



Orchard Lane / East Molesey

Daylight and Sunlight Assessment

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1 INSTRUCTIONS AND BRIEF

- 1.1 In accordance with your instructions, we have analysed the effect that the proposed development at Orchard Lane, East Molesey (the 'development') will have on daylight and sunlight amenity to the neighbouring properties.
- 1.2 We have also considered the potential for adequate light to be received to the proposed habitable rooms within the development.
- 1.3 We have received the following documents and used them in preparing this report:
- Assael Architecture Limited's Proposed 3D Model and Drawings;
 - Mobile CAD Surveying Solutions Limited's Topographical Survey.
- 1.4 Our study has been undertaken by preparing a three-dimensional computer model of the site and surrounding buildings and analysing the effect of the development on the daylight and sunlight levels received by the neighbouring buildings using our bespoke software. Our assessment is based on a visual inspection, the information detailed above and estimates of relevant distances, dimensions and levels which are as accurate as the circumstances allow.

2 THE DEVELOPMENT SITE

- 2.1 The site is located at the end of Orchard Lane and is currently occupied by one to two storey buildings.
- 2.2 The proposal involves the redevelopment of site by way of demolition (or partial demolition) of all existing buildings and the erection of 3 buildings comprising 74 residential units (15 x 1 bed, 48 x 2 bed and 11 x 3 bed) and ancillary facilities for residents, underground and surface level car and cycle parking, mechanical plant, soft and hard landscaping and associated diversion of existing Thames Water pipe.
- 2.3 Our 3D model of the surrounding buildings, existing site and proposed development are shown in images 1 and 2 below.



Image 1: 3D View of the site



Image 2: 3D View of the Development

3 PLANNING POLICY

3.1 National Policy

3.1.1 The revised National Planning Policy Framework ('NPPF') 2021 addresses the need for the flexible application of guidance relating to daylight and sunlight under Section 11 'Making effective use of land'. Paragraph 125(c) under subsection "*Achieving appropriate densities*" states the following;

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

3.2 Local Policy - Elmbridge Borough Council ('EBC')

3.2.1 Daylight and sunlight amenity is referenced in policy DM2 of the EBC's Development Management Plan (April 2015). Policy DM2 (c) "*Design and amenity*" states:

"To protect the amenity of adjoining and potential occupiers and users, development proposals should be designed to offer an appropriate outlook and provide adequate daylight, sunlight and privacy. This is particularly important when considering proposals for windows, external staircases, balconies, raised terraces and roof gardens."

3.2.2 Whilst not specifically referenced in EBC's planning policy, the BRE Report "*Site Layout Planning for Daylight and Sunlight; A Guide to Good Practice*" provides national guidance in relation to daylight and sunlight amenity.

4 BRE REPORT “SITE LAYOUT PLANNING FOR DAYLIGHT AND SUNLIGHT: A GUIDE TO GOOD PRACTICE” (2022) (‘THE BRE REPORT’)

4.1 Principles

4.1.1 The BRE Report was updated in June 2022, with the 2011 version now withdrawn. Appendix A of this report provides an explanatory note which summarises the guidance provided in the BRE Report.

4.1.2 It is important to note that the introduction to the report stresses that the document is provided for guidance purposes only and it is not intended to be interpreted as a strict set of rules. It states that:

“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 designer. Although it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of many factors in site layout design. (para. 1.6)

“In special circumstances the Developer or Planning Authority may wish to use different target values.” (para. 1.6)

“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 layout constraints. Another important issue is whether the existing building is itself a good neighbour, standing a reasonable distance from the boundary and taking no more than its fair share of light”. (para. 2.2.3)

4.1.3 The BRE Report should be used in conjunction with the interior daylighting recommendations in BS EN 17037 “Daylight in buildings” and the CIBSE publication LG10 “Daylighting – a guide for designers”.

4.2 Glossary of Terms

4.2.1 Below is a simplified glossary of the daylight and sunlight terminology referred to in this report. Appendix A contains a technical glossary, together with a summary of the recommendations provided in the BRE Report:

4.2.2 **Vertical Sky Component (‘VSC’)** – the proportion of the sky dome that can be seen from a point in the centre of a window; the maximum VSC achievable from an unobstructed view from a vertical window is nearly 40%.

- 4.2.3 **No Sky Line ('NSL')** – the area of the working plane in a room that can and cannot receive direct skylight. This test is sometimes termed daylight distribution.
- 4.2.4 **Annual Probable Sunlight Hours ('APSH')** – the total number of hours in the year that the sun is expected to shine on a window, allowing for average levels of cloudiness.
- 4.2.5 **Illuminance** – the median lux received to assessment points across a room over a typical year;
- 4.2.6 **Sunlight Exposure ('SE')** – the total number of hours on 21 March that sunlight is expected to shine on a window.
- 4.2.7 **Sun Hours on Ground ('SOG')** – the total number of hours on a specific date that the sun could shine on the ground, assuming a cloudless sky. Usually assessed on 21 March.

5 JUDGING ACCEPTIBILITY OF DAYLIGHT AND SUNLIGHT IMPACTS

- 5.1 As noted in Section 4, the BRE Report guidelines are not mandatory and should be considered flexibly depending on the local context. Indeed, numerous planning decisions and appeal decisions have made it clear that noticeable reductions in daylight and sunlight amenity should not be equated to “unacceptable losses”. Similarly, it is not expected that all proposed habitable rooms or external amenity areas would comply with the guidance for daylight and sunlight amenity.
- 5.2 Professional judgement is required when determining what constitutes adequate levels of daylight and sunlight amenity, by reference to the BRE Report guidance, planning and appeal decisions and by comparison to what has been considered acceptable elsewhere in the locality.

6 ASSESSMENT OF SURROUNDING PROPERTIES

6.1 As explained in the appended explanatory note, the BRE Report states:

“If any part of a new building or extension, measured in a vertical section perpendicular to a main window wall of an existing building from the centre of the lowest window, subtends an angle of more than 25 degrees to the horizontal, then the diffuse daylighting of the existing building may be adversely affected.”

6.2 As shown in the sections in Appendix B, the vast majority of neighbouring properties would comply with the initial 25-degree line test and therefore do not require detailed assessment as the daylight and sunlight amenity to them would not be adversely affected by the development.

6.3 Detailed analysis has been undertaken for Ember Farm Cottage, Orchard Lane and 18 Orchard Lane. The site is bordered by rear gardens to the east and overshadowing has been considered to all of these.

6.4 The analysis drawings and results spreadsheet for the neighbouring properties can be found in Appendices B and C.

6.5 The results of our assessment are summarised below.

6.6 Ember Farm Cottage, Orchard Lane



Image: 04
 Location: South of the development.
 Description: End of terrace house.

6.6.1 We have obtained floorplans for this property from EBC’s online planning database (Ref: 2011/5700) and have used these to model the internal configurations. The floorplans show that the windows facing the development serve a study and circulation areas. Daylight and sunlight amenity has been tested to the study.

6.6.2 The analysis results show that the study would comply with the BRE Report guidelines using both the VSC and NSL tests for daylight amenity. Accordingly, the development would not have an unacceptable effect to daylight amenity to this property.

6.6.3 The window serving the study is not orientated within 90-degrees of due south and therefore, in accordance with BRE Report guidelines, sunlight has not been assessed.

6.7 18 Orchard Lane

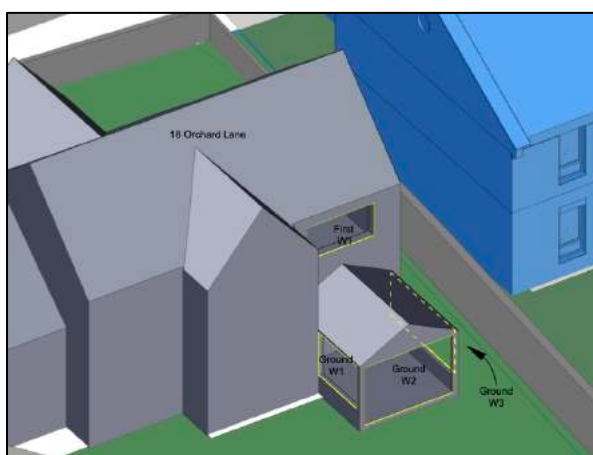


Image: 04
 Location: South-east of the development.
 Description: Semi-detached house.

6.7.1 We have obtained floorplans for this property from EBC’s online planning database (Ref: 2018/2223) and have used these to model the internal configurations. The floorplans show that there is a conservatory to the rear, served by three windows, one of which faces the development. The bedroom at first floor has also been included in the assessment.

6.7.2 The analysis shows that the VSC to the conservatory window facing the site would be reduced from 28.11% to 17.40%, a retained ratio of 0.62, compared to the 0.80 recommendation. However, as the remaining windows serving this room retain high levels of VSC, with the main window retaining in excess of 27% VSC, and the room remains 100% lit using the NSL test, the conservatory is considered to retain adequate levels of daylight amenity. The first floor bedroom would fully comply with the BRE Report guidelines using the VSC and NSL tests. The effect of the development on daylight amenity to this property can therefore be considered acceptable in planning terms.

6.7.3 These two rooms both have a northerly aspect and therefore sunlight amenity has not been considered.

6.8 Rear Gardens to 66 to 71 Ember Farm Way and 18 Orchard Lane



Image: 04
 Location: East of the development.
 Description: Rear gardens.

- 6.8.1 Overshadowing to the gardens to the east of the site has been assessed using the SOG assessment and drawings illustrating the results can be found in Appendix B.
- 6.8.2 The analysis shows that all of the gardens would continue to comply with the BRE Report guidelines for overshadowing, retaining at least 2 hours of sunlight to between 81% and 100% of each area, well in excess of the 50% recommendation.
- 6.8.3 Accordingly, the development would not have an unacceptable effect on sunlight amenity to the neighbouring gardens.

7 LIGHT LEVELS WITHIN THE PROPOSED SCHEME

- 7.1 We have analysed the daylight and sunlight availability to the proposed habitable rooms within the development and the results are set out below. The illuminance results, along with the location of the tested rooms and window references are shown on the drawing in Appendix D. The illuminance and sunlight exposure results spreadsheet are also included in Appendix E.
- 7.2 A total of 223 rooms have been assessed, including 151 rooms in Building A, 18 rooms in Building B and 48 rooms in Building C.
- 7.3 Daylight
 - 7.3.1 We have assessed daylight amenity using the illuminance methodology described in the appended explanatory note. As explained in more detail in the explanatory note, the BRE Report gives illuminance recommendations of 100 lux in bedrooms, 150 lux in living rooms and 200 lux in kitchens. In multi-use rooms, such as the proposed living/kitchen/dining rooms (LKDs), the target value for living rooms can be used.

7.3.2 It is recommended that at least 50% of a room should exceed the recommended lux, for 50% of the total daylight hours in a year, for its use.

7.3.3 The analysis results show that, overall, 217 of the 223 rooms (97%) would comply with the guidance for daylight amenity, this includes all of the rooms in Buildings B and C and represents a high level of compliance.

7.3.4 Four of the six rooms not meeting the guidance comprise three living rooms and one bedroom at ground floor in Building A. These rooms would achieve the target lux for their use to between 35% and 49% of each rooms area, compared to the recommended 50%. There are also two communal living rooms at ground floor that do not meet the guidance. All these rooms are each served by windows beneath balconies serving the floors above, which is the main reason they do not meet the guidance.

7.3.5 Whilst balconies provide occupiers with important external amenity space, they do restrict daylight amenity to the windows beneath them. Daylight amenity therefore needs to be balanced against the need to provide private external amenity space.

7.3.6 Overall, it is considered that adequate levels of daylight amenity will be received within the development.

7.4 Sunlight

7.4.1 In new buildings, the BRE Report recommends calculating the Sunlight Exposure to assess whether a dwelling will appear reasonably sunlit. This test measures the hours of sunlight that could be received at the centre point of each window on 21 March.

7.4.2 In housing, the main requirement for sunlight is in living rooms. It is viewed as less important in kitchens and bedrooms.

7.4.3 The BRE Report recommends that:

- Site layout design aims to ensure that at least one main window wall faces within 90-degrees of due south.
- That a habitable room, preferably a main living room, can receive a total of at least 1.5 hours of sunlight on 21 March.
- Where groups of dwellings are planned, site layout design should aim to maximise the number of dwellings that meet the above recommendations.

- 7.4.4 As highlighted in the BRE Report, designers should aim to maximise the number of dwellings that meet the recommendations for sunlight amenity, however, it is widely accepted that not all new dwellings will meet the guidance and those served by windows facing north would not be expected to receive sunlight amenity.
- 7.4.5 The SE results show that, of the 121 rooms served by at least one window orientated within 90-degrees of due south, 113 (93%) would comply with the BRE Report guidelines for sunlight, receiving at least 1.5 hours of direct sunlight on 21 March. This represents a high level of compliance.
- 7.5 Overshadowing
- 7.5.1 Overshadowing has been assessed using the SOG assessment, which plots the area of an amenity space that receives at least 2 hours of direct sunlight on 21 March. For an external amenity area to appear adequately sunlit throughout the year, the BRE Report recommends that at least half the amenity area should receive at least two hours of direct sunlight on 21 March.
- 7.5.2 The analysis shows that, with the exception of the amenity area within the courtyard north of Building A, each area will meet the BRE Report guidelines using the SOG test. The courtyard to the north of Building A would receive at least 2 hours of direct sunlight to 30% of its area on 21st March, compared to the recommendation of 50%. As this area is located north of Building A, sunlight amenity would be expected to be restricted, it should be noted that 100% of the communal amenity space to the west of Building A would receive at least 2 hours of direct sunlight on 21st March.
- 7.5.3 Additional analysis on 21st of June, shows that all the areas assessed would receive good levels of sunlight, including the courtyard to the north of Building A, which would receive at least 2 hours of direct sunlight to 90% of its area.
- 7.5.4 It is considered that adequate levels of sunlight amenity will be received to the external amenity spaces.

8 CONCLUSION

8.1 Effect on Neighbouring Residential Properties

8.1.1 Our analysis has considered the effect that the development would have on daylight and sunlight amenity to the neighbouring residential properties, in accordance with the guidance given in the latest version of the BRE Report (June 2022).

8.1.2 The analysis results show that the development would not have an unacceptable effect on daylight and sunlight amenity to the neighbouring houses. There would be a reduction in daylight to one window serving the conservatory in 18 Orchard Lane, however, as the room would comply with the NSL test and the remaining windows are unaffected by the development, the effect is considered acceptable in planning terms.

8.1.3 The gardens to the neighbouring properties would all meet the guidance for sunlight amenity.

8.1.4 Therefore, in accordance with the NPPF, EBC's planning policy and BRE Report guidance, the development would not have an unacceptable effect on daylight and sunlight amenity to the neighbouring residential properties.

8.2 Light Received within the Development

8.2.1 The analysis shows that 97% of the habitable rooms within the development would meet or exceed the guidelines values given in the BRE Report for daylight amenity. This is considered a high level of compliance.

8.2.2 Where daylight is restricted to a handful of living rooms, including two communal living areas that do not form part of any apartment, these are located at ground floor and are served by windows beneath projecting balconies. Whilst balconies provide occupants within important external amenity space, they do restrict daylight to the windows beneath them.

8.2.3 The sunlight analysis shows that 93% of the rooms served by at least one window orientated within 90-degrees of due south would comply with the BRE Report guidelines for sunlight amenity. This represents a high level of compliance and where rooms do not meet the guidance, it is generally due to the presence of balconies above.

8.2.4 Furthermore, the overshadowing assessment demonstrates that the majority of the external amenity areas will receive good levels of sunlight. Whilst sunlight would be

restricted to the courtyard immediately north of Building A, this is due to the orientation of that courtyard and the residents will have access to other areas which will be well sunlit throughout the year.

- 8.2.5 In summary, the assessment results demonstrate that adequate levels of daylight and sunlight amenity will be received within the development, in compliance with national and local planning policy and the BRE Report guidelines.

APPENDIX A
BRE REPORT EXPLANATORY NOTE

BRE REPORT “SITE LAYOUT PLANNING FOR DAYLIGHT AND SUNLIGHT, A GUIDE TO GOOD PRACTICE” (2022) - EXPLANATORY NOTE AND METHODOLOGY

The 2022 edition of the BRE Report took effect in June 2022 and superseded the 2011 version. The below note summarises the recommended assessment methodologies, guidance and advice within the BRE Report, in conjunction with other key guidance documents that can be used for assessing the acceptability of developments in terms of any impact on daylight and sunlight to surrounding buildings.

Introduction

It is important to note that the introduction to the BRE Report stresses that the document is provided for guidance purposes only and it is not intended to be interpreted as a strict set of rules. It also suggests that it may be appropriate to adopt a flexible approach and alternative target values in dealing with “*special circumstances*” for example “*in a historic city centre, or in an area with modern high-rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings.*” This is amplified by the following extracts from the introduction and Section 2.2:

“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 designer. Although it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of many factors in site layout design...”

“In special circumstances the Developer or Planning Authority may wish to use different target values.”

“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 layout constraints. Another important issue is whether the existing building is itself a good neighbour, standing a reasonable distance from the boundary and taking no more than its fair share of light”.

The examples given in the BRE Report can be applied to any part of the country: suburban, urban and rural areas. The inflexible application of the target values given in the Report may make reaching the BRE criteria difficult in a tight, urban environment where there is unlikely to be the same expectation of daylight and sunlight amenity as in a suburban or rural environment.

Daylight

In summary, the BRE Report states that:

“If any part of a new building or extension, measured in a vertical section perpendicular to a main window wall of an existing building from the centre of the lowest window, subtends an angle of more than 25 degrees to the horizontal, then the diffuse daylighting of the existing building may be adversely affected. This will be the case if either:

the vertical sky component ['VSC'] measured at the centre of an existing main window is less than 27%, and less than 0.8 times its former value;

the area of the working plane (0.85m above floor level in residential properties) in a room which can receive direct skylight is reduced to less than 0.8 times its former value.

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

The Report also states that:

"Where room layouts are known, the impact on the daylighting distribution in the existing building can be found by plotting the 'no-sky line' in each of the main rooms. For houses this would include living rooms, dining rooms and kitchens; bedrooms should also be analysed, although they are less important. In non-domestic buildings each main room where daylight is expected should be investigated."

...Windows to bathrooms, toilets, store rooms, circulation areas and garages need not be analysed."

Guidance has been provided in the Second Edition of the report in relation to existing windows with balconies:

"Existing windows with balconies above them typically receive less daylight. Because the balcony cuts out light from the top part of the sky, even a modest obstruction may result in a large relative impact on the VSC, and on the area receiving direct skylight. One way to demonstrate this would be to carry out an additional calculation of the VSC and area receiving direct skylight, for both the existing and proposed situations, without the balcony in place. For example, if the proposed VSC with the balcony was under 0.8 times the existing value with the balcony, but the same ratio for the values without the balcony was well over 0.8, this would show that the presence of the balcony, rather than the size of the new obstruction, was the main factor in the relative loss of light."

A larger relative reduction in VSC may also be unavoidable if the existing window has projecting wings on one or both sides of it, or is recessed into the building so that it is obstructed on both sides as well as above."

Further guidance is provided in Appendix F on alternative target values when considering the loss of light to an existing building. F1 states the following:

"These values are purely advisory and different targets may be used based on the special requirements of the proposed development or its location. Such alternative targets may be generated from the layout dimensions of existing development"

Sunlight

The BRE Report advises that new development should take care to safeguard access to sunlight for existing buildings and any non-domestic buildings where there is a particular requirement for sunlight. In summary, the report states:

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

- *receives less than 25% of annual probable sunlight hours, or less than 5% of annual probable sunlight hours between 21 September and 21 March and*
- *receives less than 0.8 times its former sunlight hours during either period and*
- *has a reduction in sunlight over the whole year greater than 4% of annual probable sunlight hours”*

The report also states that:

“...It is suggested that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within ninety-degrees of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun. In non-domestic buildings any spaces which are deemed to have a special requirement for sunlight should be checked; they will normally face within ninety-degrees of due south anyway.”

Overshadowing

Section 3.3 of the BRE Report gives guidelines for protecting the sunlight to open spaces where it will be required. This would normally include:

- Gardens, usually the main back garden of a house and allotments;
- Parks and playing fields;
- Children’s playgrounds;
- Outdoor swimming pools and paddling pools;
- Sitting out areas such as those between non-domestic buildings and in public squares; and
- Focal points for views such as a group of monuments or fountains.

In summary, the Report states that:

“It is recommended that for it to appear adequately sunlit throughout the year, at least half of a garden or amenity area should receive at least 2 hours of sunlight on 21 March. If as a result of new development an existing garden or amenity area does not meet the above, and the area which can receive 2 hours of sun on 21 March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable. If a detailed calculation cannot be carried out, it is recommended that the centre of the area should receive at least 2 hours of sunlight on 21 March.”

New Buildings

In relation to new buildings, the assessment methodology within the 2011 Edition has been withdrawn. The BRE Report has replaced the way in which we assess both daylight and sunlight amenity to new buildings.

Daylight

The BRE Report now states that: *“To check that adequate daylight is provided in new rooms, daylight factor or interior illuminance may be calculated and compared with the recommendations in BS EN 17037 Daylight in buildings.”*

BS EN 17037 provides two methodologies. One is based on target illuminances from daylight to be achieved over specified fractions of the reference plane (a plane at table top height covering the room) for at least half of the daylight hours in a typical year. The other, alternative, method is based on calculating the daylight factors achieved over specified fractions of the reference plane.

Illuminance (SDA)

This method involves using climatic data for the location of the site to calculate the illuminance (lux) from daylight at each point on an assessment grid (300mm x 300mm, excluding a 300mm band from the walls) on the reference plane at an at least hourly interval for a typical year.

The UK National Annex gives illuminance recommendations of:

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

Where a room has a shared use, the highest target should apply. Although, the target for a living room could be used for a combined living/dining/kitchen area if the kitchens are not treated as habitable spaces, as it may avoid small separate kitchens in a design.

These are the median illuminances, to be exceeded over at least 50% of the assessment points in the room for at least half of the daylight hours.

When calculating illuminance, factors such as the light transmittance and ratio of window frame to glass should be considered, together with the reflectance level of internal and external surfaces and allowances for dirt build up on the window.

Daylight Factor

The daylight factor is the illuminance at a point on the reference plane in a space, divided by the illuminance on an unobstructed horizontal surface outdoors. The CIE standard overcast sky is used, rather than climatic data, thus the assessment is independent of building orientation. Similar to the illuminance methodology, a 300mm x 300mm grid is used with a 300mm band from the edge of the walls and at least 50% of the assessment grid should achieve the target daylight factors.

The UK National Annex gives daylight recommendations of:

- 0.7% Daylight Factors for Bedrooms
- 1.1% Daylight Factors for Living Rooms
- 1.4% Daylight Factors for Kitchens

Similar to the illuminance methodology, internal and external reflectance values and glazing transmission needs to be taken into account. With the exception of living/kitchen/dining rooms, where a room has a dual use, the higher target should be applied.

Sunlight

Sunlight Exposure (SE)

The BRE Report no longer recommends the use of the APSH assessment to assess sunlight potential in new dwellings. The BRE Report concludes that a dwelling will appear reasonably sunlit provided the following criteria are met:

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

Analysis Factors Applied

The following criteria have been applied for the daylight assessment:

- Glazing Transmittance:
 - Double Glazing: 0.68;
- Maintenance Factor:
 - Obstructed Windows (Beneath Balconies): 0.76;
 - Unobstructed Windows: 0.92;
- Frame to Glazing Ratio:
 - Bespoke to Window;
- Internal Reflectance Values:
 - Walls: 0.8;
 - Floors: 0.4;
 - Ceilings: 0.8;

APPENDIX B

DRAWINGS FOR SURROUNDING PROPERTIES



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SOURCES OF INFORMATION:
 Assael Architecture Ltd proposed
 scheme received on 27/09/2022
 Mobile CAD Surveying Solutions
 Topographical Survey received on
 17/06/2022
 Assael Architecture Ltd 3D model
 received on 08/06/2022



KEY
■ Existing buildings
■ Analysed properties
■ Surrounding buildings

REV	DETAILS	DATE	BY
A	*	*	*

CLIENT
 Lifestyle Residences

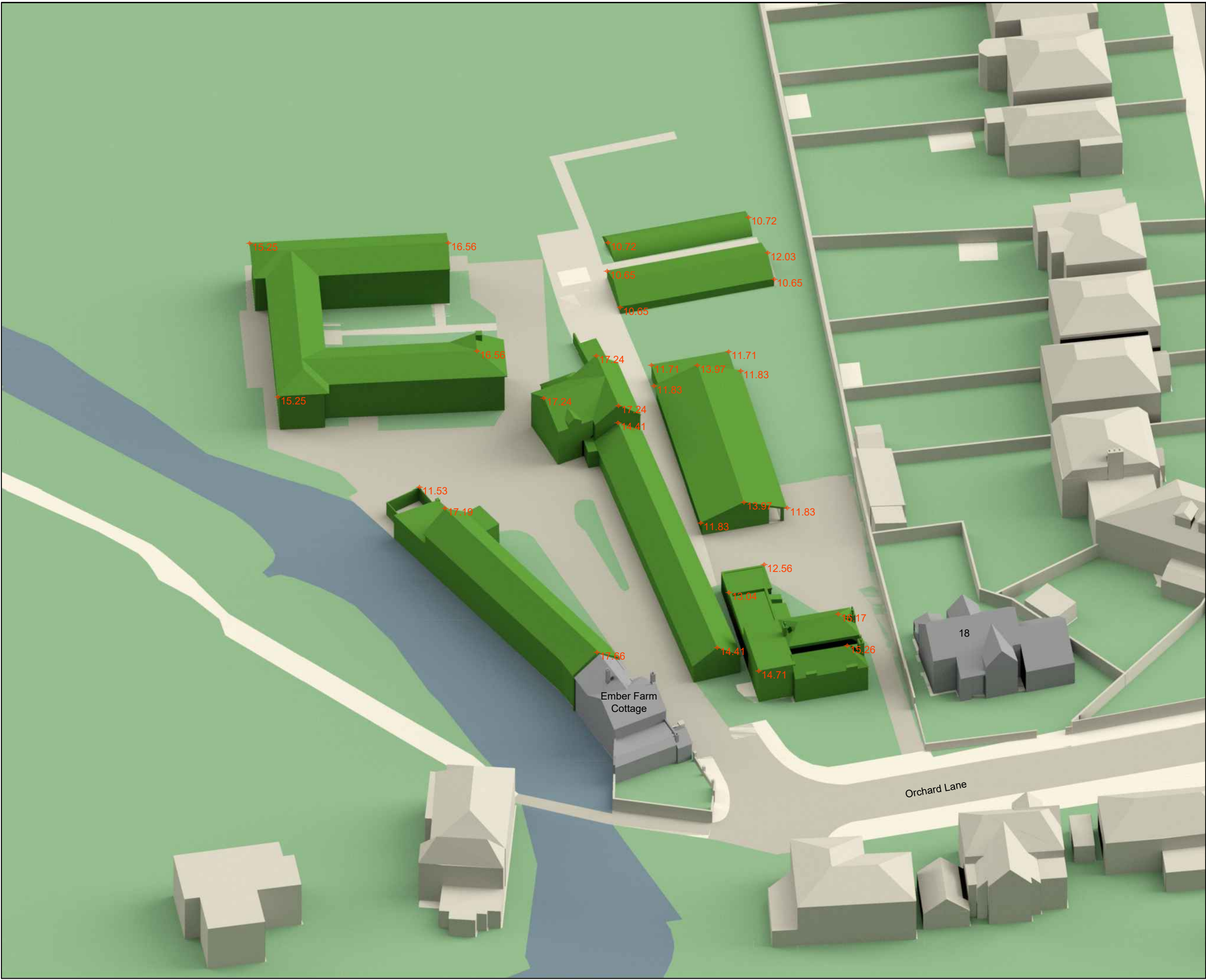
PROJECT
 Orchard Lane, East Molesey

DRAWING TITLE
 Existing plan view

SCALE 1:500 @A3	DATE 06/10/2022
DRAWN BY BG	CHECKED BY KB

DWG No. D+S/1/ 011	REV.
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- KEY**
- Existing buildings
 - Analysed properties
 - Surrounding buildings

Ordnance Datum Heights

REV	DETAILS	DATE	BY
A	*	*	*

CLIENT
 Lifestyle Residences

PROJECT
 Orchard Lane, East Molesey

DRAWING TITLE
 Existing 3D view

SCALE Not to Scale	DATE 06/10/2022
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 17/06/2022
 Assael Architecture Ltd 3D model
 received on 08/06/2022

- KEY**
- Existing buildings
 - Analysed properties
 - Surrounding buildings

Ordnance Datum Heights

REV	DETAILS	DATE	BY
A	*	*	*

CLIENT
 Lifestyle Residences

PROJECT
 Orchard Lane, East Molesey

DRAWING TITLE
 Existing 3D view

SCALE Not to Scale	DATE 06/10/2022
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KEY
■ Proposed buildings
■ Analysed properties
 Surrounding buildings

REV	DETAILS	DATE	BY
A	*	*	*

CLIENT
 Lifestyle Residences

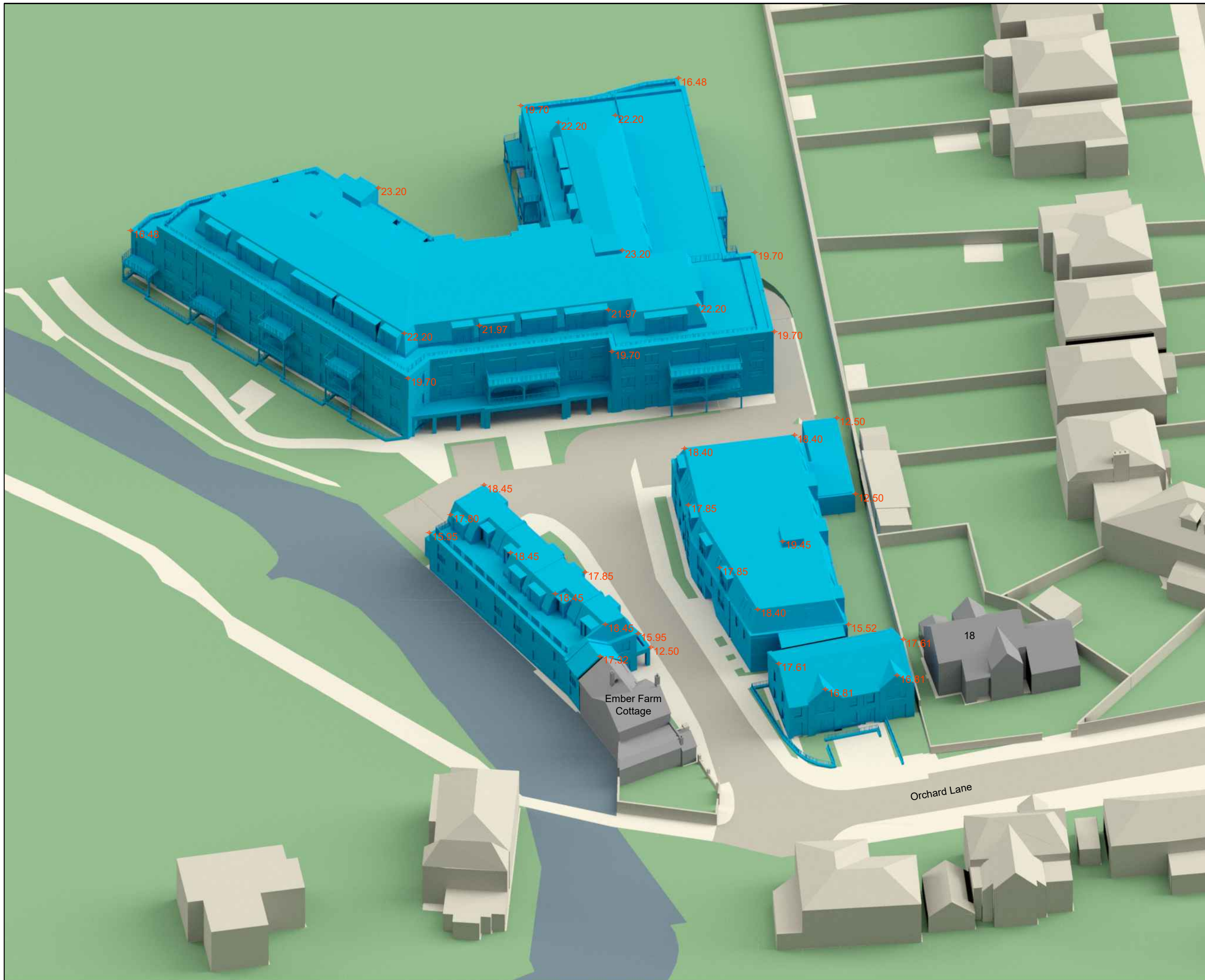
PROJECT
 Orchard Lane, East Molesey

DRAWING TITLE
 Proposed plan view

SCALE 1:500 @A3	DATE 06/10/2022
DRAWN BY BG	CHECKED BY KB

DWG No. D+S/1/ 014	REV.
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 Assael Architecture Ltd 3D model
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KEY

	Proposed buildings
	Analysed properties
	Surrounding buildings

Ordnance Datum Heights

REV	DETAILS	DATE	BY
A	*	*	*

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 Lifestyle Residences

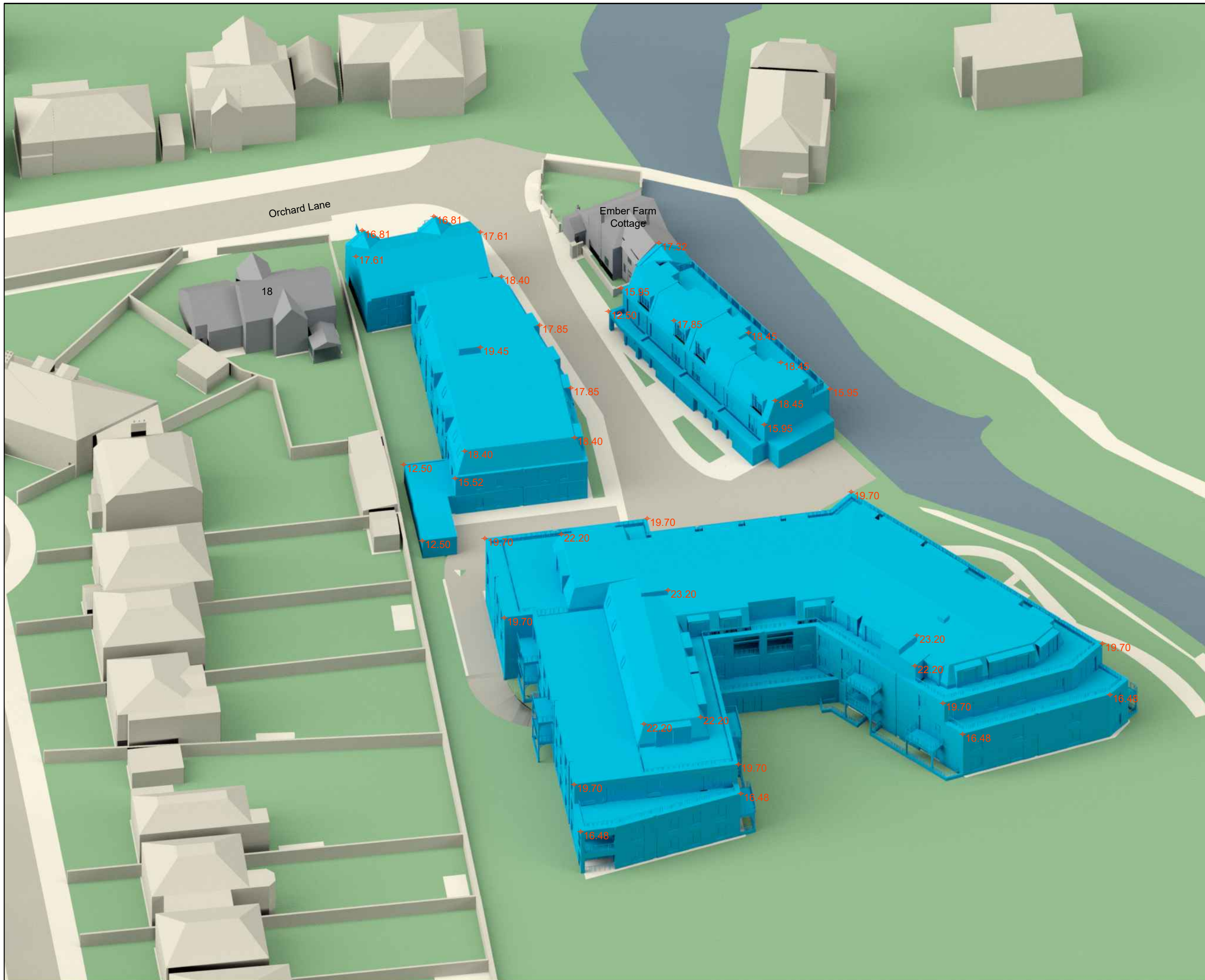
PROJECT
 Orchard Lane, East Molesey

DRAWING TITLE
 Proposed 3D view

SCALE Not to Scale	DATE 06/10/2022
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- KEY**
- Proposed buildings
 - Analysed properties
 - Surrounding buildings

↑ Ordnance Datum Heights

REV	DETAILS	DATE	BY
A	*	*	*

CLIENT
 Lifestyle Residences

PROJECT
 Orchard Lane, East Molesey

DRAWING TITLE
 Proposed 3D view

SCALE Not to Scale	DATE 06/10/2022
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Scale: 1:1000 @A3
Plan View

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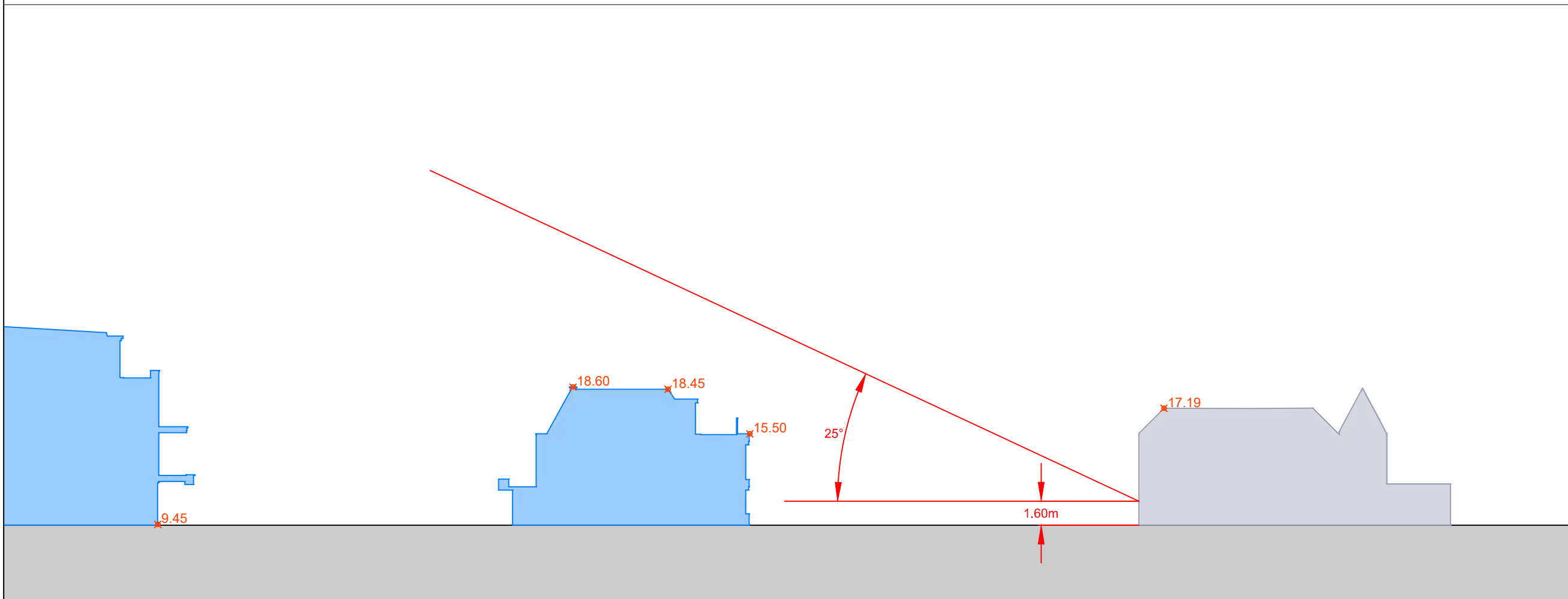
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- KEY**
- Proposed buildings
 - Analysed properties
 - Surrounding buildings
 - 25 deg line

Ordnance Datum Heights



Scale: 1:300 @A3
Section AA

REV	DETAILS	DATE	BY
A	*	*	*

CLIENT
Lifestyle Residences

PROJECT
Orchard Lane, East Molesey

DRAWING TITLE
25 degree line test
Imber Court Cottage

SCALE [Not to Scale]	DATE 06/10/2022
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Plan View

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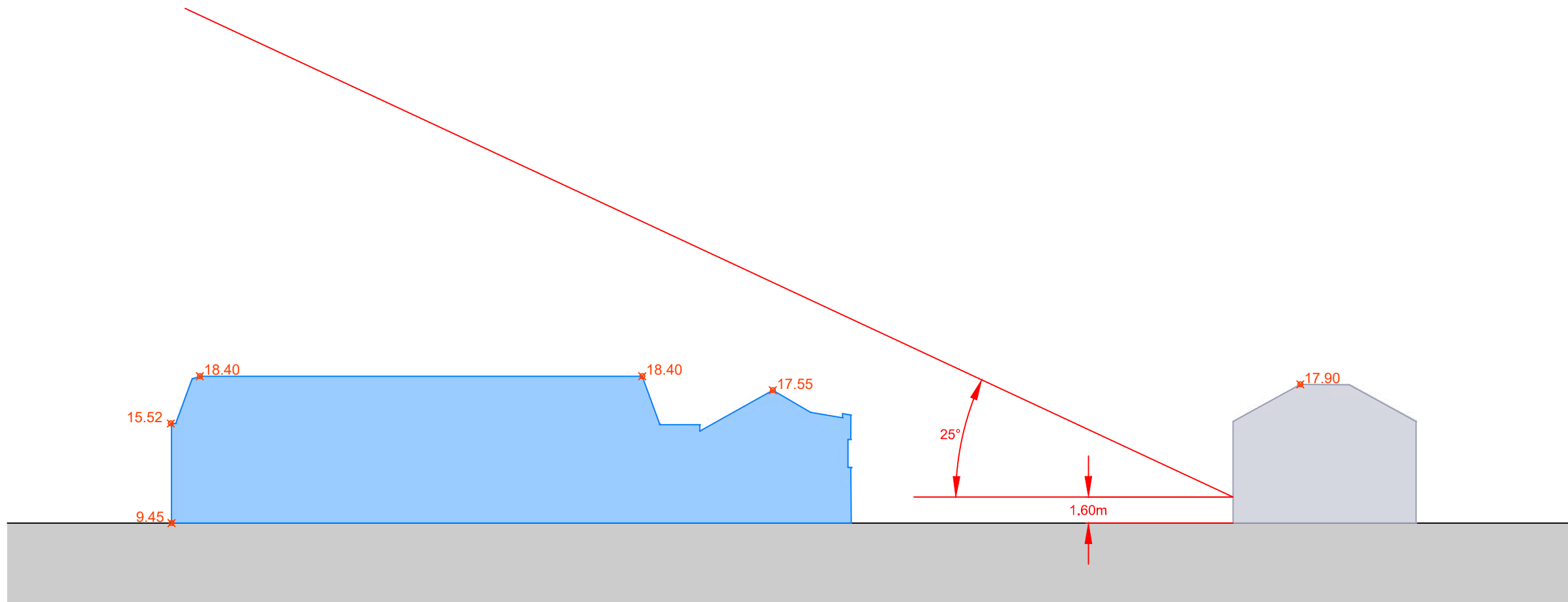
SOURCES OF INFORMATION:
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Assael Architecture Ltd 3D model
received on 08/06/2022



KEY

- Proposed buildings
- Analysed properties
- Surrounding buildings
- 25 deg line

Ordnance Datum Heights



Scale: 1:300 @A3
Section BB

REV	DETAILS	DATE	BY
A	*	*	*

CLIENT
Lifestyle Residences

PROJECT
Orchard Lane, East Molesey

DRAWING TITLE
25 degree line test
Brook House

SCALE [Not to Scale]	DATE 06/10/2022
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DWG No. ROL/1/ 902	REV.
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Plan View

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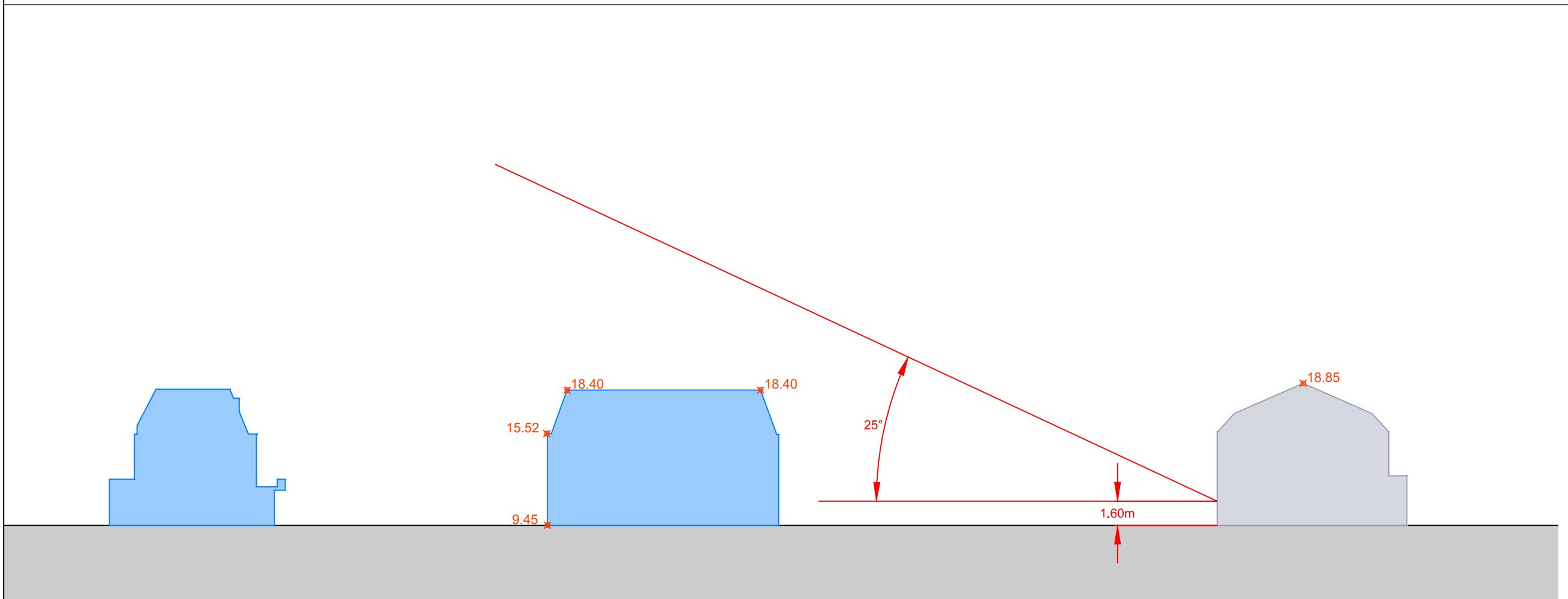
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- KEY**
- Proposed buildings
 - Analysed properties
 - Surrounding buildings
 - ↙ 25 deg line

Ordnance Datum Heights



Scale: 1:300 @A3
Section CC

REV	DETAILS	DATE	BY
A	*	*	*

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Lifestyle Residences

PROJECT
Orchard Lane, East Molesey

DRAWING TITLE
25 degree line test
71 Ember Farm Way

SCALE [Not to Scale]	DATE 06/10/2022
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DWG No. ROL/1/ 903	REV.
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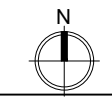


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Plan View

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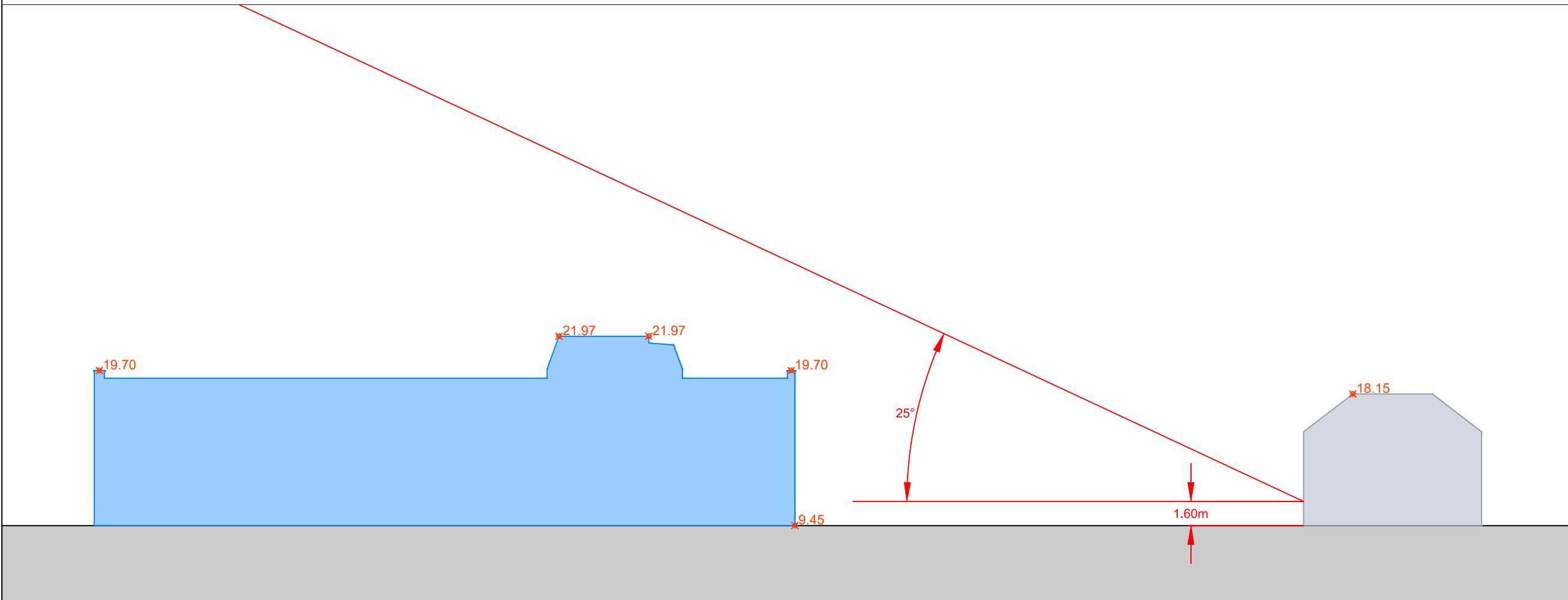
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Assael Architecture Ltd 3D model
received on 08/06/2022



- KEY**
- Proposed buildings
 - Analysed properties
 - Surrounding buildings
 - 25 deg line

Ordinance Datum Heights



Scale: 1:300 @A3
Section DD

REV	DETAILS	DATE	BY
A	*	*	*

CLIENT
Lifestyle Residences

PROJECT
Orchard Lane, East Molesey

DRAWING TITLE
25 degree line test
70 Ember Farm Way

SCALE [Not to Scale]	DATE 06/10/2022
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DWG No. ROL/1/ 904	REV.
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Scale: 1:1000 @A3
Plan View

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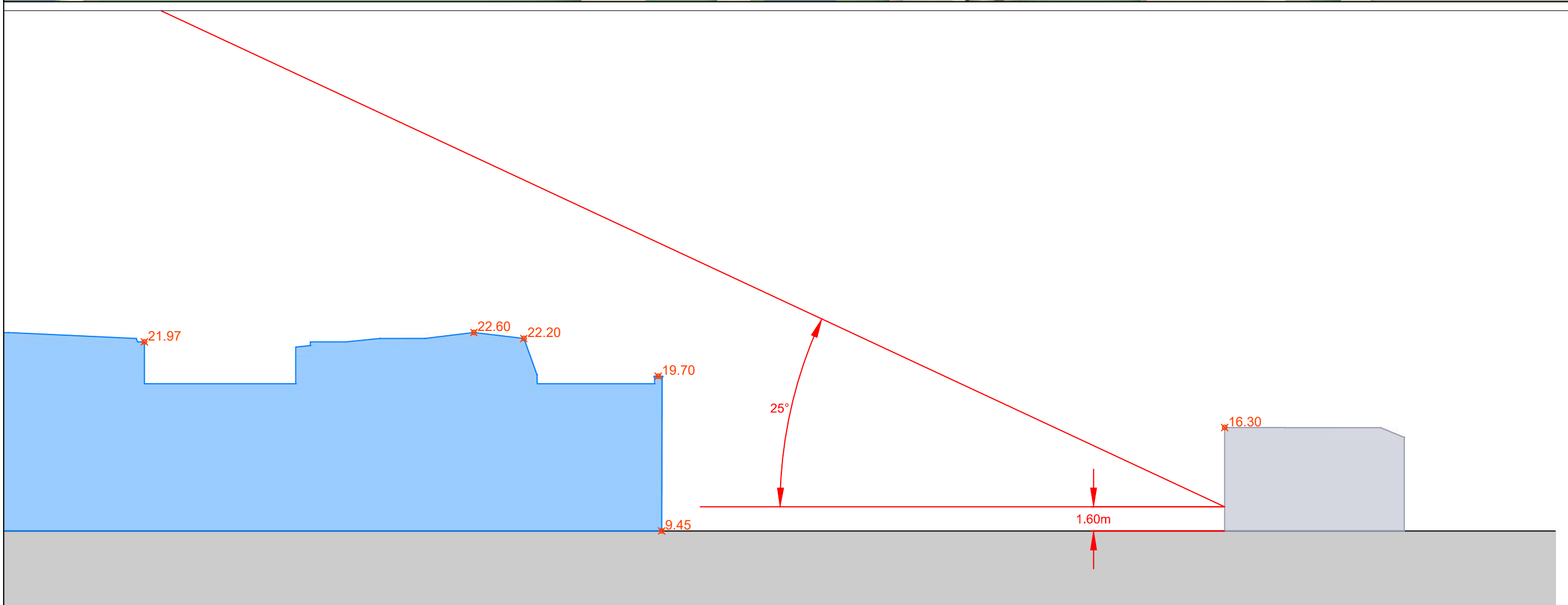
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scheme received on 27/09/2022
Mobile CAD Surveying Solutions
Topographical Survey received on
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received on 08/06/2022



- KEY**
- Proposed buildings
 - Analysed properties
 - Surrounding buildings
 - 25 deg line

Ordnance Datum Heights



Scale: 1:300 @A3
Section EE

REV	DETAILS	DATE	BY
A	*	*	*

CLIENT
Lifestyle Residences

PROJECT
Orchard Lane, East Molesey

DRAWING TITLE
25 degree line test
68 Ember Farm Way

SCALE [Not to Scale]	DATE 06/10/2022
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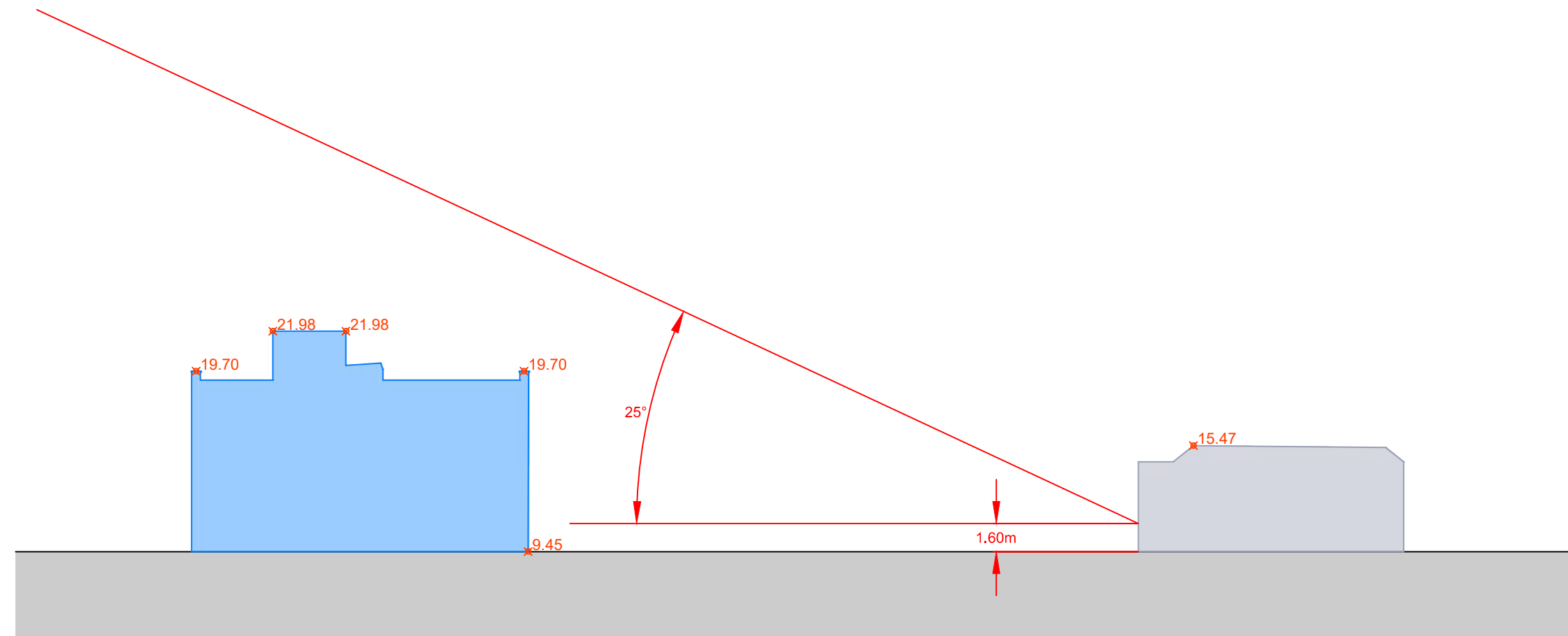
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- KEY**
- Proposed buildings
 - Analysed properties
 - Surrounding buildings
 - 25 deg line

Ordinance Datum Heights



Scale: 1:300 @A3
Section FF

REV	DETAILS	DATE	BY
A	*	*	*

CLIENT
Lifestyle Residences

PROJECT
Orchard Lane, East Molesey

DRAWING TITLE
25 degree line test
66 Ember Farm Way

SCALE [Not to Scale]	DATE 06/10/2022
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KEY

- Proposed buildings
- Analysed properties
- Surrounding buildings
- 25 deg line

Ordnance Datum Heights

REV	DETAILS	DATE	BY
A	*	*	*

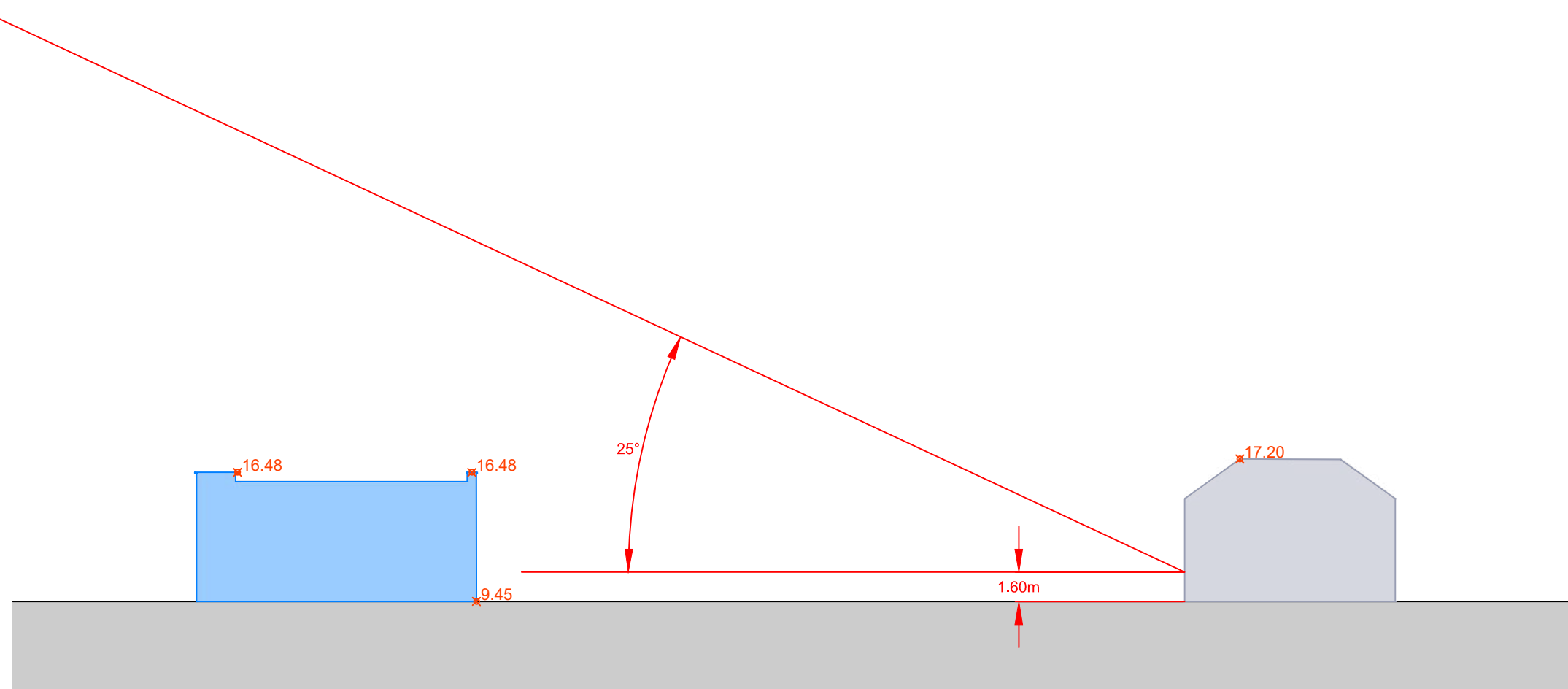
CLIENT
Lifestyle Residences

PROJECT
Orchard Lane, East Molesey

DRAWING TITLE
25 degree line test
64 Ember Farm Way

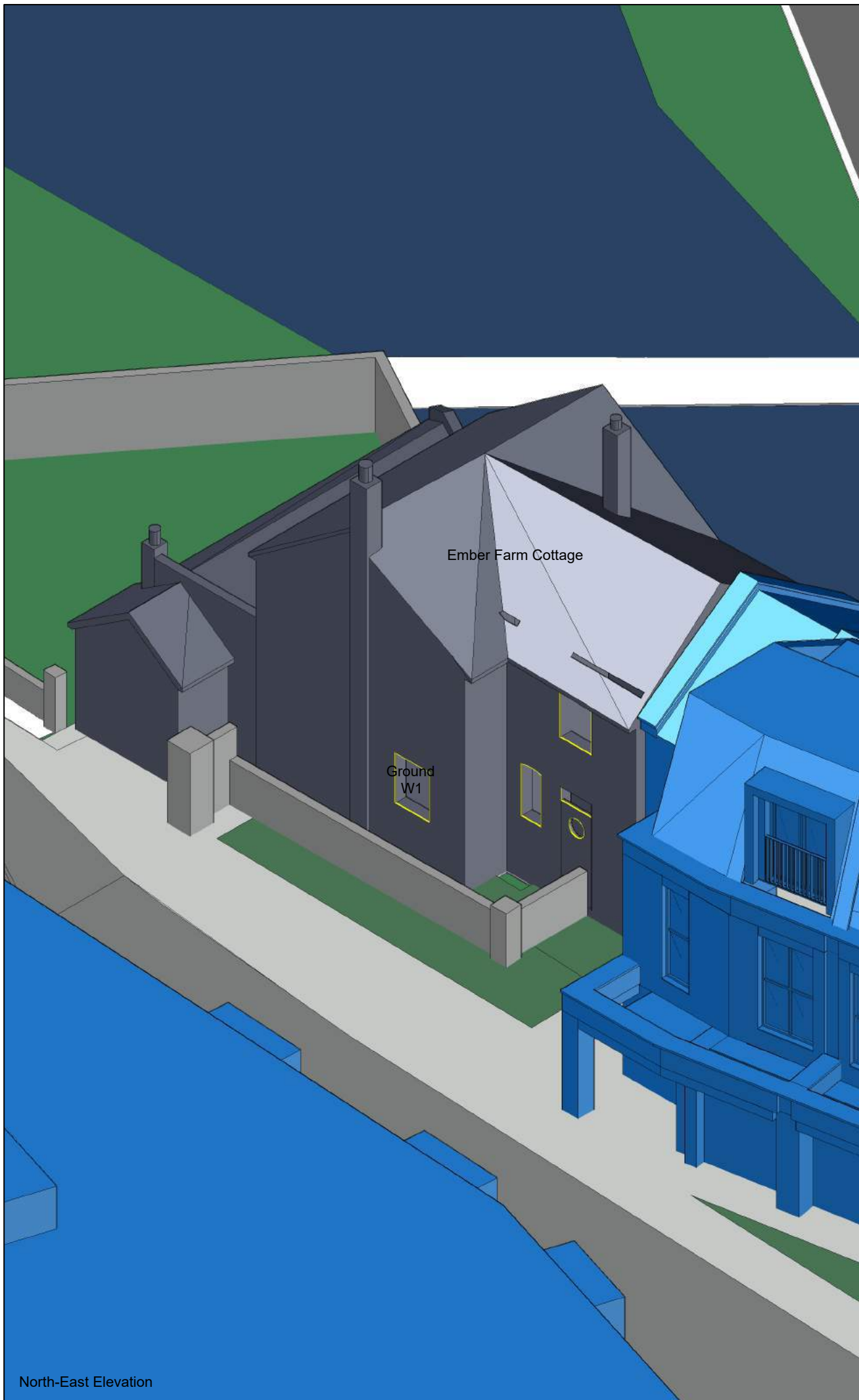
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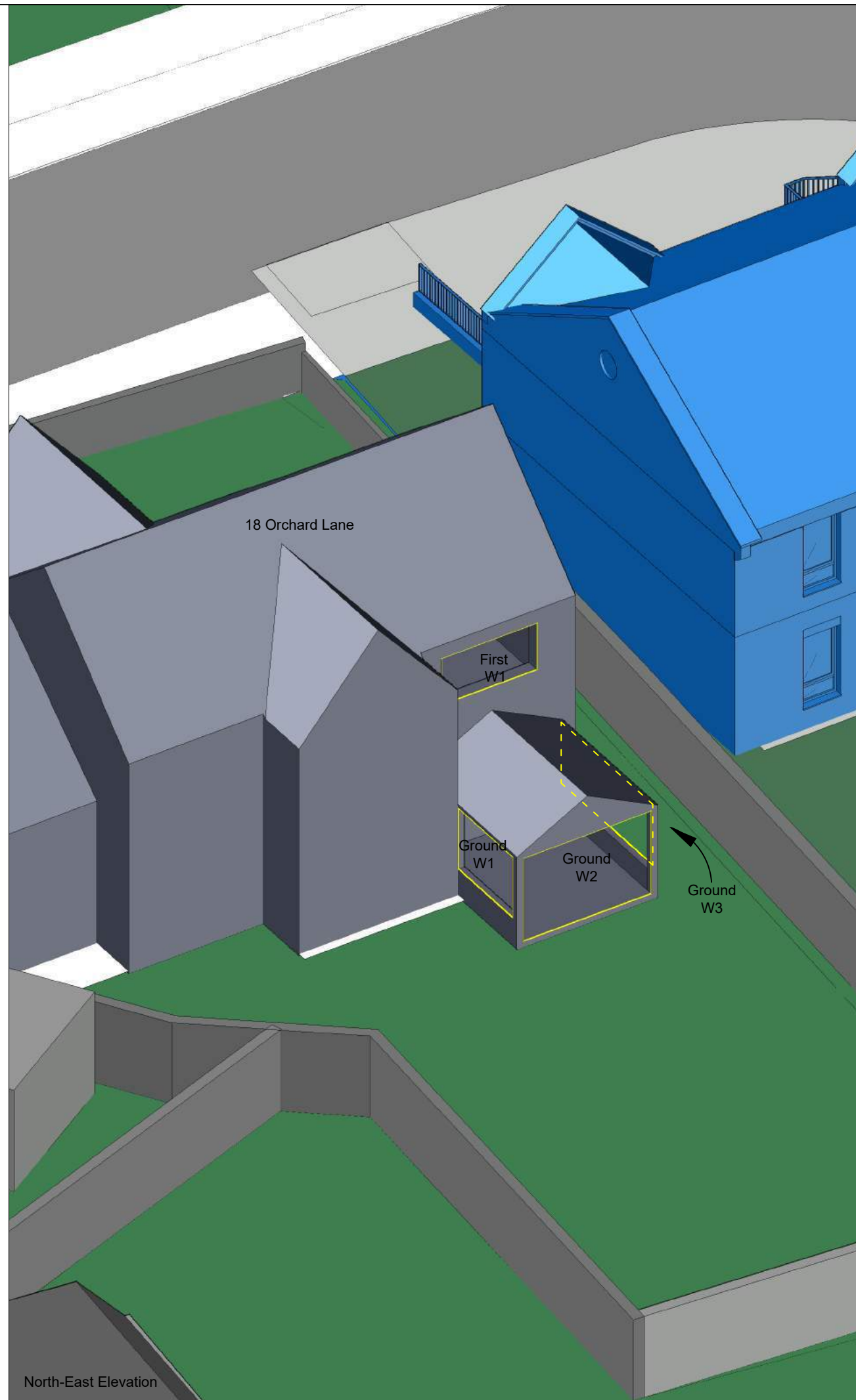


Scale: 1:300 @A3
Section GG





North-East Elevation



North-East Elevation

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KEY

- Analysed properties
- Surrounding buildings
- Window Location



REV	DETAILS	DATE	BY
A	*	*	*

CLIENT
Lifestyle Residences

PROJECT
Orchard Lane, East Molesey

DRAWING TITLE
Window Maps
Ember Farm Cottage
18 Orchard Lane

SCALE Not to Scale	DATE 06/10/2022
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KEY

- R1 Room area
- Existing no-skyline
- Proposed no-skyline
- Area of loss / gain



REV	DETAILS	DATE	BY
A	*	*	*

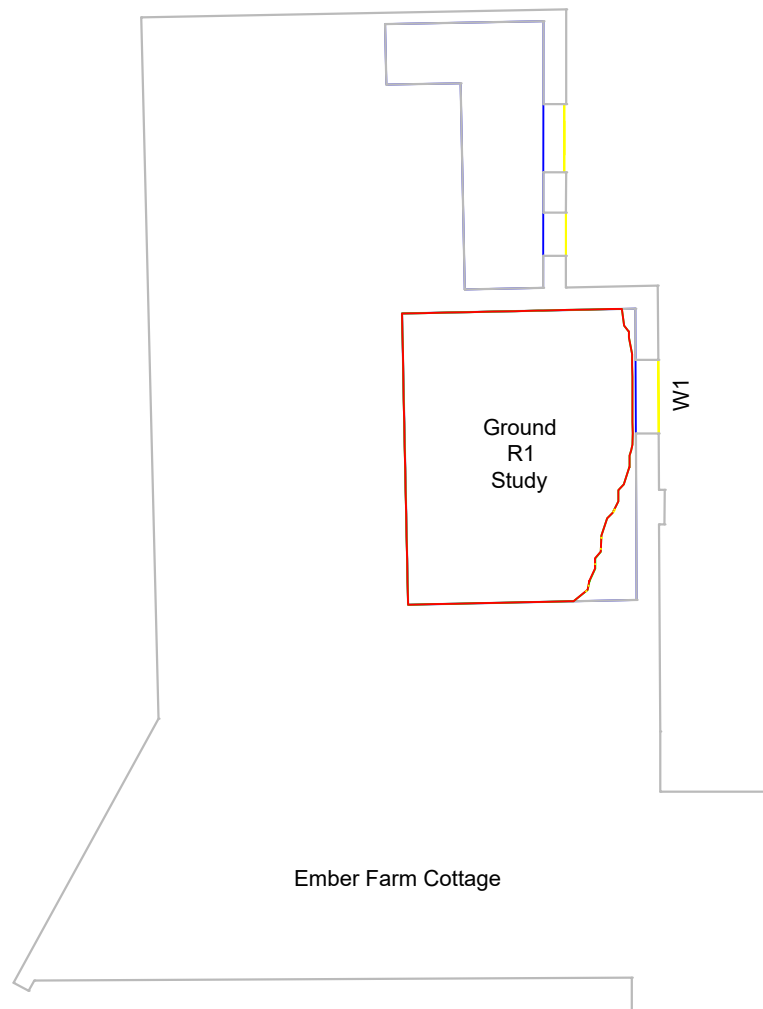
CLIENT
 Lifestyle Residences

PROJECT
 Orchard Lane, East Molesey

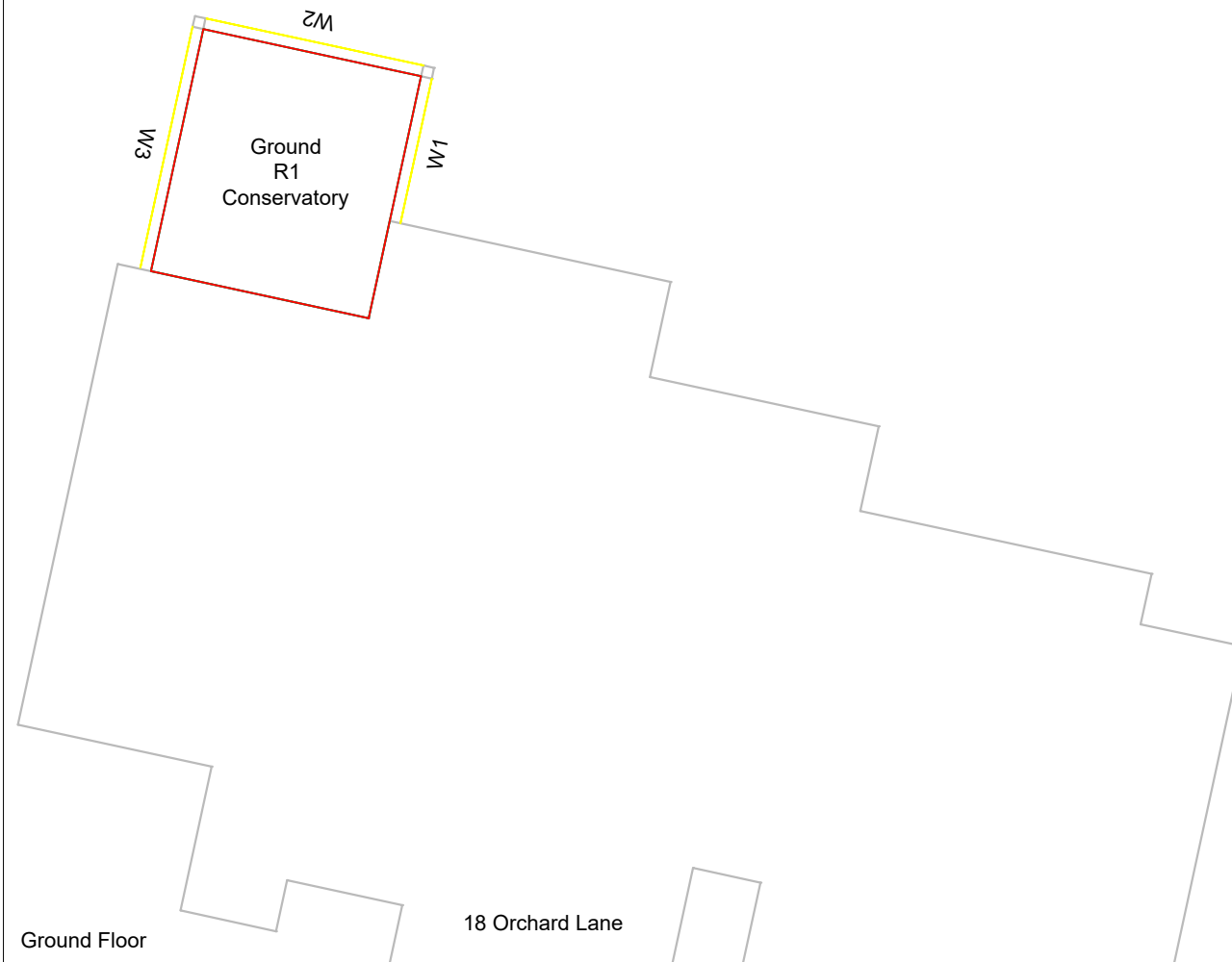
DRAWING TITLE
 Daylight Distribution contours
 Ember Farm Cottage
 18 Orchard Lane

SCALE 1:100 @A3	DATE 06/10/2022
DRAWN BY BG	CHECKED BY KB

DWG No. D+S/1/ 201	REV.
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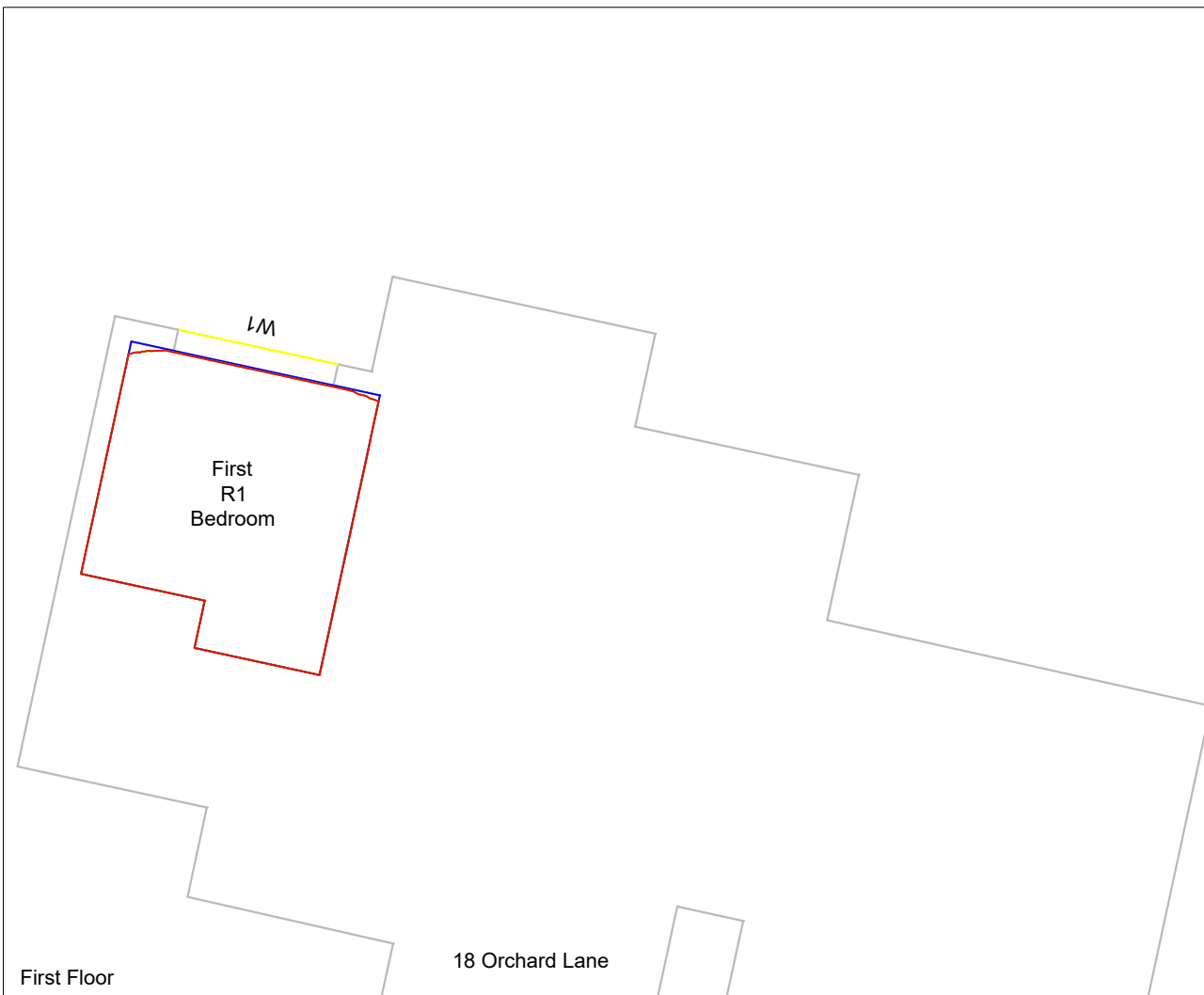


Ground Floor



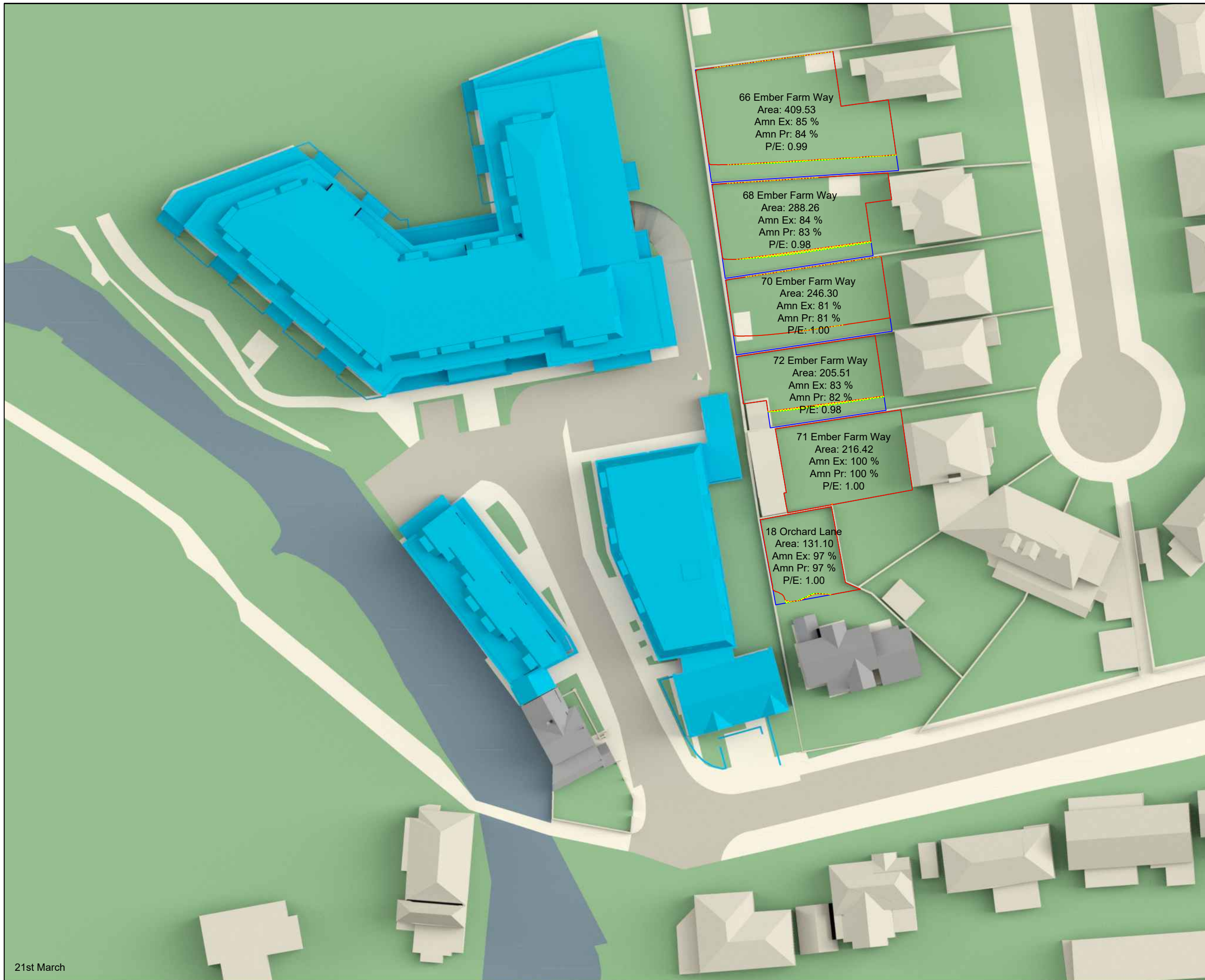
Ground Floor

18 Orchard Lane



First Floor

18 Orchard Lane







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KEY

-  Amenity area
-  Existing area of direct sunlight
-  Proposed area of direct sunlight
-  Area of loss / gain

REV	DETAILS	DATE	BY
A	*	*	*

CLIENT
 Lifestyle Residences

PROJECT
 Orchard Lane, East Molesey

DRAWING TITLE
 Permanent Overshadowing

SCALE 1:500 @A3	DATE 06/10/2022
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DWG No. D+S/1/ 401	REV.
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APPENDIX C

VERTICAL SKY COMPONENT AND NO SKY LINE RESULTS SPREADSHEET FOR SURROUNDING PROPERTIES

Daylight Result Spreadsheet

Room / Window Reference Number	Room Use. (Assumed*)	Vertical Sky Component (VSC) Results				VSC	No Sky Line (NSL) Results			NSL
		Existing VSC (%)	Proposed VSC (%)	Loss	% Loss	Meets BRE criteria?	Existing Lit Area (%)	Proposed Lit Area (%)	% Loss	Meets BRE criteria?
Ember Farm Cottage										
Ground R1 / W1	Study	34.05	29.49	4.56	13	Yes	93	93	0	Yes
18 Orchard Lane										
Ground R1 / W1	Conservatory	23.46	23.46	0.00	0	Yes	100	100	0	Yes
Ground R1 / W2		36.32	31.97	4.35	12	Yes				
Ground R1 / W3		28.22	17.42	10.80	38	No				
First R1 / W1	Bedroom	36.13	33.19	2.94	8	Yes	99	99	0	Yes

APPENDIX D

**ILLUMINANCE AND SUNLIGHT EXPOSURE RESULT SPREADSHEETS WITHIN THE PROPOSED
SCHEME**

Illuminance (SDA) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Meets BRE criteria?
Proposed Building A								
Ground	R1	LD	22.45	16.99	184	7.77	46%	NO
	R2	Bedroom	10.63	6.80	321	6.80	100%	YES
	R3	Bedroom	14.60	9.94	245	9.94	100%	YES
	R4	LD	22.44	16.98	229	10.19	60%	YES
	R5	Bedroom	10.64	6.81	357	6.81	100%	YES
	R6	Bedroom	14.60	9.94	267	9.94	100%	YES
	R7	Bedroom	11.91	8.13	349	8.13	100%	YES
	R8	LKD	26.60	20.17	367	20.17	100%	YES
	R9	Bedroom	14.33	9.71	368	9.71	100%	YES
	R10	Bedroom	13.11	8.94	341	8.94	100%	YES
	R11	LKD	32.52	25.72	487	25.72	100%	YES
	R12	Bedroom	12.14	8.11	290	8.11	100%	YES
	R13	LD	22.45	16.99	162	5.87	35%	NO
	R14	Bedroom	10.63	6.80	214	6.80	100%	YES
	R15	Bedroom	14.65	9.98	78	3.81	38%	NO
	R17	Bedroom	14.05	9.70	231	9.62	99%	YES
	R18	LKD	24.74	18.69	148	9.23	49%	NO
	R19	LKD	23.78	17.87	221	17.43	98%	YES
	R20	Bedroom	12.38	8.05	366	8.05	100%	YES
	R21	Bedroom	12.37	8.06	363	8.06	100%	YES
	R22	LKD	28.47	20.82	739	20.82	100%	YES
	R23	Bedroom	10.65	6.73	519	6.73	100%	YES
	R24	Bedroom	10.58	6.60	529	6.60	100%	YES
	R25	LD	22.44	16.97	380	16.97	100%	YES
	R26	Bedroom	10.63	6.79	564	6.79	100%	YES
	R27	Bedroom	14.58	9.93	391	9.93	100%	YES
	R28	LD	22.44	16.97	360	16.97	100%	YES
	R29	Bedroom	10.63	6.79	486	6.79	100%	YES
	R30	Bedroom	14.58	9.93	337	9.93	100%	YES
	R31	LKD	24.35	18.28	291	17.60	96%	YES
	R32	Bedroom	10.76	6.98	514	6.98	100%	YES
	R33	Bedroom	14.25	9.26	631	9.26	100%	YES
	R34	Living Room	39.02	31.67	122	12.16	38%	NO
	R35	Living Room	118.95	105.58	125	41.31	39%	NO
	First	R1	LD	22.45	16.99	257	14.23	84%
R2		Bedroom	10.63	6.80	396	6.80	100%	YES
R3		Bedroom	14.60	9.94	321	9.94	100%	YES
R4		LD	22.44	16.98	321	16.98	100%	YES
R5		Bedroom	10.64	6.81	428	6.81	100%	YES
R6		Bedroom	14.60	9.94	330	9.94	100%	YES
R7		Bedroom	11.91	8.13	425	8.13	100%	YES
R8		LKD	26.60	20.17	455	20.17	100%	YES
R9		Bedroom	14.33	9.71	417	9.71	100%	YES
R10		Bedroom	13.11	8.94	390	8.94	100%	YES
R11		LKD	32.52	25.72	768	25.72	100%	YES
R12		Bedroom	12.14	8.11	397	8.11	100%	YES
R13		LD	22.45	16.99	222	9.91	58%	YES
R14		Bedroom	10.63	6.80	318	6.80	100%	YES
R15		Bedroom	14.65	9.98	203	8.35	84%	YES
R16		Bedroom	16.95	12.31	138	10.50	85%	YES
R17		Bedroom	12.13	8.15	237	8.15	100%	YES
R18		LKD	26.72	20.49	274	20.49	100%	YES
R19		LKD	30.09	23.20	260	21.43	92%	YES
R20		Bedroom	13.66	9.18	236	9.18	100%	YES
R21		Bedroom	14.56	10.12	225	10.12	100%	YES

Illuminance (SDA) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Meets BRE criteria?
First	R22	Bedroom	11.97	7.94	281	7.94	100%	YES
	R23	LD	18.17	13.19	231	8.62	65%	YES
	R24	LKD	25.82	19.76	449	19.76	100%	YES
	R25	Bedroom	12.38	8.05	420	8.05	100%	YES
	R26	Bedroom	12.37	8.06	405	8.06	100%	YES
	R27	LKD	28.47	20.82	980	20.82	100%	YES
	R28	Bedroom	10.65	6.73	599	6.73	100%	YES
	R29	Bedroom	10.58	6.60	637	6.60	100%	YES
	R30	LD	22.44	16.97	745	16.97	100%	YES
	R31	Bedroom	10.63	6.79	656	6.79	100%	YES
	R32	Bedroom	14.58	9.93	429	9.93	100%	YES
	R33	LD	22.44	16.97	435	16.97	100%	YES
	R34	Bedroom	10.63	6.79	572	6.79	100%	YES
	R35	Bedroom	14.58	9.93	393	9.93	100%	YES
	R36	LKD	24.35	18.28	349	18.11	99%	YES
	R37	Bedroom	10.76	6.98	592	6.98	100%	YES
	R38	Bedroom	14.25	9.26	1019	9.26	100%	YES
	R39	Bedroom	14.66	9.99	411	9.99	100%	YES
	R40	Bedroom	10.62	6.64	506	6.64	100%	YES
	R41	LD	22.53	17.05	374	17.05	100%	YES
	R42	LD	22.54	17.06	368	17.06	100%	YES
	R43	Bedroom	10.63	6.67	483	6.67	100%	YES
	R44	Bedroom	14.65	9.98	324	9.98	100%	YES
	R45	Bedroom	15.31	10.56	351	10.56	100%	YES
	R46	Bedroom	12.17	8.07	419	8.07	100%	YES
	R47	LKD	30.01	22.86	195	14.19	62%	YES
	R48	LKD	36.42	29.27	556	29.27	100%	YES
	R49	Bedroom	13.61	9.39	331	9.39	100%	YES
	R50	Bedroom	16.00	10.88	302	10.88	100%	YES
	Second	R1	LD	22.45	16.99	474	16.99	100%
R2		Bedroom	10.63	6.80	487	6.80	100%	YES
R3		Bedroom	14.60	9.94	359	9.94	100%	YES
R4		LD	22.44	16.98	590	16.98	100%	YES
R5		Bedroom	10.64	6.81	477	6.81	100%	YES
R6		Bedroom	14.60	9.94	357	9.94	100%	YES
R7		LKD	40.18	32.63	711	32.63	100%	YES
R8		Bedroom	14.67	10.26	321	10.26	100%	YES
R9		Bedroom	21.54	15.06	511	14.84	99%	YES
R10		Bedroom	13.37	9.17	383	9.17	100%	YES
R11		LD	22.45	16.99	538	16.99	100%	YES
R12		Bedroom	10.63	6.80	432	6.80	100%	YES
R13		Bedroom	14.65	9.98	268	9.98	100%	YES
R14		Bedroom	16.95	12.31	187	11.49	93%	YES
R15		Bedroom	12.13	8.15	302	8.15	100%	YES
R16		LKD	19.51	14.50	194	14.50	100%	YES
R17		LKD	22.81	17.13	176	13.65	80%	YES
R18		Bedroom	13.66	9.18	267	9.18	100%	YES
R19		Bedroom	14.56	10.12	270	10.12	100%	YES
R20		Bedroom	11.97	7.94	366	7.94	100%	YES
R21		LD	18.17	13.19	446	13.19	100%	YES
R22		LKD	24.65	18.28	744	18.28	100%	YES
R23		Bedroom	10.52	6.83	353	6.83	100%	YES
R24		Bedroom	13.12	8.95	335	8.95	100%	YES
R25		LKD	38.68	31.09	1004	31.09	100%	YES
R26		Bedroom	14.03	9.87	496	9.87	100%	YES
R27		Bedroom	11.76	7.96	468	7.96	100%	YES
R28		Bedroom	23.37	16.99	277	16.59	98%	YES
R29		LD	22.44	16.97	737	16.97	100%	YES

Illuminance (SDA) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Meets BRE criteria?
Second	R30	Bedroom	10.63	6.79	618	6.79	100%	YES
	R31	Bedroom	14.58	9.93	429	9.93	100%	YES
	R32	LKD	24.35	18.28	573	18.28	100%	YES
	R33	Bedroom	10.76	6.98	598	6.98	100%	YES
	R34	Bedroom	14.32	9.33	1054	9.33	100%	YES
	R35	Bedroom	14.66	9.99	436	9.99	100%	YES
	R36	Bedroom	10.62	6.64	567	6.64	100%	YES
	R37	LD	22.53	17.05	720	17.05	100%	YES
	R38	LD	22.54	17.06	709	17.06	100%	YES
	R39	Bedroom	10.63	6.67	562	6.67	100%	YES
	R40	Bedroom	14.65	9.98	369	9.98	100%	YES
	R41	Bedroom	15.31	10.56	402	10.56	100%	YES
	R42	Bedroom	12.17	8.07	491	8.07	100%	YES
	R43	LKD	30.01	22.86	412	22.76	100%	YES
	R44	LKD	36.42	29.27	931	29.27	100%	YES
	R45	Bedroom	13.61	9.39	366	9.39	100%	YES
	R46	Bedroom	16.00	10.88	326	10.88	100%	YES
Third	R1	LKD	40.53	32.21	717	32.21	100%	YES
	R2	LKD	36.42	29.03	643	29.03	100%	YES
	R3	Bedroom	9.41	6.04	611	6.04	100%	YES
	R4	Bedroom	11.00	7.07	488	7.07	100%	YES
	R5	Bedroom	11.79	7.95	475	7.95	100%	YES
	R6	Bedroom	14.84	10.22	262	10.22	100%	YES
	R7	Bedroom	12.51	8.16	399	8.16	100%	YES
	R8	LKD	27.06	21.11	440	21.11	100%	YES
	R9	Bedroom	14.27	9.80	328	9.80	100%	YES
	R10	Bedroom	10.76	6.90	395	6.90	100%	YES
	R11	Bedroom	8.52	5.20	258	5.20	100%	YES
	R12	LKD	22.52	16.44	474	16.44	100%	YES
	R13	Bedroom	17.07	11.13	622	11.13	100%	YES
	R14	Bedroom	9.23	5.78	532	5.78	100%	YES
	R15	Bedroom	12.94	8.57	427	8.57	100%	YES
	R16	LKD	32.06	24.51	932	24.51	100%	YES
	R17	Bedroom	14.12	9.43	493	9.43	100%	YES
	R18	Bedroom	10.68	7.04	727	7.04	100%	YES
	R19	Bedroom	8.68	5.42	757	5.42	100%	YES
	R20	LKD	29.97	23.10	821	23.10	100%	YES
	R21	Bedroom	16.94	11.64	484	11.64	100%	YES
	R22	Bedroom	10.72	6.83	664	6.83	100%	YES
	R23	Bedroom	12.39	8.21	1204	8.21	100%	YES
	R24	LKD	32.15	25.34	512	25.34	100%	YES
	R25	Bedroom	14.56	9.88	483	9.88	100%	YES
	R26	Bedroom	8.22	4.68	803	4.68	100%	YES
	R27	Bedroom	12.20	8.26	520	8.26	100%	YES
Proposed Building B								
Ground	R1	LKD	25.84	19.57	450	19.57	100%	YES
	R2	LKD	25.80	19.53	461	19.53	100%	YES
	R3	LKD	25.77	19.51	470	19.51	100%	YES
	R4	LKD	28.41	22.05	493	22.05	100%	YES
First	R1	Bedroom	12.34	8.48	533	8.48	100%	YES
	R2	Bedroom	9.35	5.70	611	5.70	100%	YES
	R3	Bedroom	9.34	5.70	609	5.70	100%	YES
	R4	Bedroom	12.31	8.46	527	8.46	100%	YES
	R5	Bedroom	12.30	8.45	521	8.45	100%	YES
	R6	Bedroom	9.32	5.68	599	5.68	100%	YES
	R7	Bedroom	13.05	9.01	468	9.01	100%	YES

Illuminance (SDA) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Meets BRE criteria?
First	R8	Bedroom	12.72	8.67	624	8.67	100%	YES
	R9	Bedroom	10.70	6.86	369	6.86	100%	YES
	R10	Bedroom	10.70	6.86	381	6.86	100%	YES
	R11	Bedroom	10.69	6.85	425	6.85	100%	YES
Second	R1	Living Room	19.37	14.08	660	14.08	100%	YES
	R2	Living Room	18.85	13.62	670	13.62	100%	YES
	R3	Living Room	18.85	13.61	669	13.61	100%	YES
Proposed Building C								
Ground	R1	Bedroom	12.64	8.46	180	8.10	96%	YES
	R2	LKD	24.33	18.28	651	18.28	100%	YES
	R3	Bedroom	8.16	4.95	313	4.95	100%	YES
	R4	LKD	23.52	17.48	425	17.48	100%	YES
	R5	Bedroom	11.53	7.74	237	7.74	100%	YES
	R6	LKD	17.23	11.97	200	7.75	65%	YES
	R7	Bedroom	11.65	7.91	161	7.30	92%	YES
	R8	LKD	16.94	11.93	271	11.20	94%	YES
	R9	Bedroom	11.27	7.60	177	7.34	97%	YES
	R10	LKD	21.91	16.44	223	12.87	78%	YES
	R11	Bedroom	14.30	10.12	116	6.02	60%	YES
	R12	Bedroom	7.98	4.93	199	4.93	100%	YES
	R13	Bedroom	11.49	7.77	105	4.56	59%	YES
	R14	LKD	23.30	17.67	439	17.67	100%	YES
	R15	Bedroom	9.09	5.75	219	5.75	100%	YES
	R16	LKD	18.87	13.25	213	9.51	72%	YES
	R17	Bedroom	11.54	7.80	316	7.80	100%	YES
First	R1	Bedroom	12.64	8.46	204	8.46	100%	YES
	R2	LKD	24.33	18.28	733	18.28	100%	YES
	R3	Bedroom	8.16	4.95	303	4.95	100%	YES
	R4	LKD	23.52	17.48	469	17.48	100%	YES
	R5	Bedroom	11.53	7.74	278	7.74	100%	YES
	R6	LKD	17.23	11.97	264	9.94	83%	YES
	R7	Bedroom	11.65	7.91	216	7.91	100%	YES
	R8	LKD	16.94	11.93	346	11.93	100%	YES
	R9	Bedroom	11.27	7.60	237	7.60	100%	YES
	R10	LKD	21.91	16.44	404	16.44	100%	YES
	R11	Bedroom	14.30	10.12	430	10.12	100%	YES
	R12	Bedroom	7.98	4.93	243	4.93	100%	YES
	R13	Bedroom	11.49	7.77	143	7.77	100%	YES
	R14	LKD	23.30	17.67	570	17.67	100%	YES
	R15	Bedroom	9.09	5.75	296	5.75	100%	YES
	R16	LKD	19.04	13.76	282	13.76	100%	YES
	R17	Bedroom	13.40	9.23	408	9.23	100%	YES
	R18	LKD	22.45	17.00	387	17.00	100%	YES
	R19	Bedroom	14.20	9.65	454	9.65	100%	YES
Second	R1	LKD	24.54	18.42	542	18.42	100%	YES
	R2	Bedroom	11.74	7.99	241	7.99	100%	YES
	R3	LKD	16.67	11.34	204	8.56	76%	YES
	R4	Bedroom	11.04	7.39	286	7.39	100%	YES
	R5	LKD	27.66	21.28	236	21.28	100%	YES
	R6	Bedroom	15.65	10.87	687	10.87	100%	YES
	R7	LKD	28.42	22.07	458	22.07	100%	YES
	R8	Bedroom	13.53	9.47	504	9.47	100%	YES
	R9	Bedroom	14.06	9.43	329	9.43	100%	YES
	R10	LKD	30.49	23.82	241	23.43	98%	YES
	R11	Bedroom	13.90	9.75	604	9.75	100%	YES
	R12	Bedroom	13.55	9.50	478	9.50	100%	YES

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
Proposed Building A						
Ground	R1	LD	W1	80°N	0	
			W2	80°N	0	
			W3	80°N	0.7	
			W4	80°N	1.2	
					1.2	
Ground	R2	Bedroom	W5	80°N	1.3	
			W6	80°N	1.1	
			W7	80°N	0.8	
					1.8	
Ground	R3	Bedroom	W8	80°N	2.4	
			W9	80°N	1.1	
			W10	80°N	1.8	
					2.6	
Ground	R4	LD	W11	80°N	0.9	
			W12	80°N	1.7	
			W13	80°N	1.4	
			W14	80°N	1.2	
					2.1	
Ground	R5	Bedroom	W15	80°N	1.7	
			W16	80°N	1.1	
			W17	80°N	1.8	
					1.9	
Ground	R6	Bedroom	W18	80°N	2.4	
			W19	80°N	1.1	
			W20	80°N	1.9	
					2.8	
Ground	R7	Bedroom	W21	80°N	2.4	
			W22	80°N	1.1	
			W23	80°N	1.9	
					2.8	
Ground	R8	LKD	W24	80°N	1.1	
			W25	80°N	2.4	
			W26	80°N	1.9	
			W27	350°N	0	
			W28	350°N	0	
			W29	350°N	0	
			W30	350°N	0	
					2.8	

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
Ground	R9	Bedroom	W31	80°N	0	Failed
			W32	80°N	0	
			W33	339°N	0	
			W34	339°N	0	
			W35	339°N	0	
			0			
Ground	R10	Bedroom	W36	339°N	0	Failed
			W37	339°N	0	
			W38	339°N	0	
			0			
Ground	R11	LKD	W39	339°N	0	Minimum
			W40	339°N	0	
			W41	339°N	0	
			W42	339°N	0	
			W43	339°N	0	
			W44	339°N	0	
			W45	260°	2.3	
			W46	260°	1.5	
			W47	260°	0.9	
			W48	260°	0.6	
2.6						
Ground	R12	Bedroom	W49	260°	1.4	Minimum
			W50	260°	1.4	
			W51	260°	0.8	
			1.8			
Ground	R13	LD	W52	260°	0.2	Failed
			W53	260°	0.1	
			W54	260°	0.1	
			W55	260°	0	
			0.3			
Ground	R14	Bedroom	W56	260°	0	Failed
			W57	260°	0	
			W58	260°	0	
			0			
Ground	R15	Bedroom	W59	260°	0	Failed
			W60	260°	0	
			0			
Ground	R17	Bedroom	W71	350°N	0	Failed
			W72	350°N	0	
			W73	350°N	0	
			0			

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
Ground	R18	LKD	W74	41°N	0	Failed
			W75	41°N	0	
			W76	41°N	0	
			W77	41°N	0	
					0	
Ground	R19	LKD	W78	41°N	0	Failed
			W79	41°N	0	
			W80	41°N	0	
			W81	41°N	0	
					0	
Ground	R20	Bedroom	W82	339°N	0	Failed
			W83	339°N	0	
			W84	339°N	0	
					0	
Ground	R21	Bedroom	W85	339°N	0	Failed
			W86	339°N	0	
			W87	339°N	0	
					0	
Ground	R22	LKD	W88	339°N	0	High
			W89	339°N	0	
			W90	339°N	0	
			W91	311°N	0.2	
			W92	311°N	0.5	
			W93	311°N	0	
			W94	221°	2.7	
			W95	221°	3	
			W96	221°	3.6	
			W97	221°	3.6	
					4.3	
Ground	R23	Bedroom	W98	221°	3.6	High
			W99	221°	4.9	
			W100	221°	4.7	
					6	
Ground	R24	Bedroom	W101	221°	2.7	High
			W102	221°	4.9	
			W103	221°	4.4	
					4.9	
Ground	R25	LD	W104	221°	2.7	High
			W105	221°	3	
			W106	221°	3.6	
			W107	221°	3.6	
					4.3	

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
Ground	R26	Bedroom	W108	221°	3.5	High
			W109	221°	4.9	
			W110	221°	4.7	
Ground	R27	Bedroom	W111	221°	2.8	High
			W112	221°	5.1	
			W113	221°	4.4	
Ground	R28	LD	W114	221°	2.7	High
			W115	221°	3	
			W116	221°	3.6	
			W117	221°	3.6	
Ground	R29	Bedroom	W118	221°	5	High
			W119	221°	3.7	
			W120	221°	4.7	
Ground	R30	Bedroom	W121	221°	4.7	High
			W122	221°	2.3	
			W123	221°	3.8	
Ground	R31	LKD	W124	221°	2.8	High
			W125	221°	3	
			W126	221°	3.6	
			W127	221°	3.6	
Ground	R32	Bedroom	W128	221°	5.3	High
			W129	221°	3.7	
			W130	221°	4.7	
Ground	R33	Bedroom	W131	221°	5.3	High
			W132	221°	3.7	
			W133	221°	4.7	
			W134	131°	2.3	
			W135	131°	3.9	
			W136	131°	3.7	
Ground	R34	Living Room	W137	170°	0	Failed
			W138	170°	0	
			W139	170°	0.2	
			W140	170°	0	

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
Ground	R35	Living Room	W141	170°	0.2	
			W142	170°	0.2	
			W143	170°	0.2	
			W144	170°	0	
			W145	170°	0	
			W146	170°	0.1	
			W147	170°	0.4	
			W148	170°	0.6	
			W149	170°	0.3	
			W150	170°	0	
			W151	170°	0	
			W152	170°	0	
First	R1	LD	W1	80°N	0	
			W2	80°N	0	
			W3	80°N	0.7	
			W4	80°N	1.2	
					1.2	Failed
First	R2	Bedroom	W5	80°N	1.3	
			W6	80°N	1.1	
			W7	80°N	0.6	
					1.7	Minimum
First	R3	Bedroom	W8	80°N	2.4	
			W9	80°N	1.1	
			W10	80°N	1.9	
					2.8	Minimum
First	R4	LD	W11	80°N	0.9	
			W12	80°N	1.7	
			W13	80°N	1.3	
			W14	80°N	1.2	
					2.1	Minimum
First	R5	Bedroom	W15	80°N	1.7	
			W16	80°N	1.1	
			W17	80°N	1.8	
					1.9	Minimum
First	R6	Bedroom	W18	80°N	2.4	
			W19	80°N	1.1	
			W20	80°N	1.9	
					2.8	Minimum
First	R7	Bedroom	W21	80°N	2.4	
			W22	80°N	1.1	
			W23	80°N	1.9	
					2.8	Minimum

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
First	R8	LKD	W24	80°N	2.4	
			W25	80°N	1.1	
			W26	80°N	1.9	
			W27	350°N	0	
			W28	350°N	0	
			W29	350°N	0	
			W30	350°N	0	
					2.8	Minimum
First	R9	Bedroom	W31	80°N	0	
			W32	80°N	0	
			W33	339°N	0	
			W34	339°N	0	
			W35	339°N	0	
					0	Failed
First	R10	Bedroom	W36	339°N	0	
			W37	339°N	0	
			W38	339°N	0	
					0	Failed
First	R11	LKD	W39	339°N	0	
			W40	339°N	0	
			W41	339°N	0	
			W42	339°N	0	
			W43	339°N	0	
			W44	339°N	0	
			W45	260°	3.3	
			W46	260°	3.5	
			W47	260°	3.3	
			W48	260°	2.3	
					3.8	Medium
First	R12	Bedroom	W49	260°	2	
			W50	260°	2.2	
			W51	260°	1.2	
					2.6	Minimum
First	R13	LD	W52	260°	1.2	
			W53	260°	1.2	
			W54	260°	1.2	
			W55	260°	1.1	
					1.9	Minimum
First	R14	Bedroom	W56	260°	2.1	
			W57	260°	1.5	
			W58	260°	1	
					2.3	Minimum

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
First	R15	Bedroom	W59	260°	0	Failed
			W60	260°	0	
			W61	260°	0	
					0	
First	R16	Bedroom	W62	260°	0	Failed
			W63	260°	0	
			W64	260°	0	
					0	
First	R17	Bedroom	W65	350°N	0	Failed
			W67	350°N	0	
			W68	350°N	0	
					0	
First	R18	LKD	W66	350°N	0	Failed
			W69	350°N	0	
			W70	350°N	0	
			W71	350°N	0	
First	R19	LKD	W72	350°N	0	Failed
			W73	350°N	0	
			W74	350°N	0	
			W75	350°N	0	
First	R20	Bedroom	W76	350°N	0	Failed
			W77	350°N	0	
			W78	350°N	0	
					0	
First	R21	Bedroom	W79	41°N	0	Failed
			W80	41°N	0	
			W81	41°N	0	
					0	
First	R22	Bedroom	W82	41°N	0	Failed
			W84	41°N	0	
			W86	41°N	0	
					0	
First	R23	LD	W83	41°N	0	Failed
			W85	41°N	0	
			W87	41°N	0	
			W88	41°N	0	
First	R24	LKD	W89	41°N	0	Failed
			W90	41°N	0	
			W91	41°N	0.3	
			W92	41°N	0.7	
		0.8				

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
First	R25	Bedroom	W93	339°N	0	Failed
			W94	339°N	0	
			W95	339°N	0	
First	R26	Bedroom	W96	339°N	0	Failed
			W97	339°N	0	
			W98	339°N	0	
First	R27	LKD	W99	339°N	0	High
			W100	339°N	0	
			W101	339°N	0	
			W102	311°N	0.2	
			W103	311°N	0.5	
			W104	311°N	0	
			W105	221°	5.7	
			W106	221°	5.9	
			W107	221°	5.4	
			W108	221°	4.5	
First	R28	Bedroom	W109	221°	3.7	High
			W110	221°	5.3	
			W111	221°	4.7	
First	R29	Bedroom	W112	221°	3.7	High
			W113	221°	5.3	
			W114	221°	4.7	
First	R30	LD	W115	221°	5.7	High
			W116	221°	5.9	
			W117	221°	5.4	
			W118	221°	4.5	
First	R31	Bedroom	W119	221°	3.7	High
			W120	221°	5.3	
			W121	221°	4.7	
First	R32	Bedroom	W122	221°	2.9	High
			W123	221°	5.2	
			W124	221°	4.5	

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
First	R33	LD	W125	221°	2.4	
			W126	221°	2.8	
			W127	221°	3.4	
			W128	221°	3.4	
					4	Medium
First	R34	Bedroom	W129	221°	3.7	
			W130	221°	5.2	
			W131	221°	4.7	
					6	High
First	R35	Bedroom	W132	221°	2.3	
			W133	221°	4.7	
			W134	221°	3.9	
					4.7	High
First	R36	LKD	W135	221°	2.4	
			W136	221°	2.8	
			W137	221°	3.3	
			W138	221°	3.4	
					4	Medium
First	R37	Bedroom	W139	221°	5.3	
			W140	221°	3.7	
			W141	221°	4.7	
					6	High
First	R38	Bedroom	W142	221°	5.3	
			W143	221°	3.7	
			W144	221°	4.7	
			W145	131°	3.1	
			W146	131°	4.2	
			W147	131°	4.8	
					9.5	High
First	R39	Bedroom	W148	170°	5.1	
			W150	170°	5.1	
			W151	170°	4.6	
					7.3	High
First	R40	Bedroom	W149	170°	4.5	
			W152	170°	5.1	
			W153	170°	5	
					7.2	High
First	R41	LD	W154	170°	1.6	
			W155	170°	1.5	
			W156	170°	1.3	
			W157	170°	0.7	
					3.2	Medium

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
First	R42	LD	W158	170°	1	
			W159	170°	0.3	
			W160	170°	1.1	
			W161	170°	1	
					2.5	
First	R43	Bedroom	W162	170°	4.1	
			W163	170°	4.6	
			W164	170°	4.6	
					5.8	
First	R44	Bedroom	W165	170°	2.9	
			W166	170°	3.8	
			W167	170°	3.8	
					5.4	
First	R45	Bedroom	W168	170°	5.1	
			W170	170°	5.1	
			W171	170°	5.1	
					7.7	
First	R46	Bedroom	W169	170°	4.5	
			W172	170°	5.1	
			W173	170°	4.8	
					7.3	
First	R47	LKD	W174	170°	1.5	
			W175	170°	1.2	
			W176	170°	1.4	
			W177	170°	0.7	
					3.1	
First	R48	LKD	W178	170°	0.9	
			W179	170°	0.3	
			W180	170°	0.9	
			W181	170°	0.9	
			W182	170°	4.1	
			W183	170°	5	
			W184	170°	4.6	
			W185	80°N	2.4	
			W186	80°N	1.1	
			W187	80°N	1.9	
					6.6	
First	R49	Bedroom	W188	80°N	2.4	
			W189	80°N	1.1	
			W190	80°N	1.9	
					2.8	
First	R50	Bedroom	W191	80°N	2.4	
			W192	80°N	1.1	
			W193	80°N	1.9	
					2.8	

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
Second	R1	LD	W1	80°N	0	
			W2	80°N	0	
			W3	80°N	0.7	
			W4	80°N	1.2	
					1.2	
Second	R2	Bedroom	W5	80°N	2.4	
			W6	80°N	1.1	
			W7	80°N	1.9	
					2.8	
Second	R3	Bedroom	W8	80°N	2.4	
			W9	80°N	1.1	
			W10	80°N	1.9	
					2.8	
Second	R4	LD	W11	80°N	0.9	
			W12	80°N	2.1	
			W13	80°N	2.5	
			W14	80°N	2.2	
					2.8	
Second	R5	Bedroom	W15	80°N	2.4	
			W16	80°N	1.1	
			W17	80°N	1.9	
					2.8	
Second	R6	Bedroom	W18	80°N	2.4	
			W19	80°N	1.1	
			W20	80°N	1.9	
					2.8	
Second	R7	LKD	W21	80°N	2.4	
			W22	80°N	1.1	
			W23	80°N	1.9	
			W24	80°N	2.4	
			W25	80°N	1.1	
			W26	80°N	1.9	
			W27	350°N	0	
			W28	350°N	0	
			W29	350°N	0	
			W30	350°N	0	
			W31	350°N	0	
			W32	350°N	0	
			W33	350°N	0	
					2.8	
Second	R8	Bedroom	W34	350°N	0	
			W35	350°N	0	
			W36	350°N	0	
					0	

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
Second	R9	Bedroom	W37	350°N	0	Failed
			W38	350°N	0	
			W39	350°N	0	
			W40	350°N	0	
					0	
Second	R10	Bedroom	W41	260°	2.7	Medium
			W42	260°	3.2	
			W43	260°	2.5	
					3.9	
Second	R11	LD	W44	260°	3	Medium
			W45	260°	3	
			W46	260°	2.8	
			W47	260°	1.9	
					3.6	
Second	R12	Bedroom	W48	260°	2.7	Medium
			W49	260°	3	
			W50	260°	2.4	
					3.8	
Second	R13	Bedroom	W51	260°	2.7	Medium
			W52	260°	2.9	
			W53	260°	2.2	
					3.7	
Second	R14	Bedroom	W54	260°	0	Failed
			W55	260°	0	
			W56	260°	0	
					0	
Second	R15	Bedroom	W57	350°N	0	Failed
			W58	350°N	0	
			W59	350°N	0	
					0	
Second	R16	LKD	W60	350°N	0	Failed
			W61	350°N	0	
			W62	350°N	0	
			W63	350°N	0	
					0	
Second	R17	LKD	W64	350°N	0	Failed
			W65	350°N	0	
			W66	350°N	0	
			W67	350°N	0	
					0	
Second	R18	Bedroom	W68	350°N	0	Failed
			W69	350°N	0	
			W70	350°N	0	
					0	

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
Second	R19	Bedroom	W71	41°N	0	Failed
			W72	41°N	0	
			W73	41°N	0	
Second	R20	Bedroom	W74	41°N	0	Failed
			W77	41°N	0	
			W78	41°N	0	
Second	R21	LD	W75	41°N	0	Failed
			W76	41°N	0	
			W79	41°N	0.2	
			W80	41°N	0.2	
Second	R22	LKD	W81	41°N	0	Failed
			W82	41°N	0	
			W83	41°N	0.2	
			W84	339°N	0	
			W85	339°N	0	
			W86	339°N	0	
			W87	339°N	0	
Second	R23	Bedroom	W88	339°N	0	Failed
			W89	339°N	0	
			W90	339°N	0	
Second	R24	Bedroom	W91	339°N	0	Failed
			W92	339°N	0	
			W93	339°N	0	
Second	R25	LKD	W94	339°N	0	High
			W95	339°N	0	
			W96	339°N	0	
			W97	311°N	1.4	
			W98	311°N	0	
			W99	221°	3.7	
			W100	311°N	0.4	
			W101	311°N	1	
			W102	221°	5.3	
			W103	221°	4.7	
			W104	221°	3.7	
			W105	221°	5.3	
			W106	221°	4.7	

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
Second	R26	Bedroom	W107	221°	3.7	6 High
			W108	221°	5.3	
			W109	221°	4.7	
Second	R27	Bedroom	W110	221°	3.7	6 High
			W111	221°	5.3	
			W112	221°	4.7	
Second	R28	Bedroom	W113	221°	3.7	6 High
			W114	221°	5.3	
			W115	221°	4.7	
Second	R29	LD	W116	221°	5.4	5.8 High
			W117	221°	5.5	
			W118	221°	5.4	
			W119	221°	4.6	
Second	R30	Bedroom	W120	221°	3.7	6 High
			W121	221°	5.3	
			W122	221°	4.7	
Second	R31	Bedroom	W123	221°	3.7	6 High
			W124	221°	5.3	
			W125	221°	4.7	
Second	R32	LKD	W126	221°	5.4	5.8 High
			W127	221°	5.5	
			W128	221°	5.4	
			W129	221°	4.5	
Second	R33	Bedroom	W130	221°	3.7	6 High
			W131	221°	5.3	
			W132	221°	4.7	
Second	R34	Bedroom	W133	221°	5.3	9.5 High
			W134	221°	3.7	
			W135	221°	4.7	
			W136	131°	3	
			W137	131°	4.2	
			W138	131°	4.9	
Second	R35	Bedroom	W139	170°	5.1	7.4 High
			W141	170°	5.1	
			W142	170°	4.8	

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
Second	R36	Bedroom	W140	170°	5.1	7.7
			W143	170°	5.1	
			W144	170°	5.1	
Second	R37	LD	W145	170°	4.9	7.7
			W146	170°	6.1	
			W147	170°	6.8	
			W148	170°	5.5	
Second	R38	LD	W149	170°	4.9	7.7
			W150	170°	6.1	
			W151	170°	6.8	
			W152	170°	5.5	
Second	R39	Bedroom	W153	170°	4.9	7.1
			W154	170°	4.7	
			W155	170°	5.1	
Second	R40	Bedroom	W156	170°	2.9	5.4
			W157	170°	3.8	
			W158	170°	3.8	
Second	R41	Bedroom	W159	170°	5.1	7.7
			W161	170°	5.2	
			W162	170°	5.1	
Second	R42	Bedroom	W160	170°	5.1	7.7
			W163	170°	5.2	
			W164	170°	5.1	
Second	R43	LKD	W165	170°	4.9	7.7
			W166	170°	6.1	
			W167	170°	6.8	
			W168	170°	5.5	

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
Second	R44	LKD	W169	170°	4.9	
			W170	170°	6.1	
			W171	170°	6.8	
			W172	170°	5.5	
			W173	170°	5.1	
			W174	170°	5.1	
			W175	170°	5.1	
			W176	80°N	2.4	
			W177	80°N	1.1	
			W178	80°N	1.9	
					8.9	High
Second	R45	Bedroom	W179	80°N	2.4	
			W180	80°N	1.1	
			W181	80°N	1.9	
					2.8	Minimum
Second	R46	Bedroom	W182	80°N	2.4	
			W183	80°N	1.1	
			W184	80°N	1.9	
					2.8	Minimum
Third	R1	LKD	W1	80°N	2.6	
			W2	80°N	2.9	
			W3	80°N	2.6	
			W79	170°	5.4	
			W80	170°	5.6	
			W81	80°N	1.5	
					7.3	High
Third	R2	LKD	W4	350°N	0	
			W5	350°N	0	
			W6	350°N	0	
			W7	350°N	0	
			W8	260°	3.3	
			W9	260°	2.8	
					3.3	Medium
Third	R3	Bedroom	W10	260°	3.3	
			W11	260°	2.8	
					3.3	Medium
Third	R4	Bedroom	W12	260°	3.3	
			W13	260°	2.8	
					3.3	Medium
Third	R5	Bedroom	W14	260°	3.3	
			W15	260°	2.4	
					3.3	Medium
Third	R6	Bedroom	W16	350°N	0	
			W17	350°N	0	
					0	Failed

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
Third	R7	Bedroom	W18	350°N	0	Failed
			W19	350°N	0	
					0	
Third	R8	LKD	W20	350°N	0	Failed
			W21	350°N	0	
			W22	350°N	0	
			W23	350°N	0	
					0	
Third	R9	Bedroom	W24	350°N	0	Failed
			W25	350°N	0	
					0	
Third	R10	Bedroom	W26	41°N	0	Failed
			W27	41°N	0	
					0	
Third	R11	Bedroom	W28	41°N	0	Failed
					0	
Third	R12	LKD	W29	40°N	0	Failed
			W30	40°N	0.2	
			W31	40°N	0.9	
			W32	40°N	1	
					1.1	
Third	R13	Bedroom	W33	41°N	0	Failed
			W34	41°N	0	
			W35	339°N	0	
			W36	339°N	0	
					0	
Third	R14	Bedroom	W37	339°N	0	Failed
			W38	339°N	0	
					0	
Third	R15	Bedroom	W39	339°N	0	Failed
			W40	339°N	0	
					0	
Third	R16	LKD	W41	311°N	1.3	High
			W42	311°N	0	
			W43	311°N	0.3	
			W44	311°N	1.2	
			W45	221°	5.5	
			W46	221°	4.9	
			W47	221°	5.5	
			W48	221°	4.9	
					5.5	
Third	R17	Bedroom	W49	221°	5.5	High
			W50	221°	4.9	
					5.5	

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
Third	R18	Bedroom	W51	221°	5.5	
			W52	221°	4.9	
					5.5	High
Third	R19	Bedroom	W53	221°	5.5	
			W54	221°	4.9	
					5.5	High
Third	R20	LKD	W55	221°	5.5	
			W56	221°	4.9	
			W57	221°	5.7	
			W58	221°	5.9	
			W59	221°	5.4	
			W60	221°	4.5	
		6.2	High			
Third	R21	Bedroom	W61	221°	5.5	
			W62	221°	4.9	
					5.5	High
Third	R22	Bedroom	W63	170°	4.7	
			W64	170°	4.5	
					5.8	High
Third	R23	Bedroom	W65	170°	4.7	
			W66	170°	5.9	
			W67	170°	6	
			W68	170°	4.9	
		7.7	High			
Third	R24	LKD	W69	170°	4.7	
			W70	170°	5.9	
			W71	170°	6	
			W72	170°	4.9	
		7.7	High			
Third	R25	Bedroom	W73	170°	5.4	
			W74	170°	5.6	
					6.1	High
Third	R26	Bedroom	W75	170°	5.2	
			W76	170°	5.6	
					5.9	High
Third	R27	Bedroom	W77	170°	5.4	
			W78	170°	5.6	
					6.1	High

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
Proposed Building B						
Ground	R1	LKD	W1	232°	4.7	
			W2	232°	4.1	
			W3	232°	4.7	
			W4	232°	4.1	
					4.7	High
Ground	R2	LKD	W5	232°	4.7	
			W6	232°	4.1	
			W7	232°	4.7	
			W8	232°	4.1	
					4.7	High
Ground	R3	LKD	W9	232°	4.7	
			W10	232°	4.1	
			W11	232°	4.7	
			W12	232°	4.1	
					4.7	High
Ground	R4	LKD	W13	232°	4.7	
			W14	232°	4.1	
			W15	241°	3.8	
			W16	241°	3.2	
			W17	63°N	0	
			W18	63°N	0.5	
					5.3	High
First	R1	Bedroom	W1	232°	4.6	
			W2	232°	4	
					4.6	High
First	R2	Bedroom	W3	232°	4.7	
			W4	232°	4.1	
					4.7	High
First	R3	Bedroom	W5	232°	4.7	
			W6	232°	4.1	
					4.7	High
First	R4	Bedroom	W7	232°	4.6	
			W8	232°	4	
					4.6	High
First	R5	Bedroom	W9	232°	4.6	
			W10	232°	4	
					4.6	High
First	R6	Bedroom	W11	232°	4.7	
			W12	232°	4.1	
					4.7	High

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
First	R7	Bedroom	W13	232°	4.7	High
			W14	232°	4.1	
					4.7	
First	R8	Bedroom	W15	241°	3.7	High
			W16	241°	3.3	
			W17	63°N	0.1	
			W18	63°N	0.9	
				4.6		
First	R9	Bedroom	W19	52°N	0	Failed
			W20	52°N	0.5	
					0.5	
First	R10	Bedroom	W21	52°N	0	Failed
			W22	52°N	0.5	
					0.5	
First	R11	Bedroom	W23	52°N	0	Failed
			W24	52°N	0.5	
					0.5	
Second	R1	Living Room	W1	232°	5.5	High
			W2	232°	5.2	
			W11	53°N	0	
			W12	53°N	0.1	
				5.6		
Second	R2	Living Room	W3	232°	5.5	High
			W4	232°	5.2	
			W9	53°N	0	
			W10	53°N	0.1	
				5.6		
Second	R3	Living Room	W5	232°	5.5	High
			W6	232°	5.2	
			W7	53°N	0	
			W8	53°N	0.1	
				5.6		

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
Proposed Building C						
Ground	R1	Bedroom	W1	255°	2.4	
			W2	255°	2.5	
					2.5	Minimum
Ground	R2	LKD	W3	255°	3	
			W4	255°	3	
			W5	165°	4.4	
			W6	165°	0	
			W7	165°	4.7	
			W8	165°	5.5	
			W9	165°	5.4	
		8	High			
Ground	R3	Bedroom	W10	165°	4.8	
			W12	165°	4.8	
					4.8	High
Ground	R4	LKD	W11	165°	4.4	
			W13	165°	0	
			W14	165°	4.7	
			W15	165°	5.5	
			W16	165°	5.4	
		5.9	High			
Ground	R5	Bedroom	W17	345°N	0	
			W18	345°N	0	
			W19	345°N	0	
			W20	345°N	0	
		0	Failed			
Ground	R6	LKD	W21	80°N	0	
			W22	80°N	0	
					0	Failed
Ground	R7	Bedroom	W23	80°N	0	
			W24	80°N	0	
					0	Failed
Ground	R8	LKD	W25	80°N	1.4	
			W26	80°N	2.3	
					2.3	Minimum
Ground	R9	Bedroom	W27	80°N	1.5	
			W28	80°N	1.5	
					1.5	Minimum
Ground	R10	LKD	W29	80°N	1.1	
			W30	80°N	1.9	
			W31	80°N	2.2	
					2.2	Minimum

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
Ground	R11	Bedroom	W32	350°N	0	Failed
			W33	350°N	0	
					0	
Ground	R12	Bedroom	W34	350°N	0	Failed
			W35	350°N	0	
					0	
Ground	R13	Bedroom	W36	350°N	0	Failed
			W37	350°N	0	
					0	
Ground	R14	LKD	W38	350°N	0	Minimum
			W39	350°N	0	
			W40	260°	2.5	
			W41	260°	1.7	
			W42	260°	1.6	
			W43	260°	1.7	
					2.5	
Ground	R15	Bedroom	W44	260°	1.4	Minimum
			W45	260°	1.5	
					1.5	
Ground	R16	LKD	W46	260°	2	Minimum
			W47	260°	1.2	
					2	
Ground	R17	Bedroom	W48	246°	2.3	Minimum
			W49	246°	1.7	
					2.4	
First	R1	Bedroom	W1	255°	3	Medium
			W2	255°	3	
					3	
First	R2	LKD	W3	255°	3	High
			W4	255°	3	
			W5	165°	4.8	
			W6	165°	4.8	
			W7	165°	4.8	
			W8	165°	5.5	
			W9	165°	5.6	
			W10	165°	4.8	
			W11	165°	5.5	
			W12	165°	5.6	
					8.2	
First	R3	Bedroom	W13	165°	4.8	High
			W15	165°	4.8	
					4.8	

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
First	R4	LKD	W14	165°	4.8	
			W16	165°	4.8	
			W17	165°	4.8	
			W18	165°	5.5	
			W19	165°	5.6	
			W20	165°	4.8	
			W21	165°	5.5	
			W22	165°	5.6	
					6	High
First	R5	Bedroom	W23	345°N	0	
			W24	345°N	0	
			W25	345°N	0	
			W26	345°N	0	
					0	Failed
First	R6	LKD	W27	80°N	0.7	
			W28	80°N	2	
			W29	80°N	1	
			W30	80°N	2.1	
					2.2	Minimum
First	R7	Bedroom	W31	80°N	1.4	
			W32	80°N	1.4	
					1.4	Failed
First	R8	LKD	W33	80°N	1.4	
			W34	80°N	1.4	
			W35	80°N	2.2	
			W36	80°N	2.2	
					2.2	Minimum
First	R9	Bedroom	W37	80°N	1.4	
			W38	80°N	1.4	
					1.4	Failed
First	R10	LKD	W39	80°N	1.4	
			W40	80°N	1.4	
			W41	80°N	2.2	
			W42	80°N	2.2	
			W43	80°N	1.4	
			W44	80°N	1.4	
					2.2	Minimum
First	R11	Bedroom	W45	80°N	1.4	
			W46	80°N	1.4	
			W47	350°N	0	
			W49	350°N	0	
					1.4	Failed
First	R12	Bedroom	W48	350°N	0	
			W50	350°N	0	
					0	Failed

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
First	R13	Bedroom	W51	350°N	0	Failed
			W52	350°N	0	
					0	
First	R14	LKD	W53	350°N	0	Medium
			W54	350°N	0	
			W55	260°	3.4	
			W56	260°	2.7	
			W57	260°	2.6	
			W58	260°	2.6	
					3.4	
First	R15	Bedroom	W59	260°	2.5	Minimum
			W60	260°	2.6	
					2.6	
First	R16	LKD	W61	260°	3.1	Medium
			W62	260°	2.4	
					3.1	
First	R17	Bedroom	W63	246°	3.7	Medium
			W64	246°	2.9	
					3.7	
First	R18	LKD	W65	246°	2.9	Medium
			W66	246°	3	
			W67	246°	3.5	
			W68	246°	2.7	
					3.7	
First	R19	Bedroom	W69	246°	3.3	Medium
			W70	246°	3.3	
			W71	246°	3.5	
			W72	246°	3.5	
					3.5	
Second	R1	LKD	W1	80°N	0.7	High
			W2	80°N	1.6	
			W3	170° Inc	8.5	
			W30	170° Inc	8.5	
					8.5	
Second	R2	Bedroom	W4	80°N Inc	3.7	Medium
					3.7	
Second	R3	LKD	W5	80°N	0.7	Minimum
			W6	80°N	1.6	
					1.6	
Second	R4	Bedroom	W7	80°N Inc	3.7	Medium
					3.7	
Second	R5	LKD	W8	80°N	0.7	Medium
			W9	80°N	1.6	
			W10	80°N Inc	3.7	
					3.7	
Second	R6	Bedroom	W11	80°N Inc	3.7	Medium
			W12	350°N Inc	0	
			W13	350°N Inc	0	
					3.7	

Sunlight Exposure (SE) Result Spreadsheet

Floor Reference	Room Reference Number	Room Use	Window Reference Number	Window Orientation	% of Area Meeting Req Lux	Req Lux
Second	R7	LKD	W14	350°N Inc	0	
			W15	350°N Inc	0	
			W16	260°	4.4	
			W17	260°	3.6	
					4.4	High
Second	R8	Bedroom	W18	260° Inc	4.8	
			W19	260° Inc	4.8	
					4.8	High
Second	R9	Bedroom	W20	260°	4.4	
			W21	260°	3.6	
					4.4	High
Second	R10	LKD	W22	246°	5.1	
			W23	246°	4.3	
			W24	246° Inc	3.8	
					5.1	High
Second	R11	Bedroom	W25	246° Inc	4.7	
			W26	246°	5.1	
			W27	246°	4.2	
					5.1	High
Second	R12	Bedroom	W28	246° Inc	5.5	
			W29	246° Inc	5.5	
					5.5	High

APPENDIX E
DRAWINGS FOR PROPOSED SCHEME

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Mobile CAD Surveying Solutions
Topographical Survey received on
17/06/2022
Assael Architecture Ltd 3D model
received on 08/06/2022



KEY

R1 Room Reference

■ Illuminance (Lux)

300	175	50
275	150	25
250	125	0
225	100	
200	75	

MI Median Illuminance (Lux)



REV	DETAILS	DATE	BY
A	*	*	*

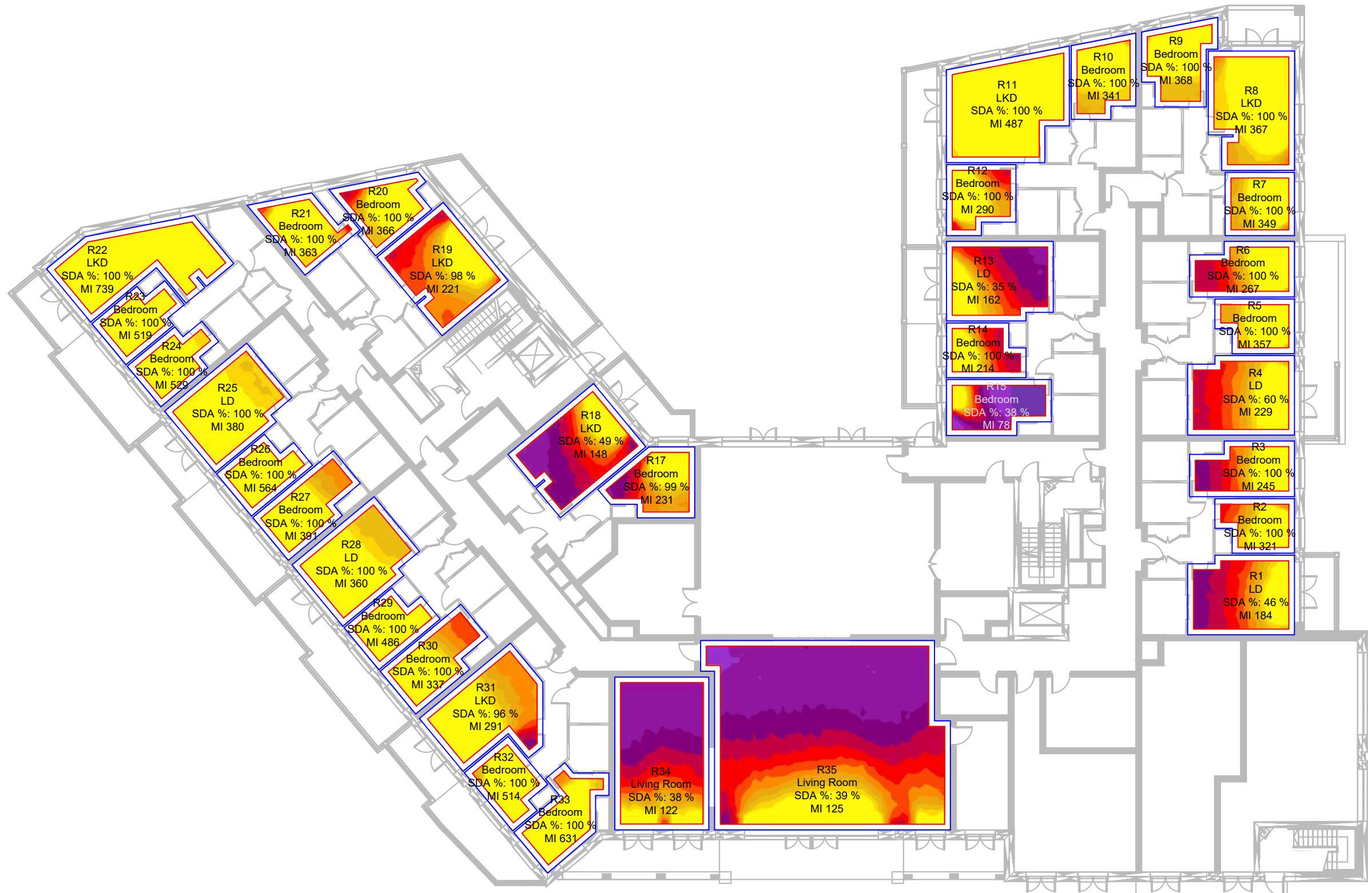
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Lifestyle Residences

PROJECT
Orchard Lane, East Molesey

DRAWING TITLE
Illuminance (SDA) analysis
Building A

SCALE [Not to Scale]	DATE 06/10/2022
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Ground Floor

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KEY

R1 Room Reference

■ Illuminance (Lux)

300	175	50
275	150	25
250	125	0
225	100	
200	75	

MI Median Illuminance (Lux)



REV	DETAILS	DATE	BY
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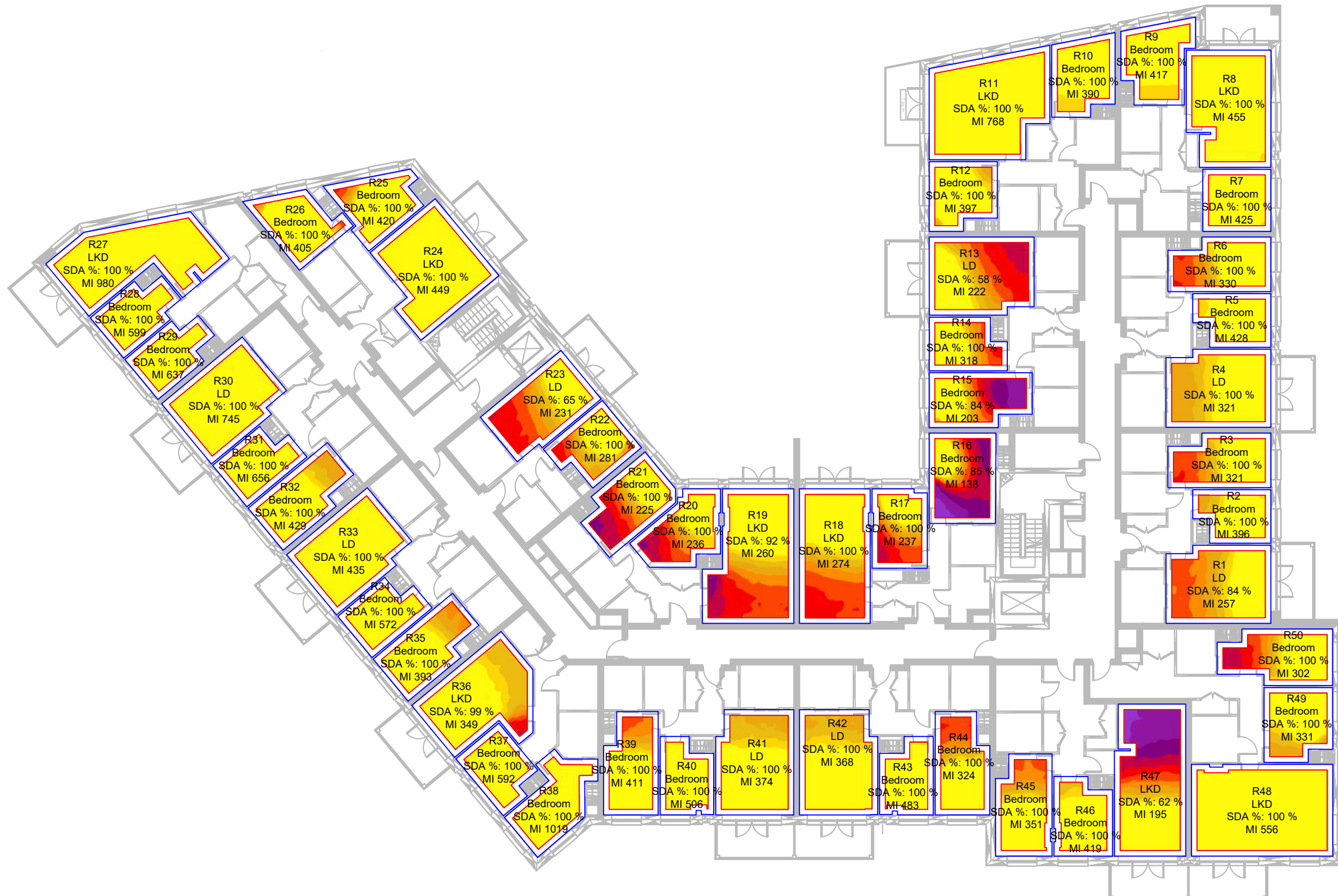
PROJECT
Orchard Lane, East Molesey

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Building A

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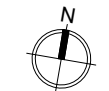
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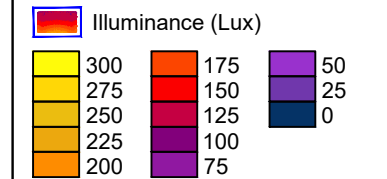
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KEY
R1 Room Reference



MI Median Illuminance (Lux)



REV	DETAILS	DATE	BY
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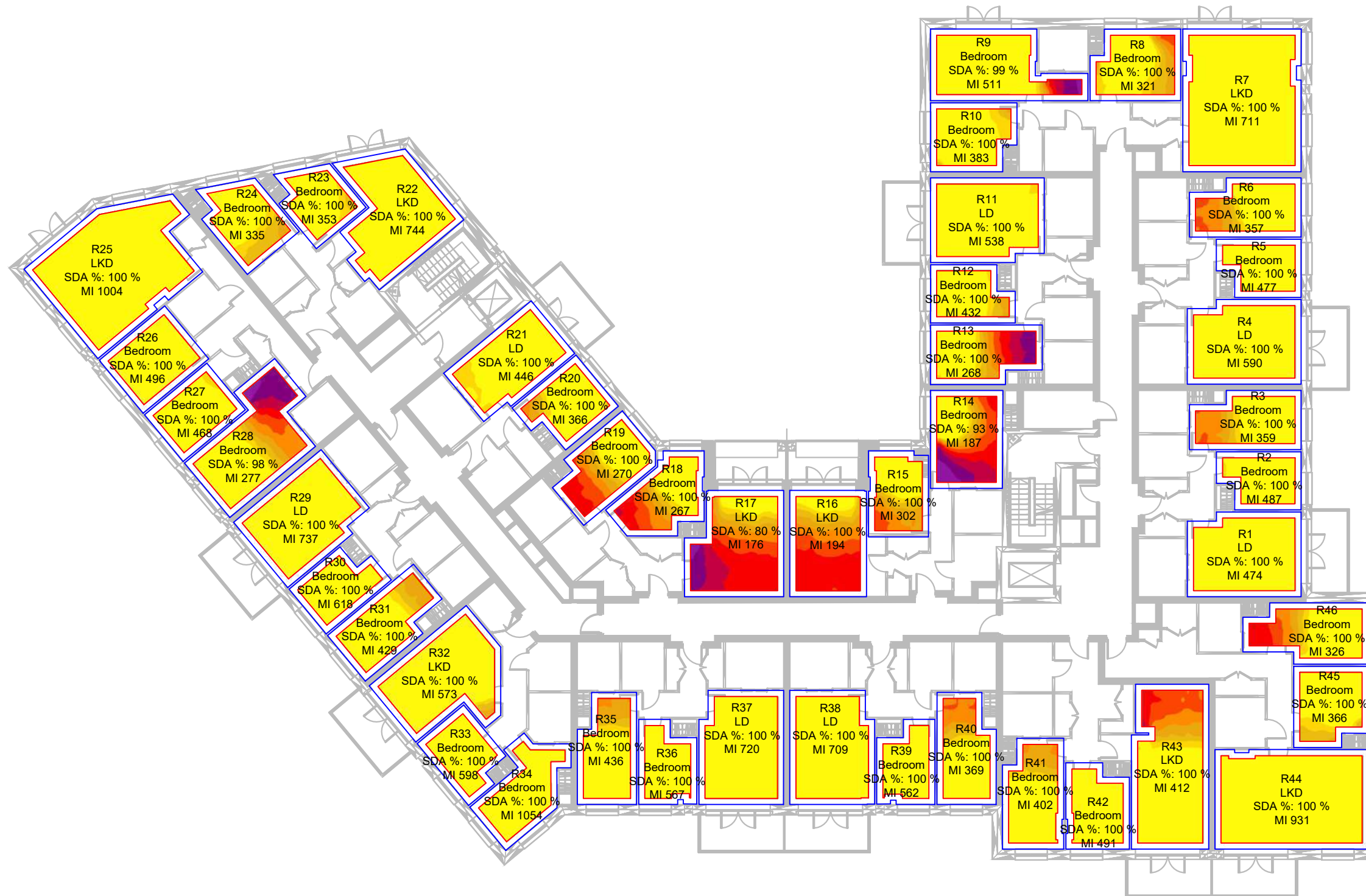
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Building A

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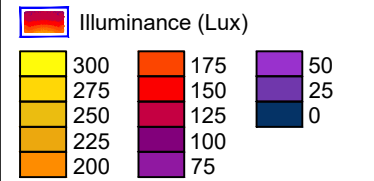
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KEY
R1 Room Reference



MI Median Illuminance (Lux)



REV	DETAILS	DATE	BY
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Building A

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Ground Floor

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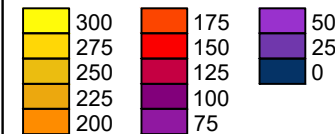
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KEY

R1 Room Reference

■ Illuminance (Lux)



MI Median Illuminance (Lux)



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PROJECT
Orchard Lane, East Molesey

DRAWING TITLE
Illuminance (SDA) analysis
Building B
Building C

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KEY

R1	Room Reference	
Illuminance (Lux)		
300	175	50
275	150	25
250	125	0
225	100	
200	75	

MI Median Illuminance (Lux)



REV	DETAILS	DATE	BY
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Orchard Lane, East Molesey

DRAWING TITLE
Illuminance (SDA) analysis
Building B
Building C

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KEY

R1	Room Reference				
[Color swatch]	Illuminance (Lux)				
[Color swatch]	300	[Color swatch]	175	[Color swatch]	50
[Color swatch]	275	[Color swatch]	150	[Color swatch]	25
[Color swatch]	250	[Color swatch]	125	[Color swatch]	0
[Color swatch]	225	[Color swatch]	100		
[Color swatch]	200	[Color swatch]	75		

MI Median Illuminance (Lux)



REV	DETAILS	DATE	BY
A	*	*	*

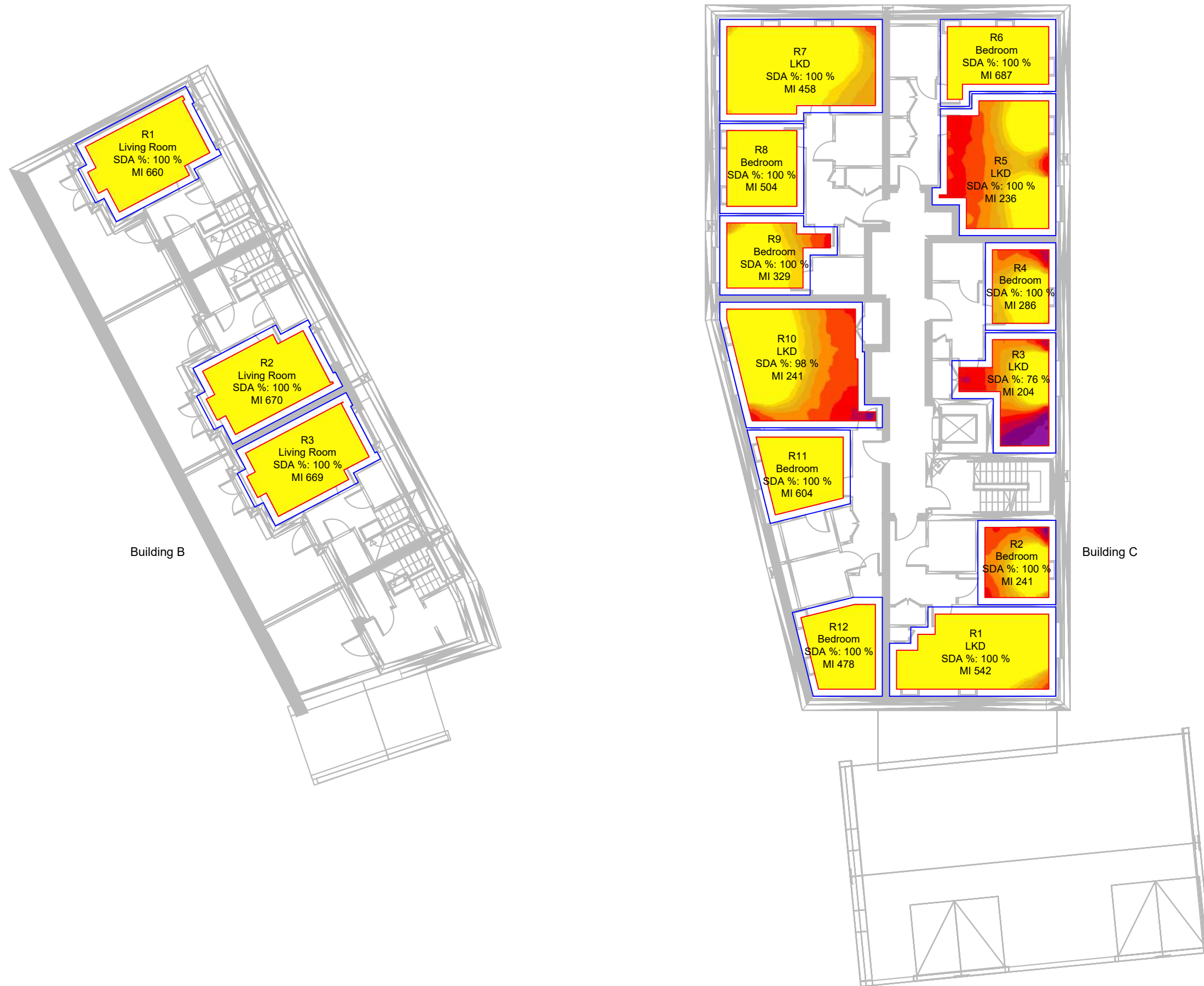
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PROJECT
 Orchard Lane, East Molesey

DRAWING TITLE
 Illuminance (SDA) analysis
 Building B
 Building C

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21st March





21st June

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KEY
 Amenity area
 Proposed area of direct sunlight

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Permanent Overshadowing

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