

205-207 KING'S ROAD, READING

INTERNAL DAYLIGHT AND SUNLIGHT REPORT

CLIENT: HCH LLP
DATE: 08 JULY 2025
VERSION: V2
PROJECT: 3796

Point 2 Surveyors Limited,
17 Slingsby Place,
London, WC2E 9AB

0207 836 5828
point2.co.uk



Contents

1	Executive Summary.....	3
2	Sources of Information	4
3	Planning Policy	5
4	Assessment Methodology.....	7
5	Alternative Target Values and Applying a Flexible Approach.....	9
6	Assumptions used in the analysis	10
7	Internal Daylight and Sunlight Analysis	11
8	Conclusions	15

APPENDICES

- Appendix 1:** 3D Drawings
- Appendix 2:** Internal Daylight and Sunlight Results

1 Executive Summary

- 1.1 HCH LLP have instructed Point 2 Surveyors to assess the daylight and sunlight internally to the proposed scheme at 205-207 King's Road, Reading (the "Proposed Development").
- 1.2 The proposal is for the conversion of the internal existing basement area from class E to C3 with the introduction of additional openings in the façade to provide adequate natural light.
- 1.3 The analysis has been based on a detailed 3D computer model of the proposed scheme, based on the architect's drawings and a 3D photogrammetric survey of the surrounding buildings.
- 1.4 The analysis has been carried out in accordance with the methodologies contained in the Building Research Establishment's *Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice* (2022) (known as the "BRE Guidelines"), which is typically used by local authorities to determine the acceptability of a proposal in terms of its daylight and sunlight provision.
- 1.5 All rooms will meet their target value for daylight and, as such, the scheme is deemed to comply with Schedule 2, Part 3 of The Town and Country Planning (General Permitted Development) (England) Order 2015 in terms of providing adequate natural light to all dwellings.

2 Sources of Information

2.1 In the process of compiling this report, the following sources of information have been used:

Archi-Tekt

- Proposed Scheme Information (received 7.7.25)
 - 2022-258-001
 - 2022-258-002
 - 2022-258-003
 - 2022-258-005
 - 2022-258-006
 - 2022-258-007
 - 2022-258-008
 - 2022-258-100
 - 2022-258-101
 - 2022-258-102
 - 2022-258-103
 - 2022-258-104

Zmapping Ltd

- 3D Zmapping Model

3 Planning Policy

- 3.1 Below we have set out relevant sections from the planning policies and guidance documents as they are, in our opinion, the most pertinent in relation to daylight and sunlight internally to proposed developments.

Permitted Development Legislation

- 3.2 Schedule 2, Part 3 of The Town and Country Planning (General Permitted Development) (England) Order 2015 (the "GPDO") requires that, where an application is submitted for prior approval in relation to adequate natural light, the local planning authority must refuse permission if adequate natural light is not provided in all habitable rooms of the proposed dwellinghouses. However, the GPDO does not define what constitutes 'adequate natural light', leaving the assessment open to interpretation.
- 3.3 In the absence of a statutory definition, the daylight illuminance test (detailed further in Section 4 of this report) offers a clear, evidence-based method for determining whether natural light is adequate within a space. This approach assesses internal daylight conditions using hourly simulation data across an entire year (8,760 hours), based on climate data files for the site location. This provides a comprehensive and realistic picture of light levels throughout the year, beyond the assumptions of more simplified or moment-in-time methodologies. By contrast, we would not consider a sunlight assessment as an appropriate standalone measure of adequacy. It is limited by its dependency on direct solar access which would only be applicable to rooms facing within 90 degrees of due south, and it does not account for diffuse daylight which is a major contributor to natural lighting in urban and shaded environments. Notably, north-facing rooms, while often receiving no direct sunlight, can still achieve excellent daylight levels as captured by the illuminance method.
- 3.4 For these reasons, the daylight illuminance test is a more robust, policy-consistent, and context-sensitive tool. If a room meets its target daylight illuminance, it can be reliably concluded to achieve 'adequate natural light' in line with the intent of the GPDO.
- 3.5 Under 'Interpretation of Part 3', the legislation defines habitable rooms *"means any rooms used or intended to be used for sleeping or living which are not solely used for cooking purposes, but does not include bath or toilet facilities, service rooms, corridors, laundry rooms, hallways or utility rooms."* On this basis, our understanding is that kitchens without space for a dining area are considered as non-habitable spaces in Permitted Development schemes.

NATIONAL PLANNING POLICY

National Planning Policy Framework (NPPF) 2023

- 3.6 Paragraph 129 of the NPPF states:

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

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

LOCAL PLANNING POLICY

Reading Borough Local Plan (2019)

- 3.7 The Reading Borough Local Plan was adopted on 4 November 2019 and sets out the planning policies for development in Reading up to 2036, and is the main consideration in deciding planning applications.
- 3.8 Policy CC8 of the local plan states:

"Development will not cause a detrimental impact on the living environment of existing residential properties or unacceptable living conditions for new residential properties, in terms of:

- *Access to sunlight and daylight;*

4 Assessment Methodology

- 4.1 As stated in Section 3 above, the GPDO legislation does not define what constitutes 'adequate natural light', leaving the assessment open to interpretation. We have therefore undertaken our assessment using the methodologies contained within the BRE Guidelines, used in conjunction with British Standard Daylight in Buildings (BS EN 17037), as this is typically used by local authorities to determine the acceptability of a proposal in terms of its daylight and sunlight provision.

THE BRE GUIDELINES

- 4.2 The BRE Guidelines is a document that is applied across the country. Due to its national application, the framework is a 'one size fits all' approach to the assessment of daylight and sunlight. Theoretically, the methodology and subsequent technical specification offered by the BRE Guidelines is applicable to all manner of built environments, ranging from villages to dense city centres, to areas where significant regeneration is taking place. Notwithstanding the stark disparity between these environments, the suggested target daylight and sunlight values remain consistent despite a suburban setting having very little in common with inner urban locations.

Internal Daylight and Sunlight Criteria for New Builds

- 4.3 Specific criteria for assessing internal daylight and sunlight within a scheme conversion to residential accommodation is not included within the BRE Guidelines. The following criteria is set out primarily with new build residential accommodation in mind. As such, the target values are set to a high standard as there is flexibility in the design of the building, however, such design flexibility is not afforded to buildings being converted within the GPDO legislation.
- 4.4 The BRE Guidelines set out their interior daylight recommendations in Appendix C of their document. They refer to the British Standard Daylight in Buildings BS EN17037 and its UK National Annex which sets out two criteria for assessing interior daylight. Daylight provision in new rooms may be checked using either of the methods in BS EN 17037. One is based on target illuminances from daylight to be achieved over specified fractions of the reference plane (a plane at table top height covering the room) for at least half of the daylight hours in a typical year. The other, alternative, method is based on calculating the daylight factors achieved over specified fractions of the reference plane. We have undertaken the assessment based on the illuminance method.
- 4.5 This method involves using climatic data for the location of the site (via the use of an appropriate, typical or average year, weather file within the software) to calculate the illuminance from daylight at each point on an assessment grid on the reference plane at an at least hourly interval for a typical year.
- 4.6 The UK National Annex gives illuminance recommendations of:
- 100 lux in bedrooms
 - 150 lux in living rooms

- 200 lux in kitchens.

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

4.8 The BRE Guidelines state in paragraph C17 that:

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

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

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

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

4.10 We would not consider the sunlight assessment as an appropriate standalone measure of determining whether adequate natural light is achieved. It is limited by its dependency on direct solar access which would only be applicable to rooms facing within 90 degrees of due south, and it does not account for diffuse daylight which is a major contributor to natural lighting in urban and shaded environments. Notably, north-facing rooms, while often receiving no direct sunlight, can still achieve excellent daylight levels as captured by the illuminance method.

5 Alternative Target Values and Applying a Flexible Approach

- 5.1 The BRE Guidelines specify that the daylight and sunlight results be considered flexibly and in the context of the site. Clearly, there would be a higher expectation for daylight and sunlight in a rural or suburban environment than in a dense city centre location. The important factor in all cases is that the levels of daylight and sunlight are appropriate, taking into account all the planning policy requirements of the site. The BRE Guidelines acknowledge this in the introduction where they state in paragraph 1.6:

"The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly as natural lighting is only one of many factors in site layout design. In special circumstances the developer or planning authority may wish to use different target values."

- 5.2 The numerical figures set out in the BRE Guidelines should therefore not be rigidly applied, but instead used as part of the overall evaluation of the daylight and sunlight in context of the site and the need for regeneration and local planning policy guidance for the site.

- 5.3 Applying flexibility when considering the BRE Guidelines in planning terms is also supported by the National Planning Policy Framework (NPPF) (December 2023) which states in paragraph 129:

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

...

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

6 Assumptions used in the analysis

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

- Transmittance (T): 0.68
- Internal Surface Reflectance Values: 0.4 for floors, 0.8 for ceilings, and 0.7 for walls
- External Surface Reflectance Values: 0.2 for exterior ground, 0.2 for exterior walls and obstructions
- Maintenance Factor: 0.92
- Framing Factor: 0.8

6.2 BS EN 17037 section B.3.1 states that, *"the recommended values of reflectance for the major interior surfaces would be in the following ranges: ceiling 0.7 to 0.9; interior walls 0.5 to 0.8; floor 0.2 to 0.4."* Paragraph C24 of the BRE Guidelines meanwhile states, *"Where surface finishes have been specified or measured on site, they can be used in the calculations with appropriate factors for maintenance and furniture. To allow for these factors, maximum reflectances for white painted surfaces in the calculations should not exceed 0.8 indoors, and 0.6 outdoors. Maximum reflectances for light pastel walls should not exceed 0.7 in the calculations, and maximum reflectances for light wood floors should not exceed 0.4."*

7 Internal Daylight and Sunlight Analysis

- 7.1 The results of the internal daylight and sunlight analysis are included in Appendix 2. The methodologies and target values are detailed above in Section 4.
- 7.2 The analysis has been based on a detailed 3D computer model of the proposed scheme, based on the architect's drawings, and a 3D photogrammetric survey of the surrounding buildings. Our 3D assessment model can be seen on the plots in Appendix 1, as well as in the images below.

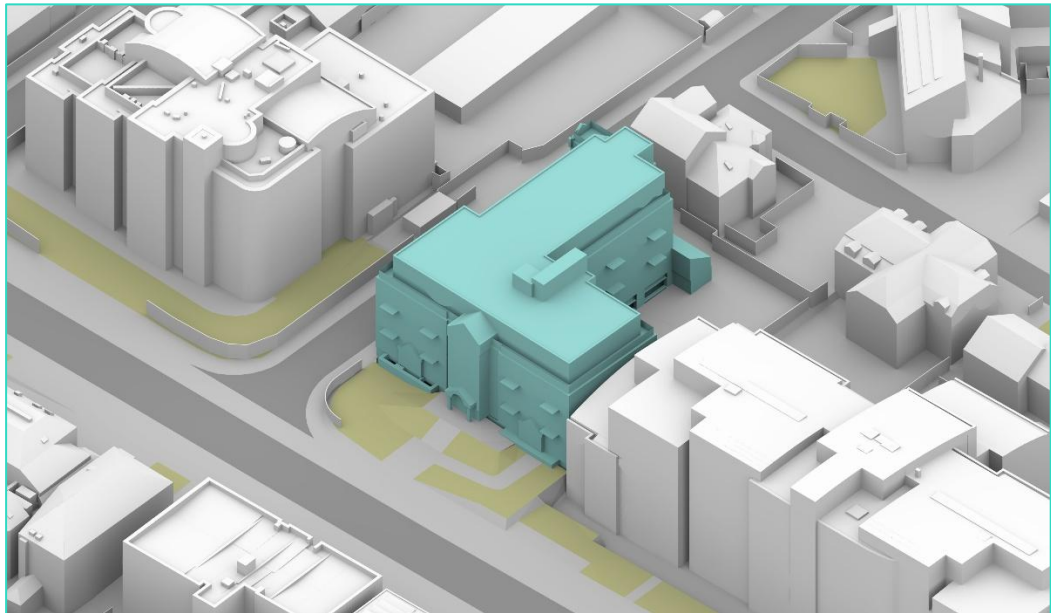


Image 1

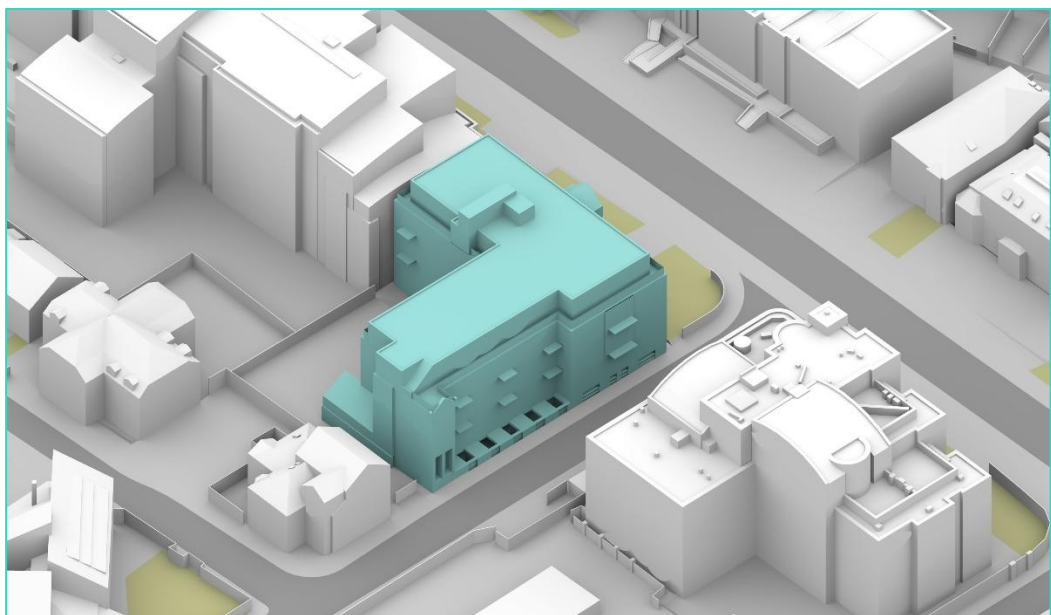


Image 2

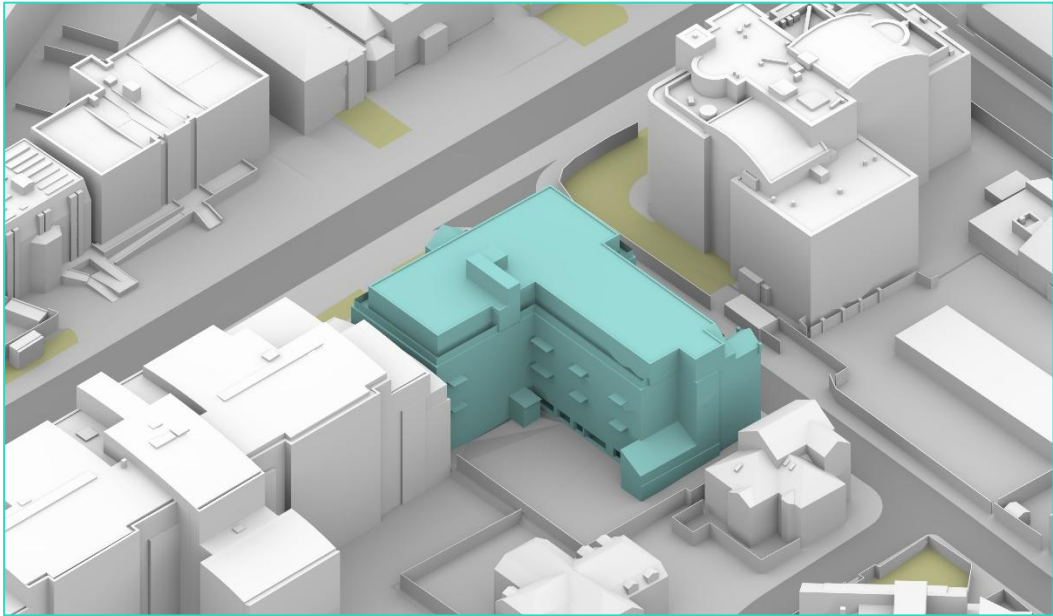


Image 3

- 7.3 We note that, in the reasons for refusal of the previous planning application for the site (ref. PL/24/1285), the planning officer raised the following concerns:

“The developer has provided insufficient information on how the light report was modelled particularly due to the existence of internal pillars, supports, ducts and structural features that obstruct the flow of light into the units along Rupert Street and Kings Road, vegetation to the front of the site could also provide additional shading and the location of the rear entrance in front of the bedroom to unit 6 and the light report appears to have been undertaken on the basis that such internal obstructions are absent, there are no internal walls in the flats and much larger window openings than are shown in the related full planning application...”

- 7.4 We can confirm that our model captures all the structural features of the building, including internal pillars, supports, ducts, internal walls, etc. and the rear entrance in front of unit six (which can be seen in image 3 above). We have included some images in Appendix 1 taken from our model which show the internal rooms in the building including the pillars and internal walls. The pillars and walls can also be seen on the 2D plots in Appendix 2; please see the annotated image 4 below.
- 7.5 In terms of the vegetation to the front of the site, we have reviewed this and note it comprises some low-level bushes and two deciduous trees (image 5 below). The windows on this elevation serving the proposed rooms at the below-ground level will be skylights, and as such will be looking directly upwards. Therefore, unless the vegetation was growing directly above the windows, it would not cause any additional shading to these windows. We have not, therefore, included the vegetation within our assessment model as it is deemed immaterial to the results.
- 7.6 Finally, in terms of the window openings, these have been taken directly from the architect's drawings.



Image 4



Image 5

- 7.7 As per paragraph 3.5 above, and following the intended interpretation of the GDPO legislation, kitchens without a clearly defined dining space have been taken as non-habitable spaces and so are not sensitive to daylight and sunlight.
- 7.8 As per paragraphs 3.2 to 3.4 above, the daylight illuminance test is considered to be the more robust, policy-consistent, and context-sensitive assessment for whether adequate natural light is achieved. As such, if a room meets its target daylight illuminance, it can be reliably concluded to achieve 'adequate natural light' in line with the intent of the GPDO.

RESULTS

- 7.9 In daylight terms, all rooms meet for target illuminance.
- 7.10 In sunlight terms, three out of six units meet for sunlight exposure.

COMMENTARY

- 7.11 As all rooms achieve their target daylight illuminance, the scheme is concluded to achieve 'adequate natural light' in line with the intent of the GPDO.
- 7.12 Regarding sunlight, the BRE Guidelines acknowledge that it may be difficult for all units to achieve the target sunlight level:

"3.1.7 ... The aim should be to minimise the number of dwellings whose living rooms face solely north, northeast or northwest, unless there is some compensating factor such as an appealing view to the north."

And:

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

- 7.13 As stated in paragraph 3.3 above, we would not consider the sunlight assessment as an appropriate standalone measure of adequacy. It is limited by its dependency on direct solar access which is only applicable to rooms facing within 90 degrees of due south. Notably, the north-facing rooms still achieve good daylight levels as captured by the illuminance assessment.
- 7.14 Therefore, the daylight illuminance test is considered to be the more robust, policy-consistent, and context-sensitive assessment for whether adequate natural light is achieved, and in this case the scheme is demonstrated to be compliant with the intended interpretation of the GDPO legislation.

8 Conclusions

- 8.1 HCH LLP have instructed Point 2 Surveyors to assess the daylight and sunlight within the Proposed Development.
- 8.2 The analysis has been based on a detailed 3D computer model and carried out in accordance with the methodologies contained in the BRE Guidelines, which is typically used by local authorities to determine the acceptability of a proposal in terms of its daylight and sunlight amenity.
- 8.3 All rooms will meet their target value for daylight and, as such, the scheme complies with Schedule 2, Part 3 of The Town and Country Planning (General Permitted Development) (England) Order 2015 in terms of providing adequate natural light to all dwellings.

Appendix 1: 3D Drawings



Sources:

Proposed Info (received 03/06/2025)
2022-258-BASEMENT P A C of U.dwg

Key:

Existing Buildings

Proposed Scheme

Scheme Confirmed:

-

Date:

-

Project:

205-207 King`s Road

Drawn By:

WDC

Scale:

1:300

Date:

Jun 25

Title:

PROPOSED 3D VIEW

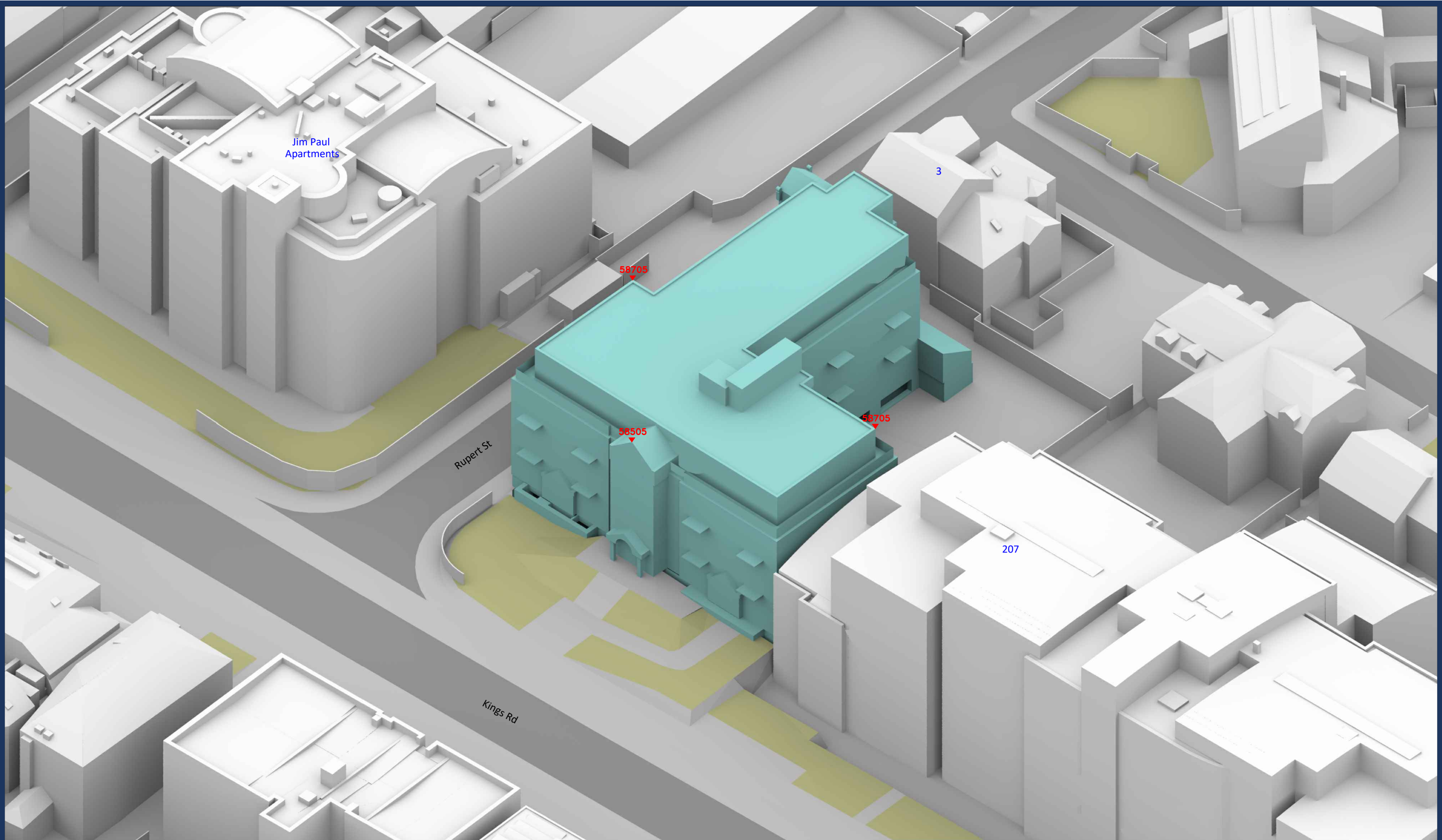
Dwg No:

P3796/01

Rel:

06





Sources:

Proposed Info (received 03/06/2025)
2022-258-BASEMENT P A C of U.dwg

Key:



Existing Buildings
Proposed Scheme

Project: 205-207 King`s Road

Title: PROPOSED 3D VIEW

Scheme Confirmed:

-

Date:

-

Drawn By:

WDC

Scale:

NTS

Date:

Jun 25

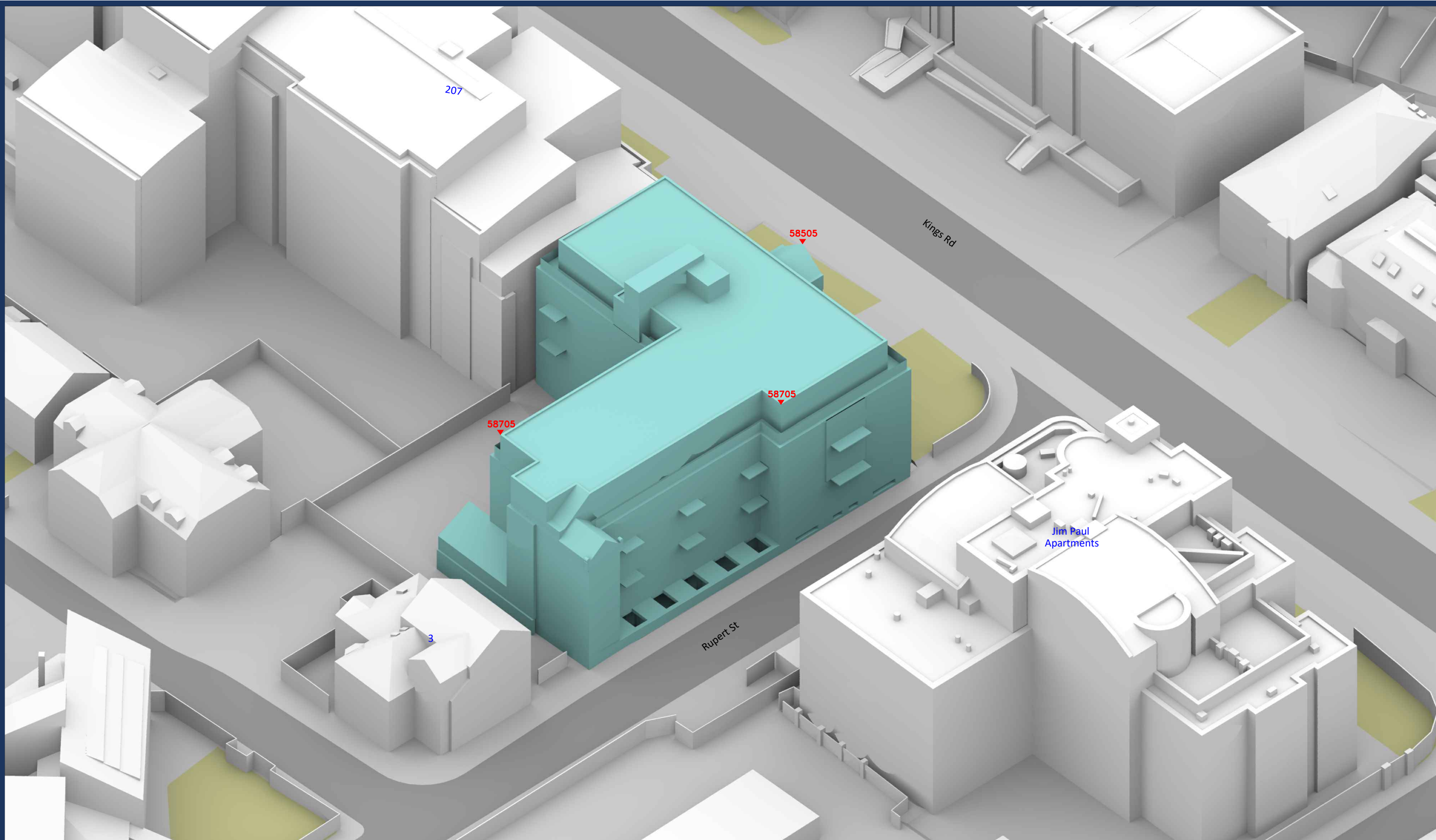
Dwg No:

P3796/02

Rel:

06





Sources:

Proposed Info (received 03/06/2025)
2022-258-BASEMENT P A C of U.dwg

Key:

- Existing Buildings
- Proposed Scheme

Project: 205-207 King`s Road

Title: PROPOSED 3D VIEW

Scheme Confirmed:

-

Date:

-

Drawn By:

WDC

Scale:

NTS

Date:

Jun 25

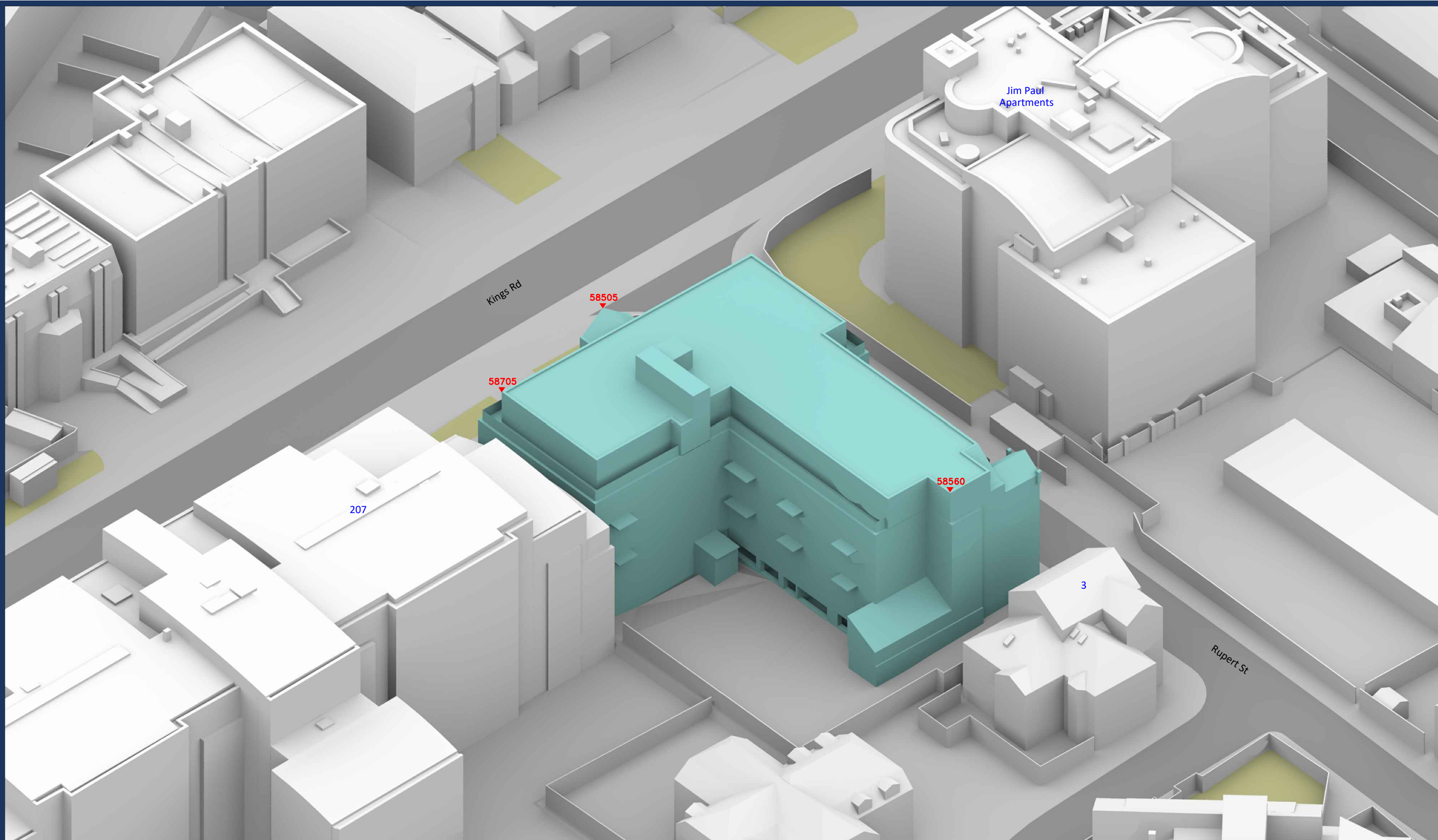
Dwg No:

P3796/03

Rel:

06





Sources:

Proposed Info (received 03/06/2025)
2022-258-BASEMENT P A C of U.dwg

Key:



Existing Buildings

Proposed Scheme

Project: 205-207 King`s Road

Title: PROPOSED 3D VIEW

Scheme Confirmed:

-

Date:

-

Drawn By:

WDC

Scale:

NTS

Date:

Jun 25

Dwg No:

P3796/05

Rel:

06



Image taken from inside room R2/9

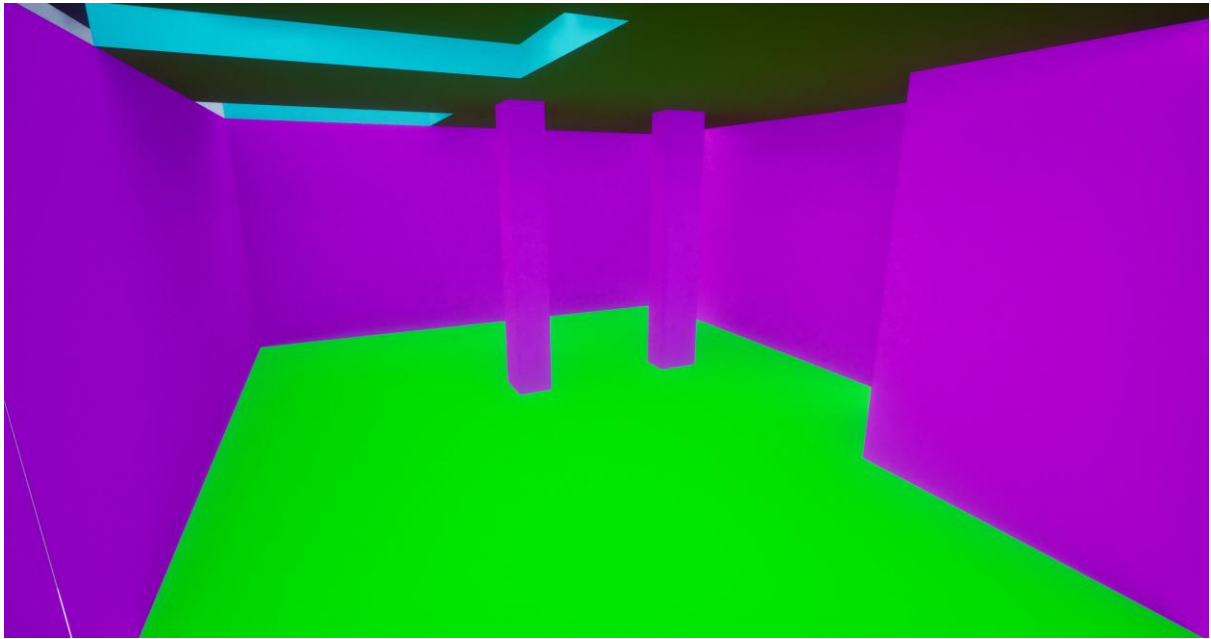
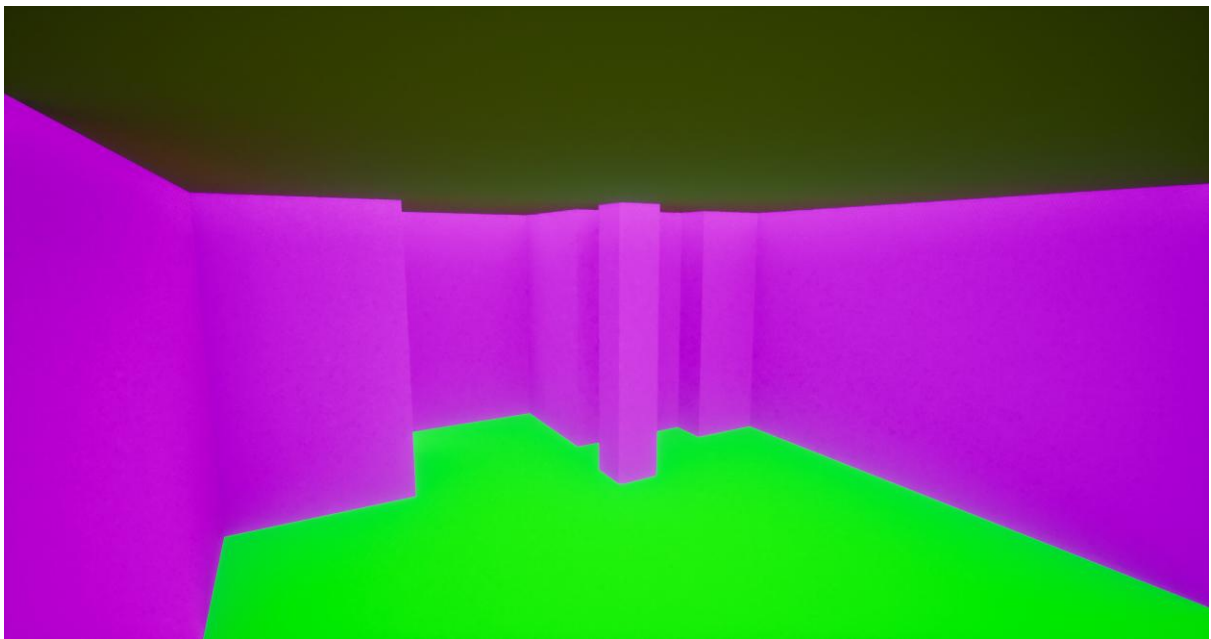


Image taken from inside room R6/9



Appendix 2:

Internal Daylight and Sunlight
Result



Sources:

Proposed Info (received 03/06/2025)
2022-258-BASEMENT P A C of U.dwg

Key: Daylight Illuminance
(achieved for 50% of daylight hours)

- <50 Lux
- >50 Lux
- >100 Lux
- >150 Lux
- >200 Lux

Median Illuminance (Lux) Levels
shown for each room.

Recommended Targets:
Bedroom 100 Lux
Living Room 150 Lux
Kitchen 200 Lux

Project: 205-207 King's Road

Title: Climate Based Daylight Modeling (CBDM) Assessment
Median Illuminance (lux) Levels
Proposed Scheme 060525

Scheme Confirmed:

-

Date:

-

Drawn By:

WDC

Scale:

1:200

Date:

Jun 25

Dwg No:

P3796/04

Rel:

07





BRE CBDM ANALYSIS

205-207 King's Road, London
PROPOSED SCHEME 02/06/25

Room Label	Room Use	Room Use Target Illuminance Lux	Median Illuminance Lux	BRE Compliant	
PR020625					
R1/9	STUDIO	150	291	✓	
R2/9	STUDIO	150	339	✓	
R4/9	STUDIO	150	179	✓	
R5/9	BEDROOM	100	102	✓	
R6/9	BEDSIT	150	165	✓	
R7/9	BEDSIT	150	193	✓	
R8/9	BEDSIT	150	213	✓	
				100.0%	



SUNLIGHT EXPOSURE ANALYSIS

205-207 King`s Road, London
PROPOSED SCHEME 02/06/25

Unit	Room	Room Use	Date	Sunlight Exposure (Hours)	Room Complies?	Unit Complies?
PR020625						
Flat 1	R1/9	STUDIO	21-Mar	1.9	✓	✓
Flat 2	R2/9	STUDIO	23-Feb	2.1	✓	✓
Flat 3	R4/9	STUDIO	15-Mar	9.2	✓	✓
Flat 6	R5/9	BEDROOM	21-Mar	0.0	✗	✗
	R6/9	BEDSIT	21-Mar	0.0	✗	
Flat 5	R7/9	BEDSIT	21-Mar	0.0	✗	✗
Flat 4	R8/9	BEDSIT	21-Mar	0.7	✗	✗
					43%	50.0%
					43%	50.0%

