Daylight and Sunlight Report

Wellington House,

Cowley Road,

Uxbridge, UB8 2XW

16th August, 2024

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Appendices

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1.0 Instructions

1.1 CHP Surveyors Limited have been instructed by Uxbridge Developments Limited to consider the level of daylight and sunlight the proposed accommodation will enjoy by undertaking an analysis using the criteria set out the Building Research Establishment's publication "*Site layout planning for daylight and sunlight. A guide to good practice*" (2022) (BRE guidelines).

1.2 The assessment has considered the level of daylight and sunlight of the habitable rooms within the proposed accommodation located at ground and first floor will enjoy, these being the levels where it will be most restricted.

1.3 In relation to the access to daylight within the proposed accommodation, the results of the analysis demonstrates that all 38 rooms analysed will achieve or exceed the numerical targets referenced in BS EN 17037.

1.4 Concerning the levels of sunlight within the proposed accommodation, the results of the analysis demonstrate that all 17 units will have at least one habitable room that will achieve the numerical targets within the BRE guidelines.

1.5 The results of the analysis demonstrate that the proposed accommodation will have good access to daylight and sunlight and that therefore the BRE guidelines and BS EN 17037 are achieved.

2.0 Policies and Guidance

2.1 To ensure that this assessment has correctly considered the daylight and sunlight enjoyed by the neighbouring residential properties, consideration has also been given to national, regional, and local planning policies and guidance.

- National Planning Policy Framework (NPPF) – December 2023
- GLA "The London Plan" – March 2021
- London Borough of Hillingdon – Local Plan (Adopted November 2012)

- Building Research Establishment's publication *"Site layout planning for daylight and sunlight. A guide to good practice."* (2022) (BRE guidelines)

2.2 National Planning Policy Framework – December 2023

2.2.1 Set out within the National Planning Policy Framework (December 2023), under paragraph 129 (c) it states with regard to daylight and sunlight, that consideration should be given as to whether efficient use of the land is being made:

"...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 adequate living standards."

2.3 GLA "The London Plan" – March 2021

2.3.1 Set out under Policy D6 – "Housing quality and standards", it states:

"D - The design of development should provide sufficient daylight and sunlight to new and surrounding housing that is appropriate for its context, whilst avoiding overheating, minimising overshadowing and maximising the usability of outside amenity space."

2.4 London Borough of Hillingdon – Local Plan (Adopted November 2012)

2.4.1 Policy DMHB 11: Design of New Development states:

A) All development, including extensions, alterations and new buildings will be required to be designed to the highest standards and, incorporate principles of good design including:

iii) ensuring that the internal design and layout of development maximises sustainability...."

It also states under paragraph 5.41

The Council will also seek to ensure that the design of new development optimises the levels of daylight and sunlight.

2.5 Building Research Establishment (BRE guidelines)

2.5.1 The Building Research Establishment published a comprehensive revision in 2022 to their guidance on daylight and sunlight within the built environment, titled "*Site layout planning for daylight and sunlight. A guide to good practice*". The BRE guidelines which reflects the BS EN 17037 National Annex is considered as the recognised document referenced by local authorities when considering daylight and sunlight.

2.5.2 The BRE guidelines acknowledge that their purpose is not to provide strict criteria in which a development must adhere to, but to provide guidance. This is affirmed within the introduction of the BRE guidelines, where it states under paragraph 1.6:

The guide is intended for building designers and their clients, consultants and planning officials. 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 interpreted flexibly since natural lighting is only one of many factors in site layout design.

2.5.3 The guidelines contain methodology on how to calculate the level of daylight and sunlight within the proposed units of scheme.

2.5.4 The technical analysis has been undertaken using the standards and tests recommended within the BRE guidelines. A summary of the recommendations made by the BRE are set out in the Principles of Daylight and Sunlight, attached at Appendix A of this report.

3.0 Information

3.1 During the process of undertaking the analysis and producing this report, reference has been made to the following information:

GF Studio

Drawing Numbers GA_01_100/A, 101/A and Elevations

CHP Surveyors

Online research

4.0 Site and Proposals

4.1 The site is located within the London Borough of Hillingdon, with the existing building providing four storeys of commercial accommodation. The proposals are to convert the accommodation to provide residential units.

5.0 Limitations

5.1 To undertake the detailed daylight and sunlight analysis required to produce this report a three-dimensional computer model has been produced using the information provided and sourced by us, as set out in paragraph 3.1.

5.2 The daylight and sunlight analysis has been undertaken using a specialist software programme by MBS and from this the resultant data has been produced.

6.0 Methodology

6.1 Using the information provided and online research, a 3D computer model of the properties surrounding the site has been produced. This is to ensure that any surrounding properties that may impact on the daylight and sunlight to the proposed accommodation are factored into the

assessment. We then produced a 3D computer model of the proposals for the site, including the internal configuration and associated fenestration.

6.2 Using the specialist computer programme, we have undertaken an analysis in accordance with the criteria recommended within the BRE guidelines.

6.3 As stated in paragraph 1.6 of the BRE guidelines, the intention of the guide is to provide recommendations to assist with site layout design. The criteria should be applied flexibly in line with the context of the site and its environment.

6.4 Therefore, when assessing the results of the daylight and sunlight analysis undertaken, we have considered the location of the site and its surroundings when applying the BRE criteria.

6.5 Daylight

6.6 When considering the level of daylight that will be enjoyed by the proposed accommodation, Section 2.1 and Appendix C of the BRE guidelines sets out the recommended methodology for calculating the appropriate level. This methodology is based on the criteria set out in BS EN17037 and the National Annex.

6.7 The analysis is based on Climate Based Daylight Modelling and sets out recommended minimum levels of Lux, depending on the room use, that should be exceeded for 50% of daylight hours across half of the room area. The analysis takes into account the location of the site within the country by using the relevant meteorological data. The target levels of Lux are:

- Kitchen – 200 Lux
- Living Room – 150 Lux
- Bedroom – 100 Lux

6.8 For the purposes of the analysis, we have used the following parameters, which it is considered appropriately reflect the types of finishes that will be used.

- Glazing transmittance value of 0.68
- Frame correction factor of 0.7
- Maintenance factor of 0.92
- Reflectance for the floors 0.4
- Reflectance value for the walls of 0.7
- Reflectance value for the ceilings of 0.85

6.9 It should be noted that whilst under paragraph C17 of the BRE guidelines it states that where a room has shared use, the highest target should apply. It continues to advise that the target for a Living Room can be used for a combined Living/Kitchen/Dining Room, if the kitchens are not treated as habitable spaces, to avoid small separate kitchens.

6.10 Sunlight

6.11 To assess the level of sunlight within the proposed accommodation, reference is made to Section 3.1 of the BRE guidelines, which sets out the recommendations for access to sunlight within new dwellings.

6.12 It states under paragraph 3.1.2 that:

"In housing, the main requirement for sunlight is in living rooms, where it is valued at any time of day, but especially in the afternoon."

It continues to say; "*It is viewed as less important in bedrooms and in kitchens, where people prefer it in the morning rather than the afternoon.*"

6.13 The guidelines do however acknowledge that sites within urban locations may have significant constraints with regard to their orientation or overshadowing.

6.14 To assess sunlight within proposed accommodation, the BRE guidelines summarise that:

"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.*

7.0 Daylight Assessment

7.1 When assessing the level of daylight the proposed accommodation will enjoy, reference has been made to the criteria set out in Appendix C of the BRE guidelines. The analysis has considered the ground and first floors of the proposals, as it is considered this will be where daylight will be most restricted.

7.2 Attached at Appendix C of this report are the results of the daylight analysis undertaken. These demonstrate that all 38 rooms assessed will achieve or exceed the recommended target with the BRE guidelines.

7.3 The analysis therefore demonstrates that the proposals will provide accommodation with good access to daylight.

8.0 Sunlight Assessment

8.1 An assessment has been undertaken of the ground and first floor of the proposed accommodation to establish whether this will enjoy acceptable levels of sunlight when applying the criteria within the BRE guidelines.

8.2 Attached at Appendix D of this report are the results of the analysis undertaken. These demonstrate that all 17 units assessed will have at least one habitable room that will achieve or exceed at least 1.5hrs of sunlight on the 21st March.

8.3 The analysis therefore demonstrates that all units will achieve the BRE guidelines and have good access to sunlight.

9.0 Conclusion

9.1 The assessment has calculated the levels of daylight and sunlight the proposed accommodation will enjoy.

9.2 The results of the analysis have been considered with reference to the recommendations set out in Appendix C of the Building Research Establishment's publication "*Site layout planning for daylight and sunlight. A guide to good practice.*" (2022) (BRE guidelines) that references BS EN 17037.

9.3 The analysis demonstrates that when applying the recommended methodologies set out in the BRE guidelines, the proposed accommodation will enjoy good levels of daylight and sunlight.

Appendix A

Principles of Daylight and Sunlight

In 2022 the Building Research Establishment (BRE) published a revision to their 2011 handbook titled "*Site Layout Planning for Daylight and Sunlight. A guide to good practice.*" The handbook provides advice on how to achieve good daylight and sunlight both within buildings and to open spaces during site layout planning.

The BRE guidelines are used by most local planning authorities when considering the impact on daylight and sunlight. The guidelines are purely advisory and should be applied flexibly to the individual circumstances of each site. The guidelines are more suited to low density suburban development sites where there is greater flexibility for site layout planning. Where sites are located in dense urban locations, there are often constraints from adjacent buildings and in these instances, the guidelines state that the criteria should be applied more flexibly. In paragraph 1.6 of the introduction of the BRE guidelines, it states:

The guide is intended for building designers and their clients, consultants and planning officials. 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 since 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. 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.

Assessing Proposed Accommodation

Daylight

When considering the level of daylight that will be enjoyed by the proposed residential accommodation within a development, the BRE guidelines makes reference to the recommendations within the British Standard BS EN17037 "Daylight in Buildings" National Annex.

BS EN 17037 advises that a room should receive at least 50% of the recommended lux level for at least half of the annual daylight hours. Below are the ideal lux levels, depending on room use.

- Bedroom 100
- Living Room 150
- Kitchen 200

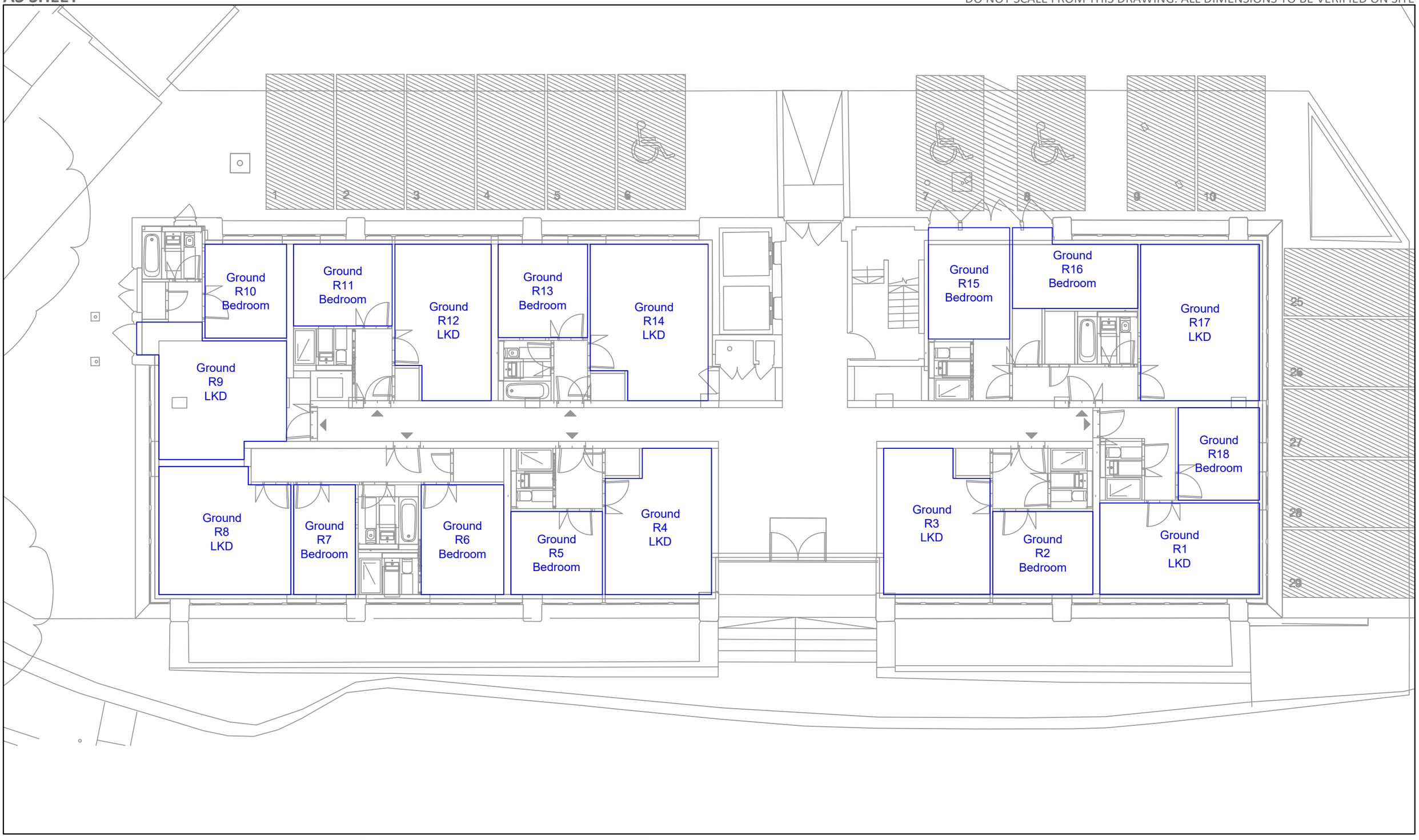
Sunlight

As with the daylight assessment, the BRE guidelines make reference to BS EN17037. It advises that whilst all habitable rooms although for this with windows facing more than 90^0 of due south access will be restricted and the guidelines difficult to achieve. The criteria advises that at least one habitable room per property should enjoy at least 1.5 hours of sunlight on the 21st March.

Appendix B

A3 SHEET

DO NOT SCALE FROM THIS DRAWING. ALL DIMENSIONS TO BE VERIFIED ON SITE



CAD SOURCES

REV	DESCRIPTION	DATE	INIT	CHKD

N

Project
Wellington House, Cowley Road Uxbridge, UB8 2XW
Title
Proposed Ground Floor - Room Map

Scale	Date	Drawn By	Checked By	Project No:	Drawing No:	Revision
1:100	15.08.2024	CO	JC	-	001	

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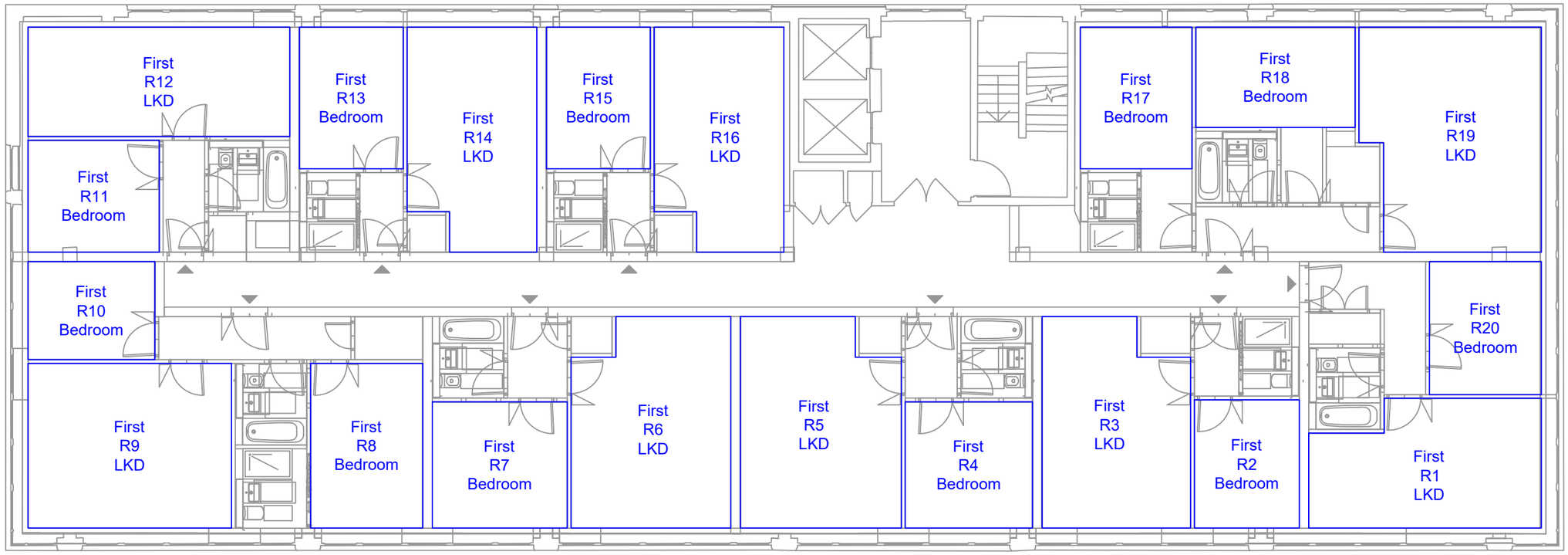

CAD SOURCES

REV	DESCRIPTION	DATE	INIT	CHKD

N

Project
Wellington House, Cowley Road Uxbridge, UB8 2XW
Title
Proposed First Floor - Room Map

Scale	Date	Drawn By	Checked By	Project No:	Drawing No:	Revision
1:100	15.08.2024	CO	JC	-	002	

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Appendix C

Wellington House, Cowley Road, Uxbridge, UB8 2XW August 2024

Daylight Results for Proposed Accommodation

LEVEL	ROOM	ROOM USE	REQUIRED LUX	AREA OF ROOM ACHIEVING TARGET LUX
Ground	R1	Living/Kitchen/Dining Room	150	100%
	R2	Bedroom	100	100%
	R3	Living/Kitchen/Dining Room	150	100%
	R4	Living/Kitchen/Dining Room	150	100%
	R5	Bedroom	100	100%
	R6	Bedroom	100	100%
	R7	Bedroom	100	100%
	R8	Living/Kitchen/Dining Room	150	100%
	R9	Living/Kitchen/Dining Room	150	100%
	R10	Bedroom	100	100%
	R11	Bedroom	100	100%
	R12	Living/Kitchen/Dining Room	150	100%
	R13	Bedroom	100	100%
	R14	Living/Kitchen/Dining Room	150	100%
	R15	Bedroom	100	100%
	R16	Bedroom	100	100%
	R17	Living/Kitchen/Dining Room	150	100%
	R18	Bedroom	100	100%
First	R1	Living/Kitchen/Dining Room	150	100%
	R2	Bedroom	100	100%
	R3	Living/Kitchen/Dining Room	150	100%
	R4	Bedroom	100	100%
	R5	Living/Kitchen/Dining Room	150	100%
	R6	Living/Kitchen/Dining Room	150	100%
	R7	Bedroom	100	100%
	R8	Bedroom	100	100%
	R9	Living/Kitchen/Dining Room	150	100%
	R10	Bedroom	100	100%
	R11	Bedroom	100	100%
	R12	Living/Kitchen/Dining Room	150	100%
	R13	Bedroom	100	100%
	R14	Living/Kitchen/Dining Room	150	100%
	R15	Bedroom	100	100%
	R16	Living/Kitchen/Dining Room	150	100%
	R17	Bedroom	100	100%
	R18	Bedroom	100	100%
	R19	Living/Kitchen/Dining Room	150	100%
	R20	Bedroom	100	100%

Appendix D

Wellington House, Cowley Road, Uxbridge, UB8 2XW August 2024

Sunlight Results for Proposed Accommodation

LEVEL	ROOM	ROOM USE	RECOMMENDED HOURS OF SUNLIGHT ON 21/03	HOURS OF SUNLIGHT ACHIEVED ON 21/03
Ground	R1	Living/Kitchen/Dining Room	1.5	7.9
	R2	Bedroom	1.5	1.3
	R3	Living/Kitchen/Dining Room	1.5	2.5
	R4	Living/Kitchen/Dining Room	1.5	0.8
	R5	Bedroom	1.5	2.5
	R6	Bedroom	1.5	2.4
	R7	Bedroom	1.5	0.0
	R8	Living/Kitchen/Dining Room	1.5	2.5
	R9	Living/Kitchen/Dining Room	1.5	0.0
	R10	Bedroom	1.5	4.4
	R11	Bedroom	1.5	4.1
	R12	Living/Kitchen/Dining Room	1.5	4.4
	R13	Bedroom	1.5	4.1
	R14	Living/Kitchen/Dining Room	1.5	4.2
	R15	Bedroom	1.5	4.9
	R16	Bedroom	1.5	4.6
	R17	Living/Kitchen/Dining Room	1.5	9.4
	R18	Bedroom	1.5	6.7
First	R1	Living/Kitchen/Dining Room	1.5	8.4
	R2	Bedroom	1.5	1.8
	R3	Living/Kitchen/Dining Room	1.5	2.9
	R4	Bedroom	1.5	2.8
	R5	Living/Kitchen/Dining Room	1.5	2.8
	R6	Living/Kitchen/Dining Room	1.5	3.2
	R7	Bedroom	1.5	2.8
	R8	Bedroom	1.5	2.8
	R9	Living/Kitchen/Dining Room	1.5	3.2
	R10	Bedroom	1.5	0.0
	R11	Bedroom	1.5	0.0
	R12	Living/Kitchen/Dining Room	1.5	5.2
	R13	Bedroom	1.5	5.0
	R14	Living/Kitchen/Dining Room	1.5	5.2
	R15	Bedroom	1.5	5.0
	R16	Living/Kitchen/Dining Room	1.5	5.0
	R17	Bedroom	1.5	5.2
	R18	Bedroom	1.5	5.0
	R19	Living/Kitchen/Dining Room	1.5	9.5
	R20	Bedroom	1.5	8.3