	42.00	12.00	54.00	0.00%	29.41%	8.47%
UNKNOWN	W2/31	52.00	20.00	72.00	43.00	8.00	51.00	17.31%	60.00%	29.17%
UNKNOWN	W3/31	44.00	19.00	63.00	38.00	8.00	46.00	13.64%	57.89%	26.98%
UNKNOWN	W5/31	40.00	18.00	58.00	37.00	5.00	42.00	7.50%	72.22%	27.59%
UNKNOWN	W7/31	43.00	7.00	50.00	41.00	1.00	42.00	4.65%	85.71%	16.00%



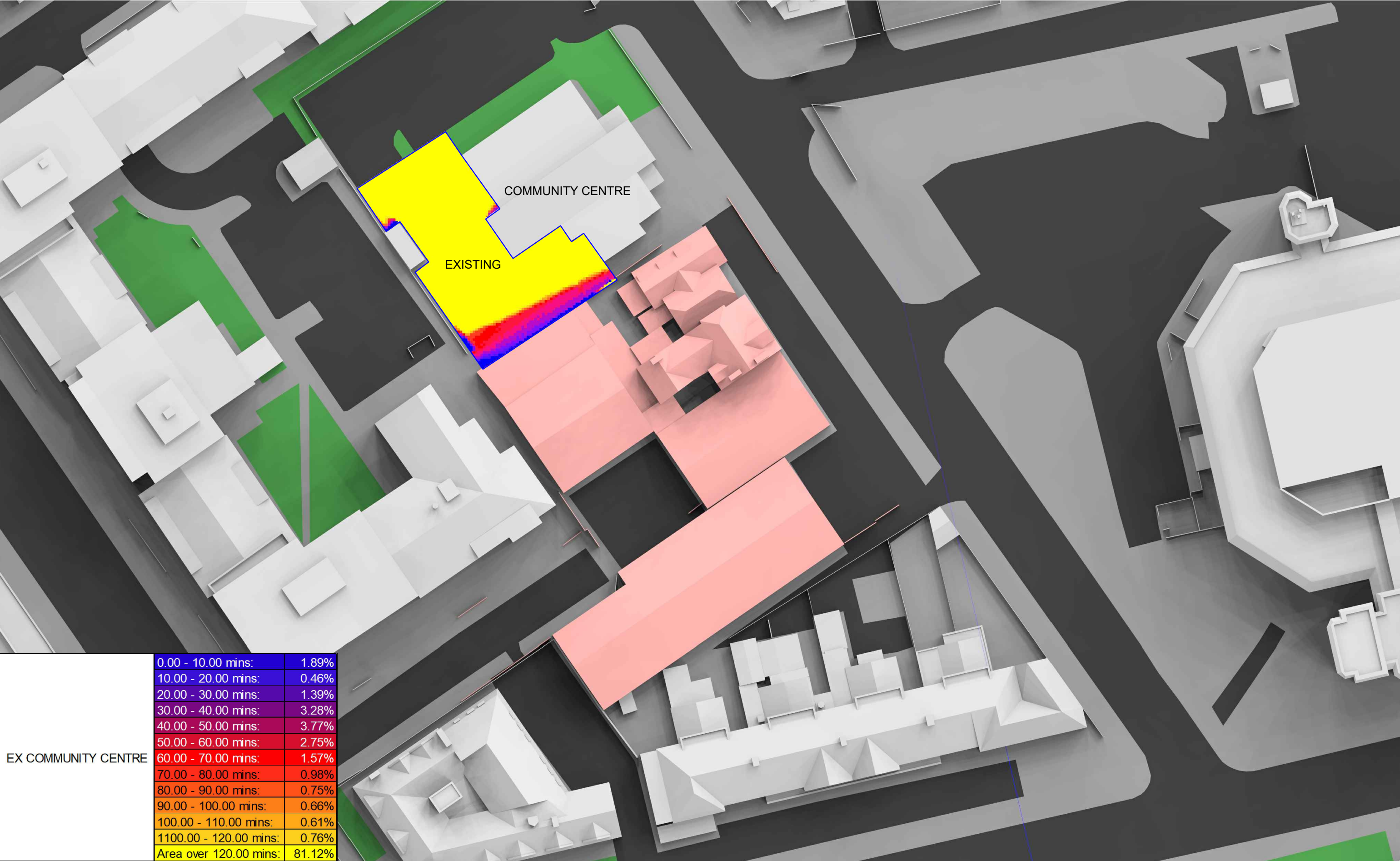
Key:  Existing NSL 1ft Grid Loss Hatching	Sources of information Existing building 2021 JAN 19 - INFO PROPOSED 131208621_2 Carmoor Road_240717_Solids.dwg Surrounding buildings 2021 JAN 19 - INFO PROPOSED 131208621_2 Carmoor Road_240717_Solids.dwg Proposed building SCHEME INFO 26 OCT 2022 2205-LHA-A-SK-016_P03 Roof Plan 2205-LHA-A-SK-010_P04 Level 00 Plan 2205-LHA-A-SK-011_P03 Level 01 Plan 2205-LHA-A-SK-012_P03 Level 02 Plan 2205-LHA-A-SK-013_P03 Level 03 Plan 2205-LHA-A-SK-014_P03 Level 04 Plan 2205-LHA-A-SK-015_P03 Level 05 Plan 21A040_2D A Consented N/A ROOMS AND WINDOWS ESTIMATED			Project Name CARMOOR ROAD, MANCHESTER	Drawn By RV	Scale @ A3 1/150	Date 06 FEB 2023	AVISON YOUNG 65 Gresham Street, London, EC2V 7NQ 08449 02 03 04 www.avisonyoung.co.uk
	Drawing Title NO SKYLINE CONTOURS FOR COMMUNITY CENTRE	Project No. CA195/07	Drawing No. BRE/06	Revision -				

Appendix 4

Sun Hours on Ground Analysis:

March, April & June

21st March



EX COMMUNITY CENTRE	0.00 - 10.00 mins:	1.89%
	10.00 - 20.00 mins:	0.46%
	20.00 - 30.00 mins:	1.39%
	30.00 - 40.00 mins:	3.28%
	40.00 - 50.00 mins:	3.77%
	50.00 - 60.00 mins:	2.75%
	60.00 - 70.00 mins:	1.57%
	70.00 - 80.00 mins:	0.98%
	80.00 - 90.00 mins:	0.75%
	90.00 - 100.00 mins:	0.66%
	100.00 - 110.00 mins:	0.61%
	110.00 - 120.00 mins:	0.76%
	Area over 120.00 mins:	81.12%

Key:

- 0-10 min
- 10-20 min
- 20-30 min
- 30-40 min
- 40-50 min
- 50-60 min
- 60-70 min
- 70-80 min
- 80-90 min
- 90-100 min
- 100-110 min
- 110-120 min
- Over 120 min

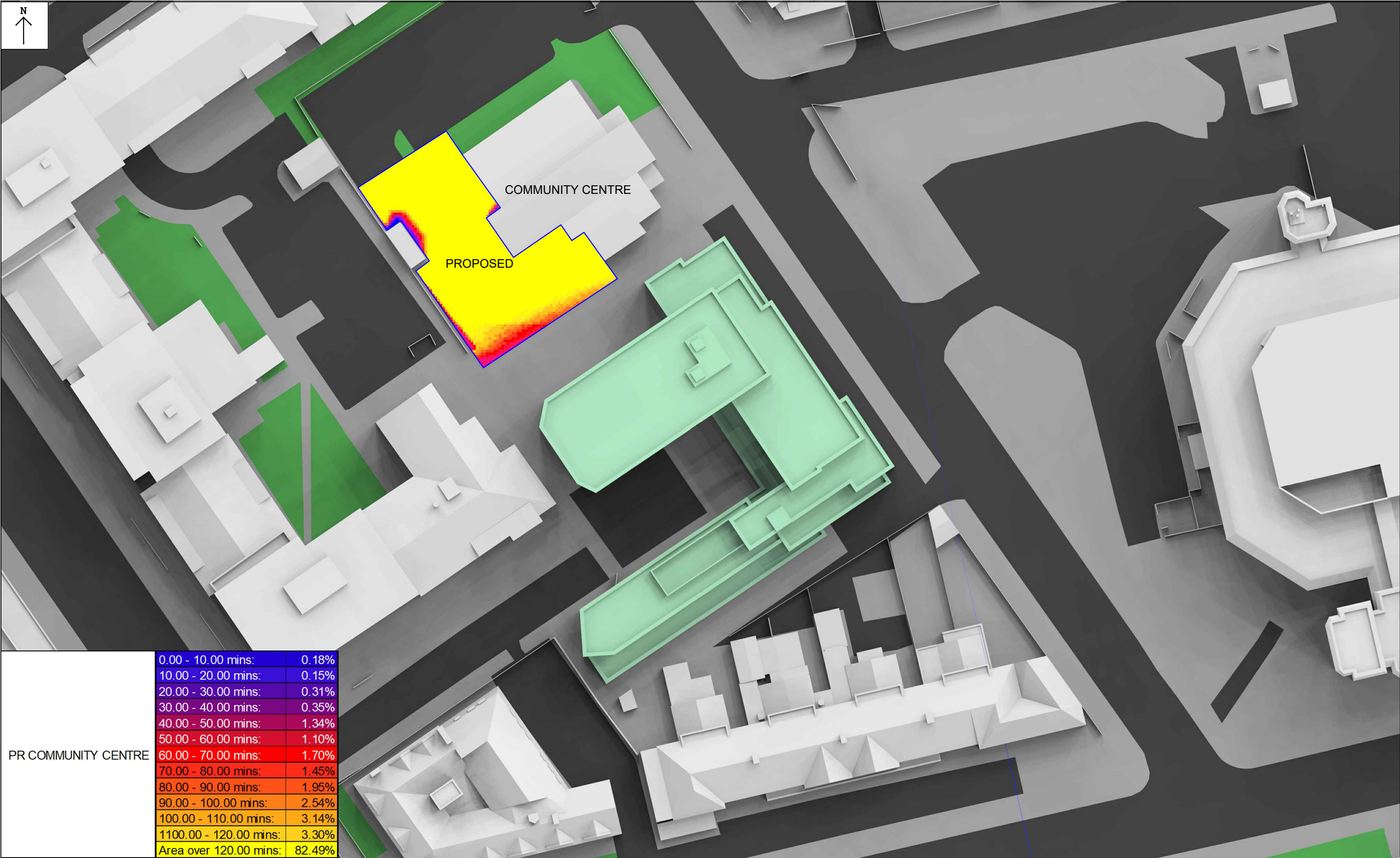
Sources of information

Existing building 2021 JAN 19 - INFO PROPOSED 131208621_2 Carmoor Road_240717_Solids.dwg	Surrounding buildings 2021 JAN 19 - INFO PROPOSED 131208621_2 Carmoor Road_240717_Solids.dwg ROOMS AND WINDOWS ESTIMATED	Proposed building SCHEME INFO 26 OCT 2022 2205-LHA-A-SK-016_P03 Roof Plan 2205-LHA-A-SK-010_P04 Level 00 Plan 2205-LHA-A-SK-011_P03 Level 01 Plan 2205-LHA-A-SK-012_P03 Level 02 Plan 2205-LHA-A-SK-013_P03 Level 03 Plan 2205-LHA-A-SK-014_P03 Level 04 Plan 2205-LHA-A-SK-015_P03 Level 05 Plan 21A040_2D A	Consented N/A
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Project Name CARMOOR ROAD, MANCHESTER	Drawn By RV	Scale @ A3 -	Date 16 JAN 2023
Drawing Title SUN HOURS ON GROUND EXISTING - MARCH 21ST	Project No. CA195/04	Drawing No. TIS/01	Revision -

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08449 02 03 04 www.avisonyoung.co.uk



Key: 0-10 min 10-20 min 20-30 min 30-40 min 40-50 min 50-60 min 60-70 min 70-80 min 80-90 min 90-100 min 100-110 min 110-120 min Over 120 min	Sources of information			Project Name CARMOOR ROAD, MANCHESTER		Drawn By RV	Scale @ A3 -	Date 16 JAN 2023	AVISON YOUNG 65 Gresham Street, London, EC2V 7NQ 08449 02 03 04 www.avisonyoung.co.uk
	Existing building 2021 JAN 19 - INFO PROPOSED 131208621_2 Carmoor Road_240717_Solids.dwg	Surrounding buildings 2021 JAN 19 - INFO PROPOSED 131208621_2 Carmoor Road_240717_Solids.dwg ROOMS AND WINDOWS ESTIMATED	Proposed building SCHEME INFO 26 OCT 2022 2205-LHA-A-SK-016_P03 Roof Plan 2205-LHA-A-SK-010_P04 Level 00 Plan 2205-LHA-A-SK-011_P03 Level 01 Plan 2205-LHA-A-SK-012_P03 Level 02 Plan 2205-LHA-A-SK-013_P03 Level 03 Plan 2205-LHA-A-SK-014_P03 Level 04 Plan 2205-LHA-A-SK-015_P03 Level 05 Plan 21A040_2D A	Consented N/A	Drawing Title SUN HOURS ON GROUND PROPOSED - MARCH 21ST	Project No. CA195/04	Drawing No. TIS/02	Revision -	

21st April



EX COMMUNITY CENTRE	0.00 - 10.00 mins:	0.95%
	10.00 - 20.00 mins:	0.00%
	20.00 - 30.00 mins:	0.02%
	30.00 - 40.00 mins:	0.14%
	40.00 - 50.00 mins:	0.20%
	50.00 - 60.00 mins:	0.30%
	60.00 - 70.00 mins:	0.73%
	70.00 - 80.00 mins:	1.19%
	80.00 - 90.00 mins:	1.02%
	90.00 - 100.00 mins:	0.60%
	100.00 - 110.00 mins:	0.32%
	110.00 - 120.00 mins:	0.26%
	Area over 120.00 mins:	94.27%

Key:

- 0-10 min
- 10-20 min
- 20-30 min
- 30-40 min
- 40-50 min
- 50-60 min
- 60-70 min
- 70-80 min
- 80-90 min
- 90-100 min
- 100-110 min
- 110-120 min
- Over 120 min

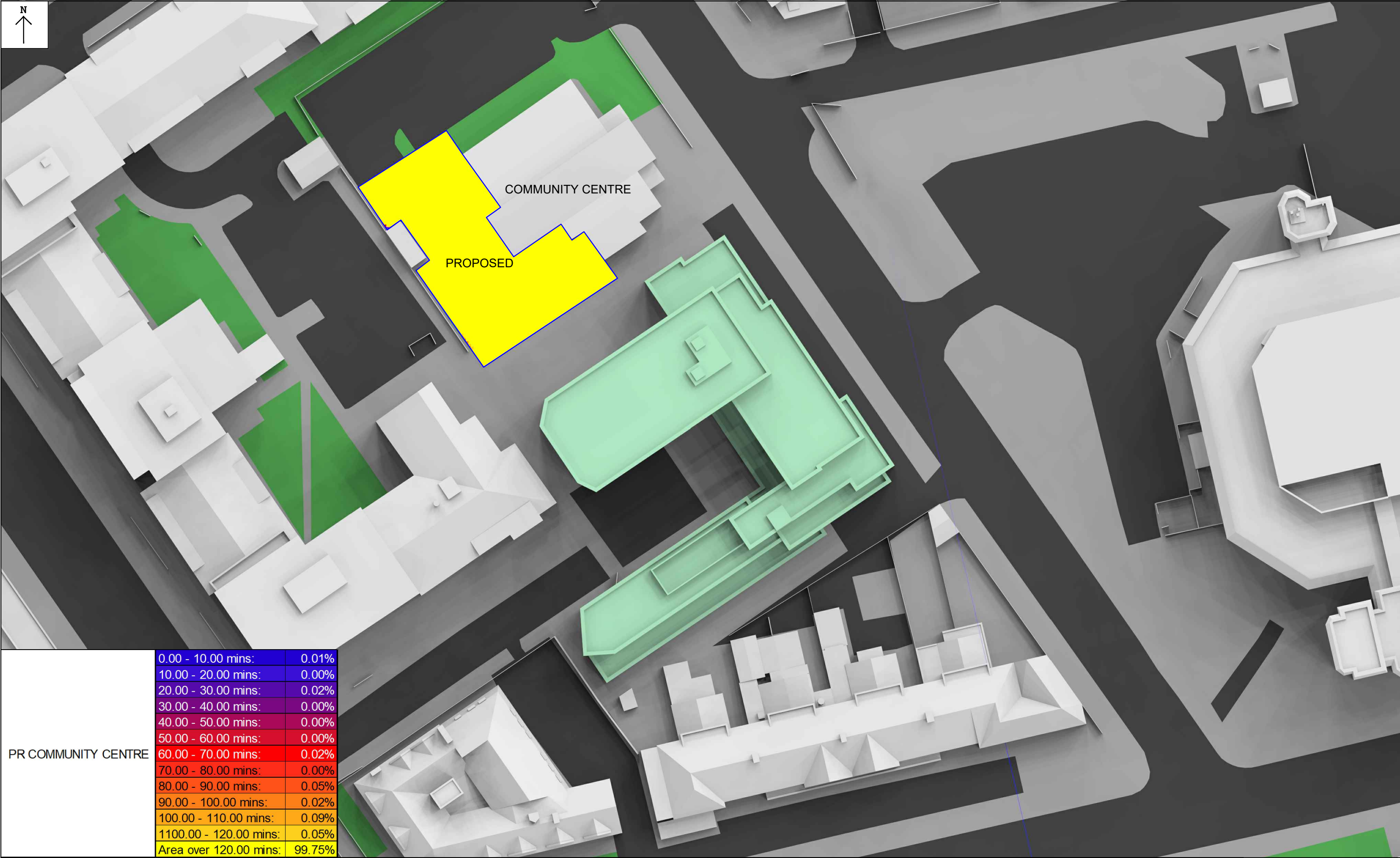
Sources of information

Existing building 2021 JAN 19 - INFO PROPOSED 131208621_2 Carmoor Road_240717_Solids.dwg	Surrounding buildings 2021 JAN 19 - INFO PROPOSED 131208621_2 Carmoor Road_240717_Solids.dwg ROOMS AND WINDOWS ESTIMATED	Proposed building SCHEME INFO 26 OCT 2022 2205-LHA-A-SK-016_P03 Roof Plan 2205-LHA-A-SK-010_P04 Level 00 Plan 2205-LHA-A-SK-011_P03 Level 01 Plan 2205-LHA-A-SK-012_P03 Level 02 Plan 2205-LHA-A-SK-013_P03 Level 03 Plan 2205-LHA-A-SK-014_P03 Level 04 Plan 2205-LHA-A-SK-015_P03 Level 05 Plan 21A040_2D A	Consented N/A
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Project Name CARMOOR ROAD, MANCHESTER	Drawn By RV	Scale @ A3 -	Date 16 JAN 2023
Drawing Title SUN HOURS ON GROUND EXISTING - APRIL 21ST	Project No. CA195/05	Drawing No. TIS/01	Revision -

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PR COMMUNITY CENTRE	0.00 - 10.00 mins:	0.01%
	10.00 - 20.00 mins:	0.00%
	20.00 - 30.00 mins:	0.02%
	30.00 - 40.00 mins:	0.00%
	40.00 - 50.00 mins:	0.00%
	50.00 - 60.00 mins:	0.00%
	60.00 - 70.00 mins:	0.02%
	70.00 - 80.00 mins:	0.00%
	80.00 - 90.00 mins:	0.05%
	90.00 - 100.00 mins:	0.02%
	100.00 - 110.00 mins:	0.09%
	110.00 - 120.00 mins:	0.05%
	Area over 120.00 mins:	99.75%

Key:

0-10 min
10-20 min
20-30 min
30-40 min
40-50 min
50-60 min
60-70 min
70-80 min
80-90 min
90-100 min
100-110 min
110-120 min
Over 120 min

Sources of information

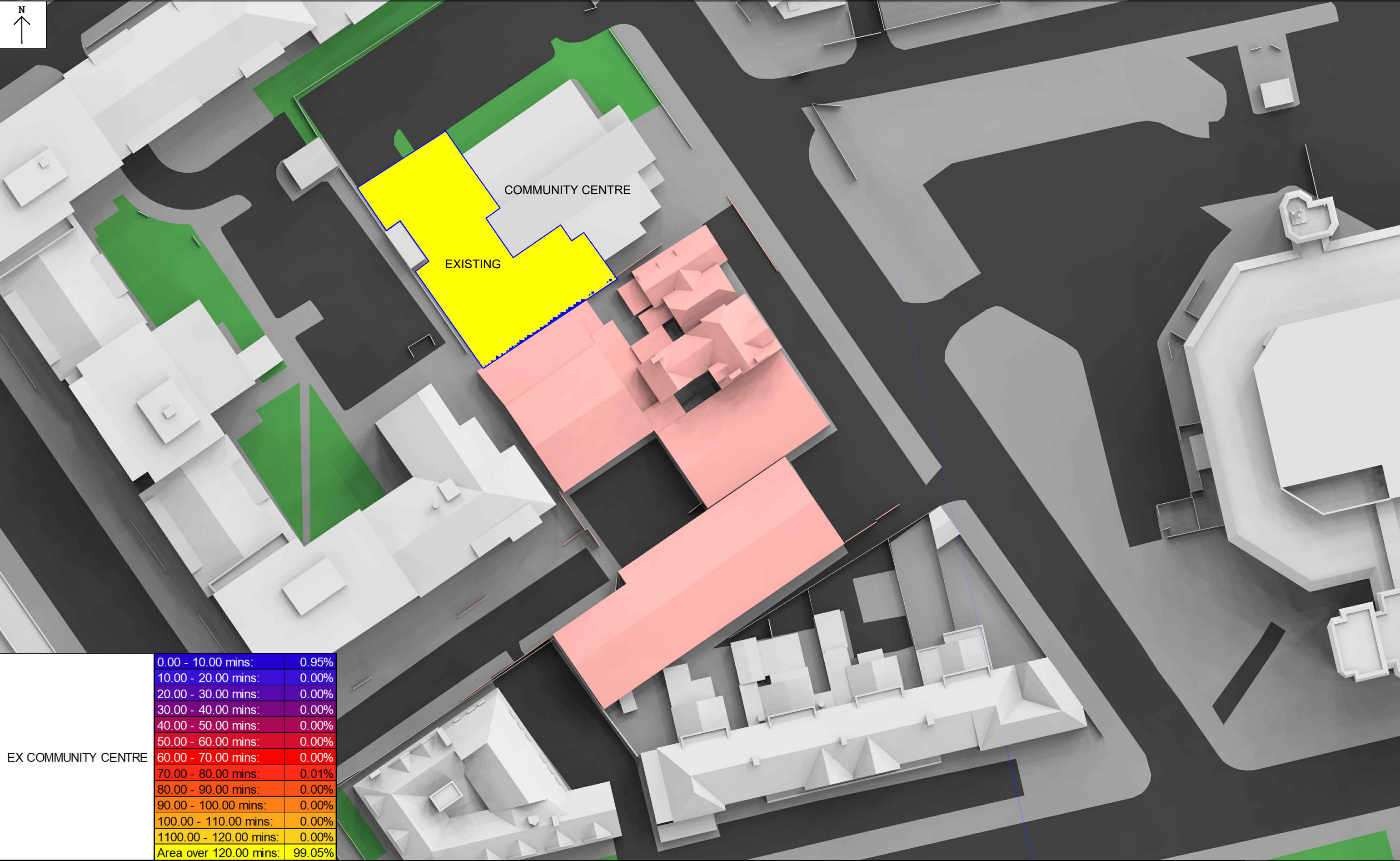
Existing building 2021 JAN 19 - INFO PROPOSED 131208621_2 Carmoor Road_240717_Solids.dwg	Surrounding buildings 2021 JAN 19 - INFO PROPOSED 131208621_2 Carmoor Road_240717_Solids.dwg ROOMS AND WINDOWS ESTIMATED	Proposed building SCHEME INFO 26 OCT 2022 2205-LHA-A-SK-016_P03 Roof Plan 2205-LHA-A-SK-010_P04 Level 00 Plan 2205-LHA-A-SK-011_P03 Level 01 Plan 2205-LHA-A-SK-012_P03 Level 02 Plan 2205-LHA-A-SK-013_P03 Level 03 Plan 2205-LHA-A-SK-014_P03 Level 04 Plan 2205-LHA-A-SK-015_P03 Level 05 Plan 21A040_2D A	Consented N/A
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Project Name	Drawn By	Scale @ A3	Date
CARMOOR ROAD, MANCHESTER	RV	-	16 JAN 2023
Drawing Title	Project No.	Drawing No.	Revision
SUN HOURS ON GROUND	CA195/05	TIS/02	-
PROPOSED - APRIL 21ST			

AVISON YOUNG

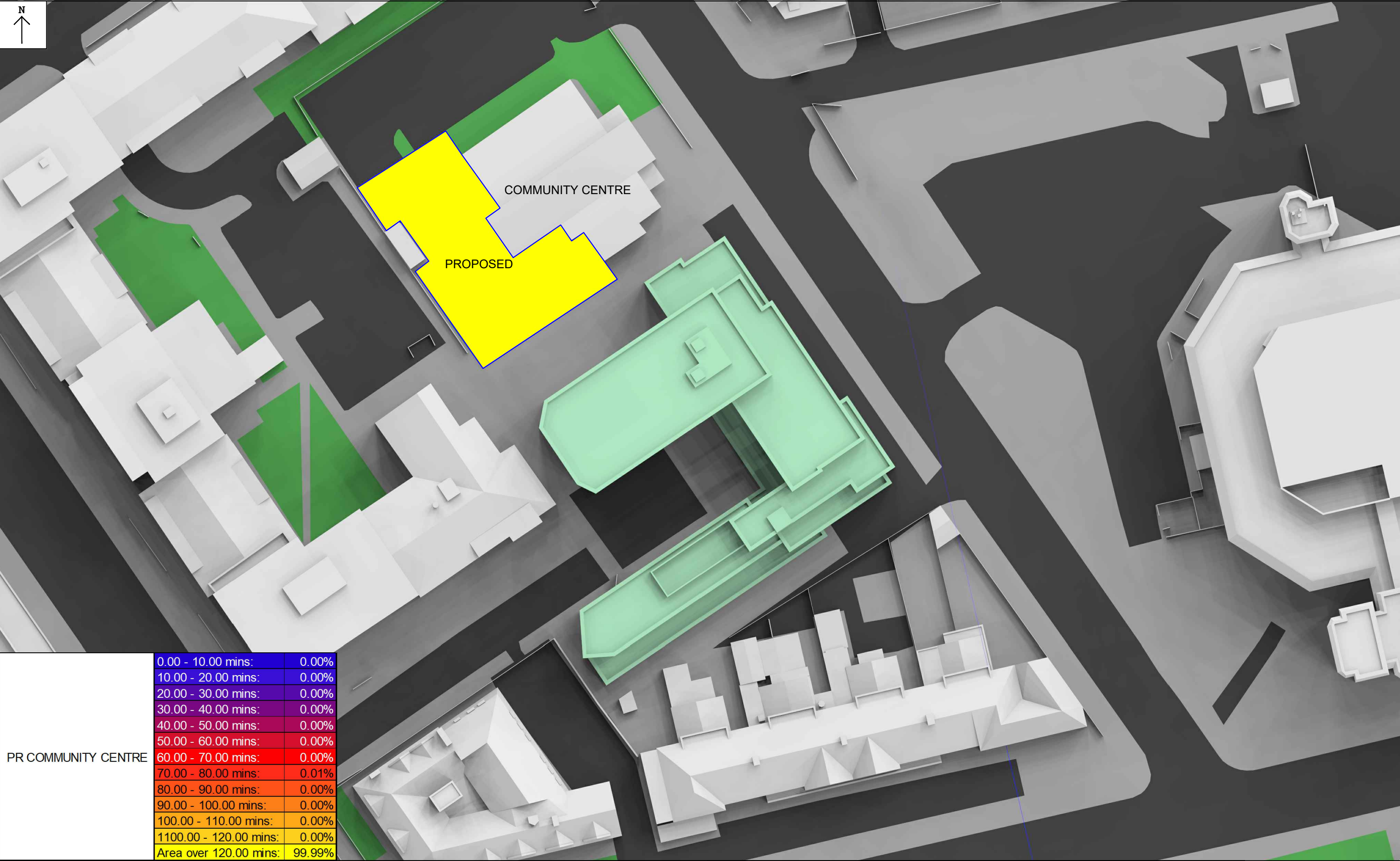
65 Gresham Street, London, EC2V 7NQ
08449 02 03 04 www.avisonyoung.co.uk

21st June



EX COMMUNITY CENTRE	0.00 - 10.00 mins:	0.95%
	10.00 - 20.00 mins:	0.00%
	20.00 - 30.00 mins:	0.00%
	30.00 - 40.00 mins:	0.00%
	40.00 - 50.00 mins:	0.00%
	50.00 - 60.00 mins:	0.00%
	60.00 - 70.00 mins:	0.00%
	70.00 - 80.00 mins:	0.01%
	80.00 - 90.00 mins:	0.00%
	90.00 - 100.00 mins:	0.00%
	100.00 - 110.00 mins:	0.00%
	110.00 - 120.00 mins:	0.00%
	Area over 120.00 mins:	99.05%

Key: 0-10 min 10-20 min 20-30 min 30-40 min 40-50 min 50-60 min 60-70 min 70-80 min 80-90 min 90-100 min 100-110 min 110-120 min Over 120 min	Sources of information Existing building 2021 JAN 19 - INFO PROPOSED 131208621_2 Carmoor Road_240717_Solids.dwg Surrounding buildings 2021 JAN 19 - INFO PROPOSED 131208621_2 Carmoor Road_240717_Solids.dwg ROOMS AND WINDOWS ESTIMATED Proposed building SCHEME INFO 26 OCT 2022 2205-LHA-A-SK-016_P03 Roof Plan 2205-LHA-A-SK-010_P04 Level 00 Plan 2205-LHA-A-SK-011_P03 Level 01 Plan 2205-LHA-A-SK-012_P03 Level 02 Plan 2205-LHA-A-SK-013_P03 Level 03 Plan 2205-LHA-A-SK-014_P03 Level 04 Plan 2205-LHA-A-SK-015_P03 Level 05 Plan 21A040_2D A Consented N/A			Project Name CARMOOR ROAD, MANCHESTER Drawing Title SUN HOURS ON GROUND EXISTING - JUNE 21ST	Drawn By RV Project No. CA195/06	Scale @ A3 - Drawing No. TIS/01	Date 16 JAN 2023 Revision -	AVISON YOUNG 65 Gresham Street, London, EC2V 7NQ 08449 02 03 04 www.avisonyoung.co.uk
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Key: 0-10 min 10-20 min 20-30 min 30-40 min 40-50 min 50-60 min 60-70 min 70-80 min 80-90 min 90-100 min 100-110 min 110-120 min Over 120 min				Sources of information Existing building 2021 JAN 19 - INFO PROPOSED 131208621_2 Carmoor Road_240717_Solids.dwg Surrounding buildings 2021 JAN 19 - INFO PROPOSED 131208621_2 Carmoor Road_240717_Solids.dwg Proposed building SCHEME INFO 26 OCT 2022 2205-LHA-A-SK-016_P03 Roof Plan 2205-LHA-A-SK-010_P04 Level 00 Plan 2205-LHA-A-SK-011_P03 Level 01 Plan 2205-LHA-A-SK-012_P03 Level 02 Plan 2205-LHA-A-SK-013_P03 Level 03 Plan 2205-LHA-A-SK-014_P03 Level 04 Plan 2205-LHA-A-SK-015_P03 Level 05 Plan 21A040_2D A Consented N/A				Project Name CARMOOR ROAD, MANCHESTER Drawing Title SUN HOURS ON GROUND PROPOSED - JUNE 21ST			Drawn By RV Project No. CA195/06 Scale @ A3 - Drawing No. TIS/02 Date 16 JAN 2023 Revision -			AVISON YOUNG 65 Gresham Street, London, EC2V 7NQ 08449 02 03 04 www.avisonyoung.co.uk	
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