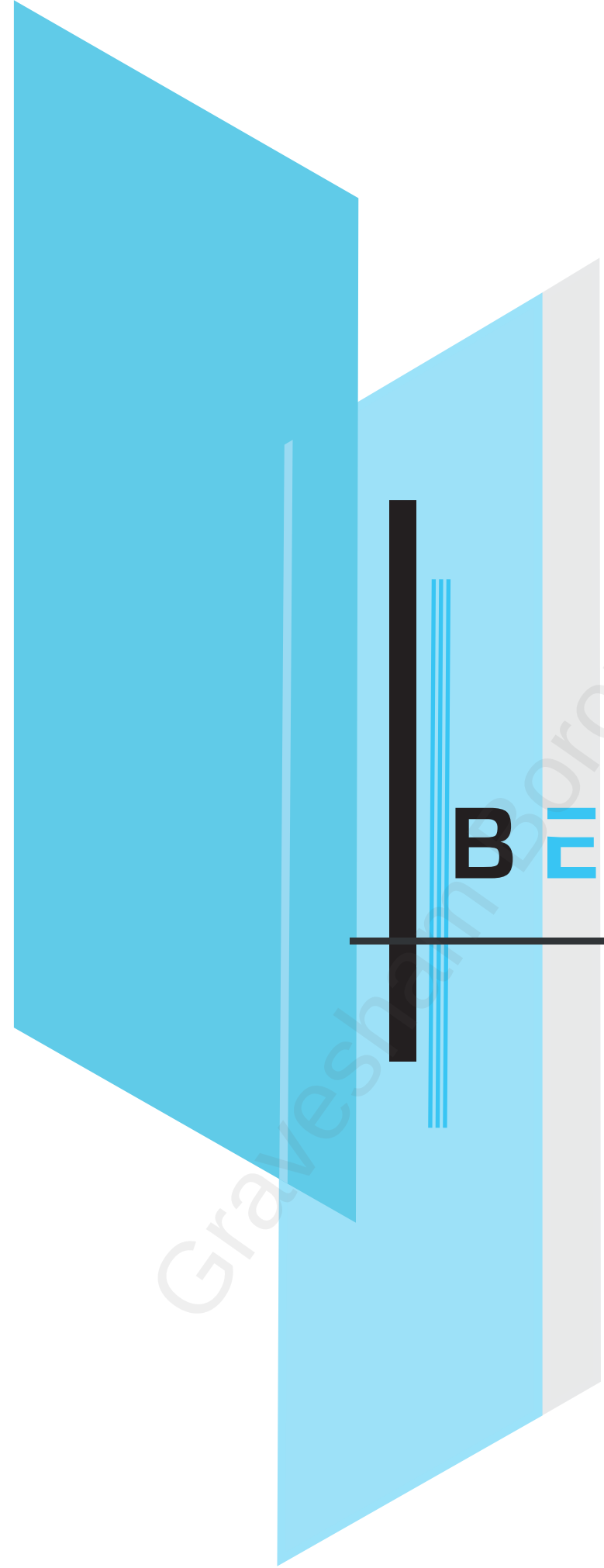




B E H A N

CHARTERED SURVEYORS

Internal Amenity Assessment

Of

Former Gravesend And North Kent Hospital (M Block), Clifton Road, Gravesend, Kent

on behalf of

Strawberry Star Group

Revision Reference: Final
Reference No. 20223730
Date of Publication: 3 August 2022

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Executive Summary

The architect has designed the rooms having regard for the constraints and difficulty in utilising an existing building and converting it accordingly to a new use, as opposed to a new build which can be designed from the outset. As this is a conversion from hospital use, its use as modern residential dwellings (flats) is limited by the existing arrangement and organisation of rooms, which cannot be significantly altered due to structural constraints. Due to the existing structure, and the constraints, it is therefore virtually impossible to fully adhere to the BRE guidelines as it is clear that when the building was designed, no such BRE standards existed for hospital use, 50 or so years ago. The rooms and spaces achieve levels of light that have been achieved for a considerable number of years. These levels of light remain in the conversion and with natural light and the use of sympathetic artificial light, ensuring that these rooms and flats will have a pleasant environment to be enjoyed.

The BRE confirms that the guidelines should be applied sensibly and flexibly and under these circumstances, less stringent, higher BRE target percentage loss values may be justifiable. The results are very positive and commensurate with other similar consented conversion schemes.

Any minor transgressions to a few bedrooms can be improved by the architect undertaking minor changes such as increasing the size of the windows in accordance with the DAS.

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Drawings 20223730/Rel01/21 to 23	(Spatial Daylight Autonomy)

Appendix 2 - Tables;

SDA

Sunlight Exposure



Prepared by & Authorised by
Mark Behan BSc (Hons) MRICS

Date: 3 August 2022

1. Introduction

As part of the redevelopment review process, we have carried out an analysis for impact of the redevelopment of Former Gravesend and North Kent Hospital (M Block), Clifton Road, Gravesend, Kent to confirm the scheme impact in relation to the BRE minimum standards for daylighting assessment on the proposed residential habitable rooms within the scheme which is known as the "self-test" exercise or internal amenity assessment.

The proposed development is the conversion of existing building with a side extension and a roof extension, the construction of a new residential building to provide residential units (class C3) consisting of one bed, two bed and three bed homes, together with associated car parking, motorcycle and cycles spaces alongside amenity space, private gymnasium and waste and space in Class E as flexi use space. - Minor Material Amendment of planning permission 20190504 dated 17 Feb 2022.

From the information that is available on the portal, 3d context model, site visit and photographs, we have constructed a 3D model of the existing and proposed site.

A site plan, 3D Views of the scheme modelling (see drawings REL01/01 to 06 incl) and detailed results tables are given at Appendix 1.

The BRE Guidelines were updated in June 2022 and supersede the 2nd Edition, published in 2011. This document is most widely accepted by planning authorities as the means by which to judge the acceptability of a Proposed Development in relation to daylight and sunlight amenity.

It is usual to assess internal daylight and sunlight against the BRE Guidelines. However, the principal change in the BRE Guidelines relates specifically to how daylight and sunlight is assessed within Proposed Developments. This will be discussed in more detail within Section 3, 'Methodology'.

In an urban location, frequently site constraints and the proximity of neighbouring buildings mean that some windows or rooms will fall short of the guideline figures. However, the BRE Guidelines are not mandatory, and they explicitly state that the numerical target values should be interpreted flexibly. While local planning authorities will consider the acceptability of a proposed scheme in relation to BRE Guidance, consideration will be given to the context within which a scheme is located, and internal daylight amenity will be one of several planning considerations. Often levels of internal daylight need to be balanced with other factors, such as energy efficiency and overheating.

Policy Guidelines

- 1.1 The site is located within Gravesham Borough Council. We have therefore considered the potential effects against the Gravesham Borough Council's current planning policy on daylight and sunlight.

Planning Policy Context

Gravesham Local Plan Core Strategy (2014)

1.2 Policy CS19: Development and Design Principles;

New development will be located, designed and constructed to:

- safeguard the amenity, including privacy, daylight and sunlight, of its occupants and those of neighbouring properties and land;

National Planning Policy Framework (NPPF) (2021)

- The replacement NPPF was published on 24th July 2018 and updated in February 2019 before the most recent revision in July 2021. Paragraph 2 of the NPPF states that it is a material consideration in planning decisions and Appendix 1 states that the policies in the Framework should be taken into account in dealing with applications from the day of its publication. It is recognised that plans may also need to be revised to reflect policy changes which the replacement Framework has made and that this should be progressed as quickly as possible, either through a partial revision or by preparing a new plan.

Daylight and Sunlight Calculation Methodology

1.3 The Daylight & Sunlight assessments have been undertaken by reference to the Building Research Establishment (BRE) Guidelines "Site Layout Planning for Daylight & Sunlight. A Guide to Good Practice BR 209 2022 Edition.

1.4 The BRE Report advises that daylight and sunlight levels should be assessed for the main habitable rooms of neighbouring residential properties. Habitable rooms in residential properties are defined as kitchens, living rooms and dining rooms. Bedrooms are less important as they are mainly occupied at night time. The Report also makes reference to other property types, which may be regarded as "sensitive receptors" such as schools, hospitals, hotels and hostels, small workshops and most offices.

Daylight within Proposed Developments

1.5 The 2011 BRE guidelines were revised in June 2022. In the new 2022 revision of the BRE guidelines, a new Climate Based Daylight Modelling ("CBDM") methodology replaces the old Average Daylight Factor ("ADF") methodology. The new methodology is more complex; it is arguably a more accurate simulation of actual daylight levels but has targets that are generally more difficult to achieve in an urban context.

Climate Based Daylight Modelling (CBDM)

- 1.6 The new CBDM methodology is based on the British Standard 'Daylight in Buildings' (BS EN17037). This contains advice and guidance on interior daylighting for all buildings across Europe but also has a UK National Annex which provides suggested targets for dwellings in the UK.
- 1.7 BS EN17037 supersedes BS 8206 Part 2 which was based on Average Daylight Factor ("ADF") and is no longer recommended.
- 1.8 The CBDM methodology is based on target illuminances from daylight. This is the Daylight Illuminance (DI) to be achieved over half the area of the room (measured on a reference plane at tabletop level) for at least half of the daylight hours in a typical year. The calculations are based on weather data files which cover different regions of the UK. The calculations are done for each hour of the day for every day of the year. There are 8760 hours in the year, of which 4380 are daylight hours, and therefore the targets should be achieved for 2190 hours in the year. The methodology uses a more accurate sky model which simulates the movement of the sun throughout the day and accounts for the weather conditions at the time. As a result, CBDM accounts for the presence of sunlight and therefore the orientation of the rooms/windows is accounted for. A south facing room is likely to have access to higher levels of natural light than a north facing room and as a result, a north facing room would typically need larger windows to comply.
- 1.9 The UK National Annex provides illuminance recommendations of:

100 Lux in bedrooms;
150 Lux in living rooms; and
200 Lux in kitchens.
- 1.10 These are median illuminances to be achieved over 50% of the assessment grid for at least half of the daylight hours.
- 1.11 Where a room has a shared use, the highest target should apply. However, it also says that Local Authorities could use discretion here and that a living room target of 150 Lux could be used for combined living/kitchen/dining rooms if the kitchens are not treated as habitable spaces, as it may avoid small separate kitchens in the design.
- 1.12 There is a further simplistic methodology based on daylight factors (not the same as the old ADF methodology), which does not use climate-based data but uses a simple fixed sky model. However, since this alternative simplistic methodology does not account for the effect of sunlight, or the orientation of the room, it has not been used in our assessment.

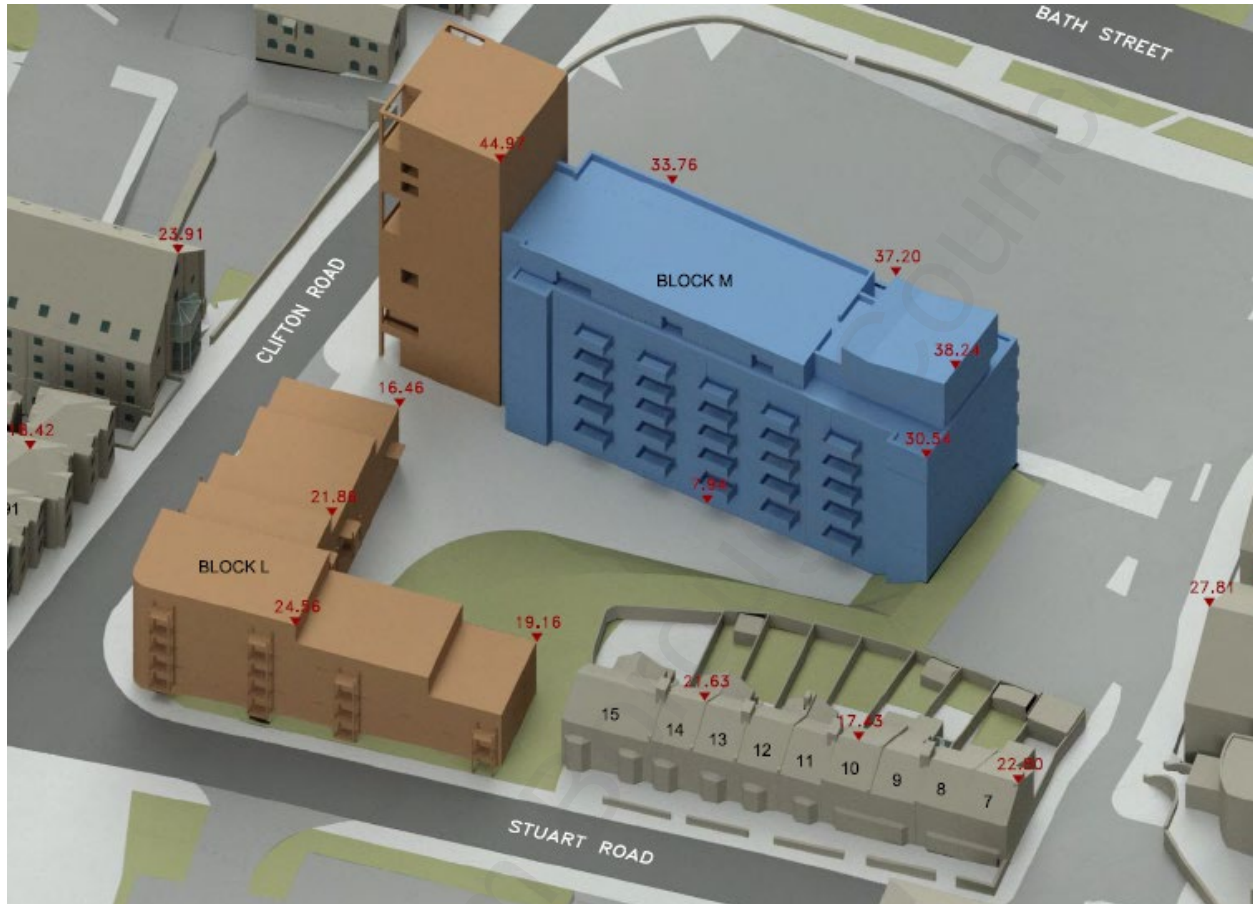
Average Daylight Factor (ADF)

- 1.13 Whilst ADF has been superseded by the new CBDM methodology, we have continued to provide the ADF results for comparison and to work as a benchmark. The ADF method was described in the previous 2011 BRE guidelines and British Standard BS8206 Part 2, "Lighting for Buildings", although both documents are now obsolete.
- 1.14 ADF is a measure of the overall amount of diffuse daylight within a room. It is the average of the daylight factors across the working plane within a room. This equates to the ratio of the average illuminance across the working plane, to the illuminance due to an unobstructed sky. The acceptable minimum depends on the room use and the presence of supplementary lighting. The 2011 BRE provides guidance for acceptable values. These are:
- 1.0% for a bedroom;
 - 1.5% for a living room; and
 - 2.0% for a kitchen.
- 1.15 In cases where the one room serves more than one purpose, the minimum ADF should be that for the room type with the higher value, although flexibility should be applied in an urban context.

Sunlight within Proposed Developments

- 1.16 For new buildings, the BRE guidelines refer to BS EN 17037 which says that a space should receive a minimum of 1.5 hours of sunlight on a selected date between 1st February and 21st March with cloudless conditions. The BRE guidelines suggests 21st March be used. For dwellings, at least one habitable room, preferably a main living room, should achieve at least this minimum criterion and that at least one main window faces within 90° of south. Whilst BS EN 17037 applies to all orientations, the BRE guidelines say that if the room faces significantly north of due east or west, the criterion is unlikely to be met.

2. Results – Proposed Development



Drawing Number: REOL 06 - 3D View – Proposed Development

Our understanding of the Proposed Development is illustrated in drawings 20223730 01 to 06 contained within Appendix 1.

Internal Daylight & Sunlight Amenity

- 2.1 Full and detailed analysis annotated upon floor layout plans are provided within Appendix 1 (see drawing reference 20223730/Rel01/21 to 23), to show both the locations and configuration of the rooms which have been analysed.

Internal Daylight Amenity

- 2.2 A total of 141 rooms have been analysed to establish their respective daylight illuminance (Lux level) figures in the 'as built' position. This represents all habitable accommodation (living rooms, kitchens, and bedrooms) across the ground, first and second floors within the Proposed Development.

- 2.3 The results show that 132 rooms (94%) will achieve the respective target illuminance value appropriate for the rooms' usage over at least 50% of the rooms area, with many of the rooms achieving above the required minimum.

Internal Sunlight Amenity

- 2.4 With reference to the attached table of internal sunlight results, contained within Appendix 2, 95% will comfortably exceed the suggested target minimum level of sunlight within each living room and most bedrooms. Whilst 7 bedrooms will fall just short of the guideline target, the remaining 134 rooms (of 141 tested) will fully comply with guidelines. This shows that the occupants of each unit will have access to very good levels of sunlight.

3. Conclusion

- 3.1 The results section above, and the appended drawings to this report show that the Proposed Development demonstrates an excellent level of compliance with BRE Guidance in terms of internal daylight amenity, with 94% of the rooms achieving their respective target illuminance value appropriate for the rooms' usage over at least 50% of the rooms area.
- 3.2 In relation to internal sunlight amenity, each unit will have very good access to sunlight and will achieve 95% compliance with BRE Guidance.
- 3.3 The Proposed Development has been designed well to allow for excellent levels of daylight that will distribute throughout the rooms efficiently within each of the proposed units.
- 3.4 We fully support the Proposed Development in terms of internal daylight and sunlight amenity.



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APPENDIX 1

Internal Amenity Test

Drawings 20223730/Rel01/01 to 06	(Plan and 3d views)
Drawings 20223730/Rel01/21 to 23	(Spatial Daylight Autonomy)

WEST STREET

THE MALTINGS

1-64

74-91

50-58

CLIFTON ROAD

BLOCK L

BLOCK M

BATH STREET

STUART ROAD

15
14
13
12
11
10
9
8
7

LEGEND

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3D PHOTOGRAMMETRIC MODEL
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CONSENTED SCHEME DRAWINGS
PLANNING APPLICATION NO. 2019/0504

RMA ARCHITECTS
PROPOSAL DRAWINGS
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EXISTING BUILDINGS IN GREEN
CONSENTED SCHEME IN BROWN

No.	Revision/Issue	Date

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Project Name and Address:
GRAVESEND & NORTH KENT
HOSPITAL (M BLOCK)
CLIFTON ROAD
GRAVESEND, KENT

Drawing Description
SITE PLAN
EXISTING

Project Reference 20223730	Drawing Sheet No Rel01/01
Date 01/08/2022	
Scale 1:600 @ A3	



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3D PHOTOGRAMMETRIC MODEL
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EXISTING BUILDINGS IN GREEN
CONSENTED SCHEME IN BROWN

No.	Revision/Issue	Date

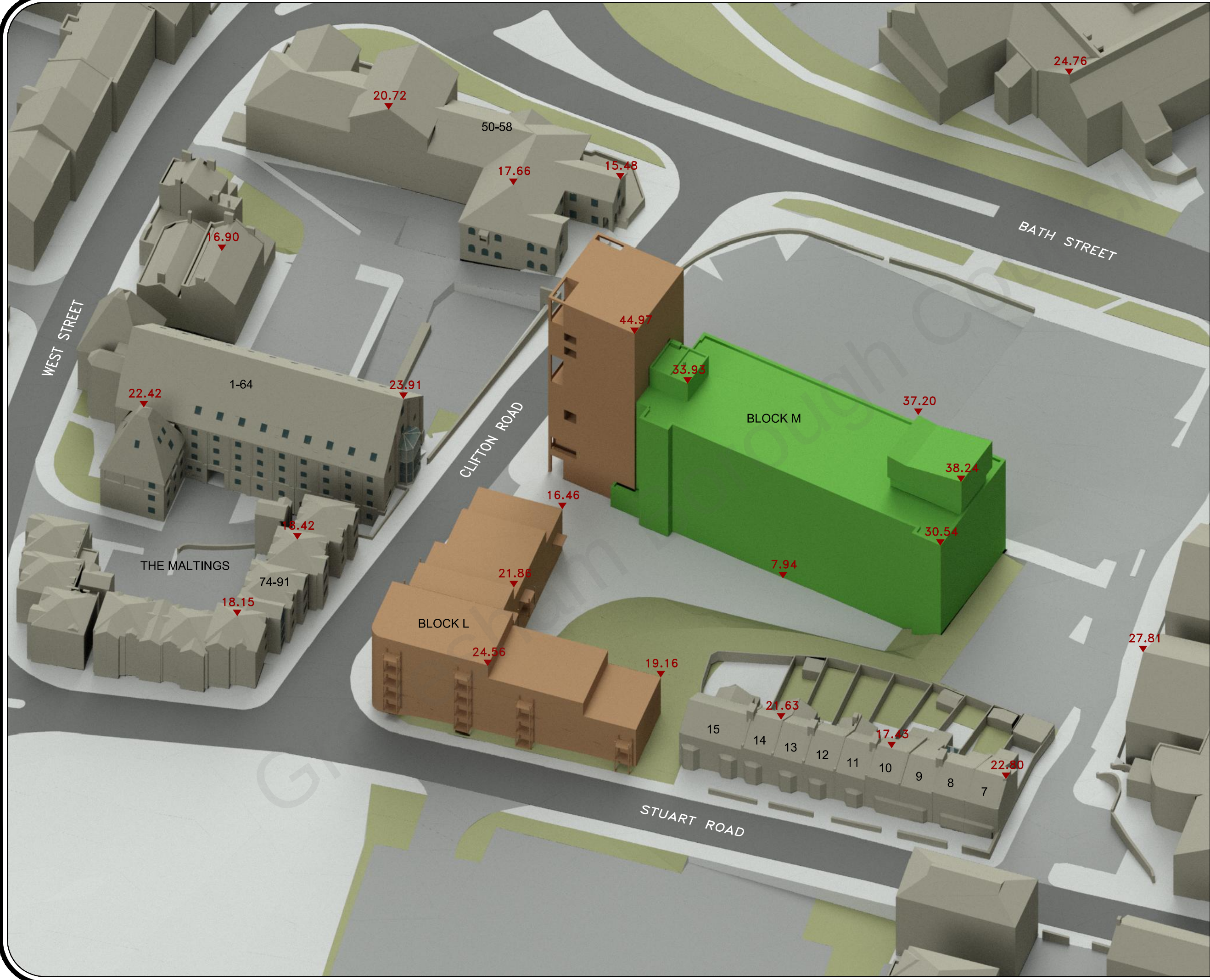
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Project Name and Address:
GRAVESEND & NORTH KENT
HOSPITAL (M BLOCK)
CLIFTON ROAD
GRAVESEND, KENT

Drawing Description:
3D VIEW
EXISTING

Project Reference: 20223730	Drawing Sheet No: Rel01/02
Date: 01/08/2022	
Scale: NTS	



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3D PHOTOGRAMMETRIC MODEL
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Project Name and Address
GRAVESEND & NORTH KENT
HOSPITAL (M BLOCK)
CLIFTON ROAD
GRAVESEND, KENT

Drawing Description
3D VIEW
EXISTING

Project Reference 20223730	Drawing Sheet No Rel01/03
Date 01/08/2022	
Scale NTS	



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3D PHOTOGRAMMETRIC MODEL
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PROPOSED SCHEME IN BLUE
CONSENTED SCHEME IN BROWN

No.	Revision/Issue	Date

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Project Name and Address:
GRAVESEND & NORTH KENT
HOSPITAL (M BLOCK)
CLIFTON ROAD
GRAVESEND, KENT

Drawing Description:
SITE PLAN
RMA ARCHITECTS SCHEME
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Project Reference: 20223730	Drawing Sheet No: Rel01/04
Date: 01/08/2022	
Scale: 1:600 @ A3	



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CONSENTED SCHEME DRAWINGS
PLANNING APPLICATION NO. 2019/0504

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PROPOSAL DRAWINGS
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CONSENTED SCHEME IN BROWN

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Project Name and Address:
GRAVESEND & NORTH KENT
HOSPITAL (M BLOCK)
CLIFTON ROAD
GRAVESEND, KENT

Drawing Description:
3D VIEW
RMA ARCHITECTS SCHEME
RECEIVED 29/07/22

Project Reference: 20223730	Drawing Sheet No: Rel01/05
Date: 01/08/2022	
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2244_(0200 to 0202)_A.dwg(s)
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CONSENTED SCHEME IN BROWN

No.	Revision/Issue	Date

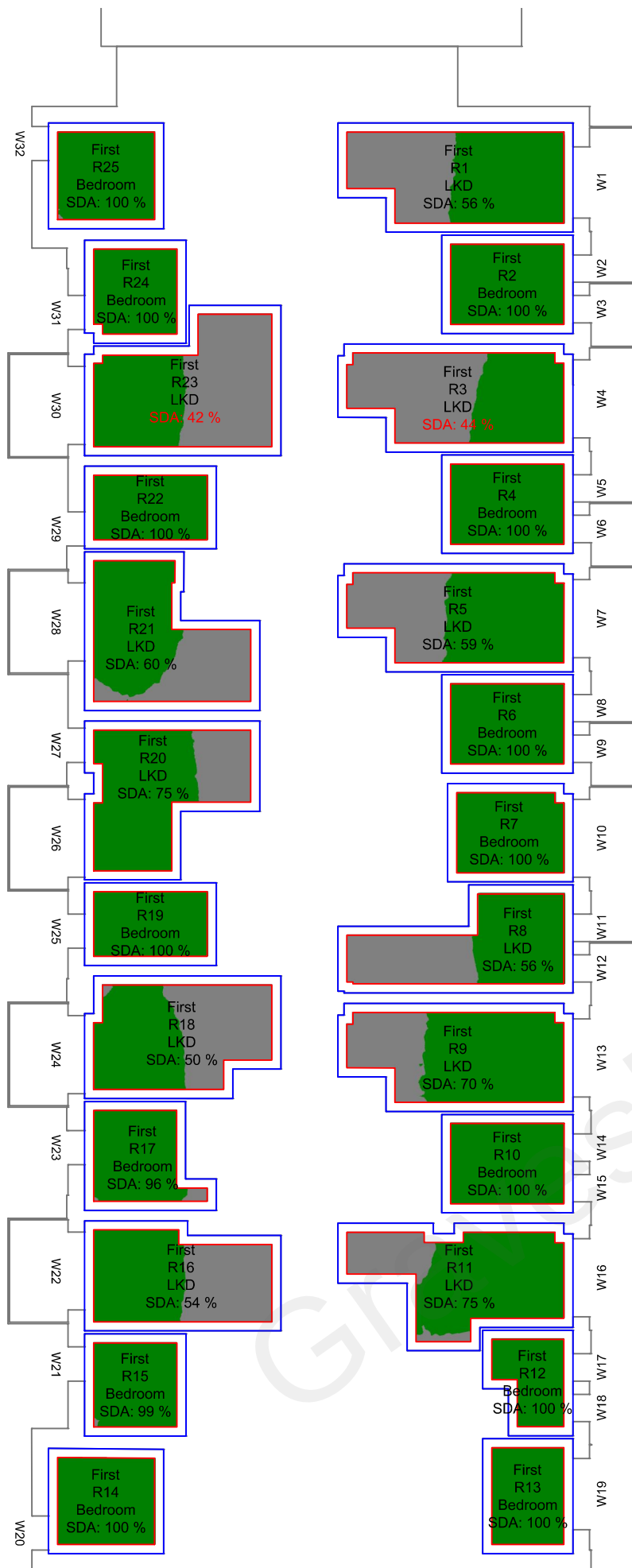
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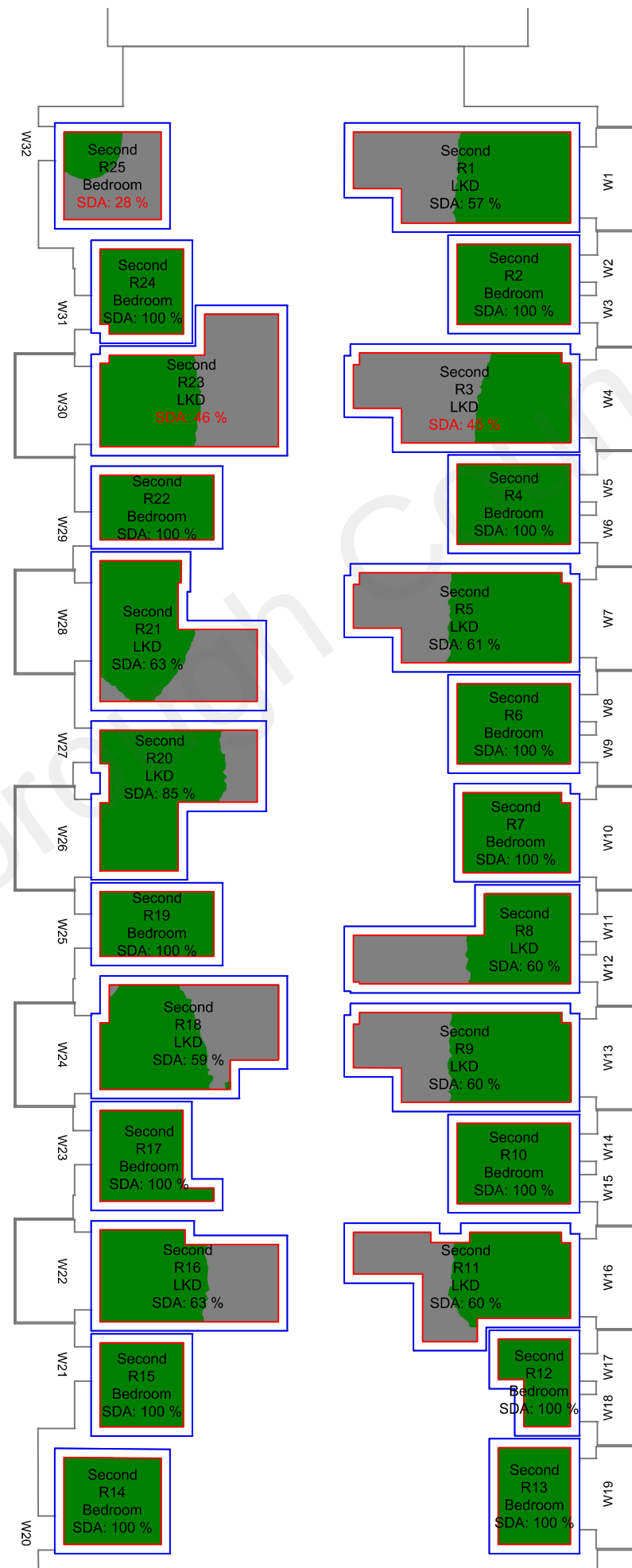
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GRAVESEND & NORTH KENT
HOSPITAL (M BLOCK)
CLIFTON ROAD
GRAVESEND, KENT

Drawing Description
3D VIEW
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RECEIVED 29/07/22

Project Reference 20223730	Drawing Sheet No Rel01/06
Date 01/08/2022	
Scale NTS	



PROPOSED BLOCK M
FIRST FLOOR
SCALE 1:200 @ A3



PROPOSED BLOCK M
SECOND FLOOR
SCALE 1:200 @ A3



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KEY:
SDA % of Hours > req. lux



No.	Revision/Issue	Date

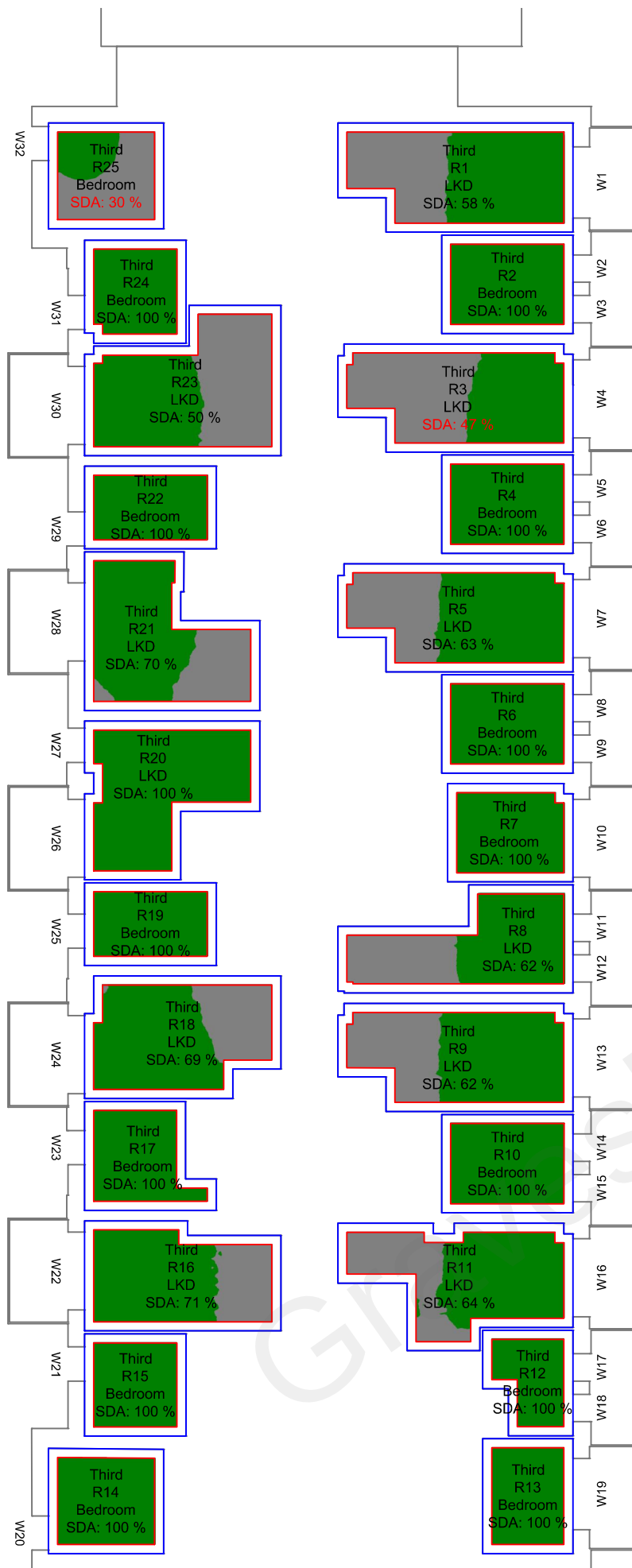
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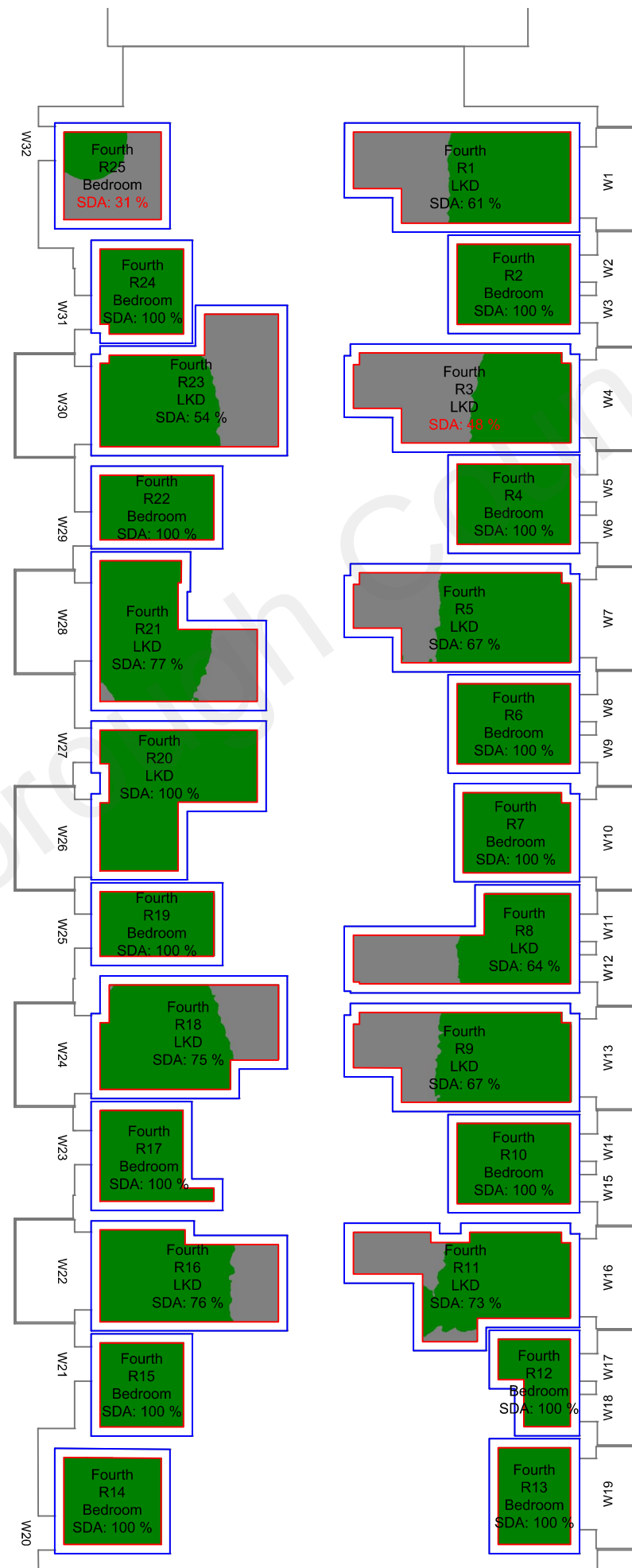
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GRAVESEND & NORTH KENT
HOSPITAL (M BLOCK)
CLIFTON ROAD
GRAVESEND, KENT

Drawing Description
SPATIAL DAYLIGHT
AUTONOMY
PROPOSED BLOCK M

Project Reference 20223730	Drawing Sheet No Rel01/21
Date 02/08/2022	
Scale 1:200 @ A3	



PROPOSED BLOCK M
THIRD FLOOR
SCALE 1:200 @ A3



PROPOSED BLOCK M
FOURTH FLOOR
SCALE 1:200 @ A3



LEGEND

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3D PHOTOGRAMMETRIC MODEL
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CONSENTED SCHEME DRAWINGS
PLANNING APPLICATION NO. 2019/0504

RMA ARCHITECTS
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KEY:
SDA % of Hours > req. lux
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No.	Revision/Issue	Date

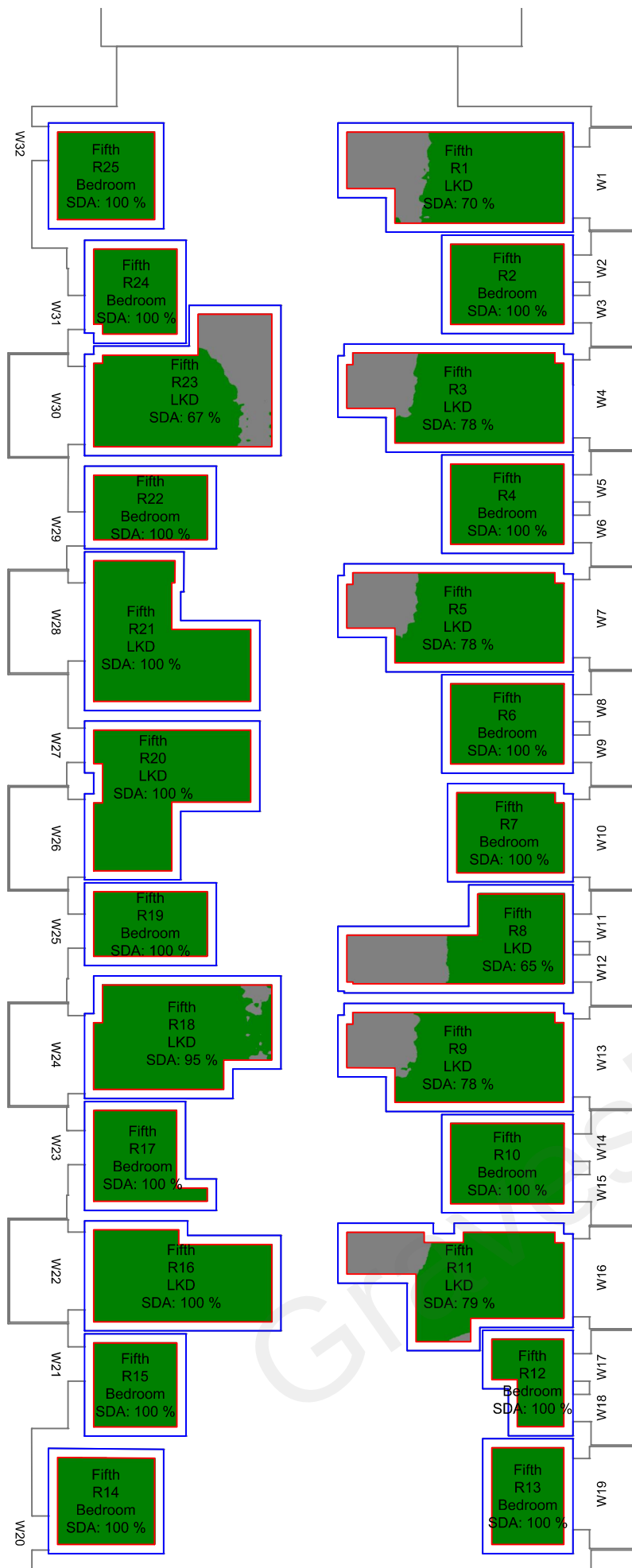
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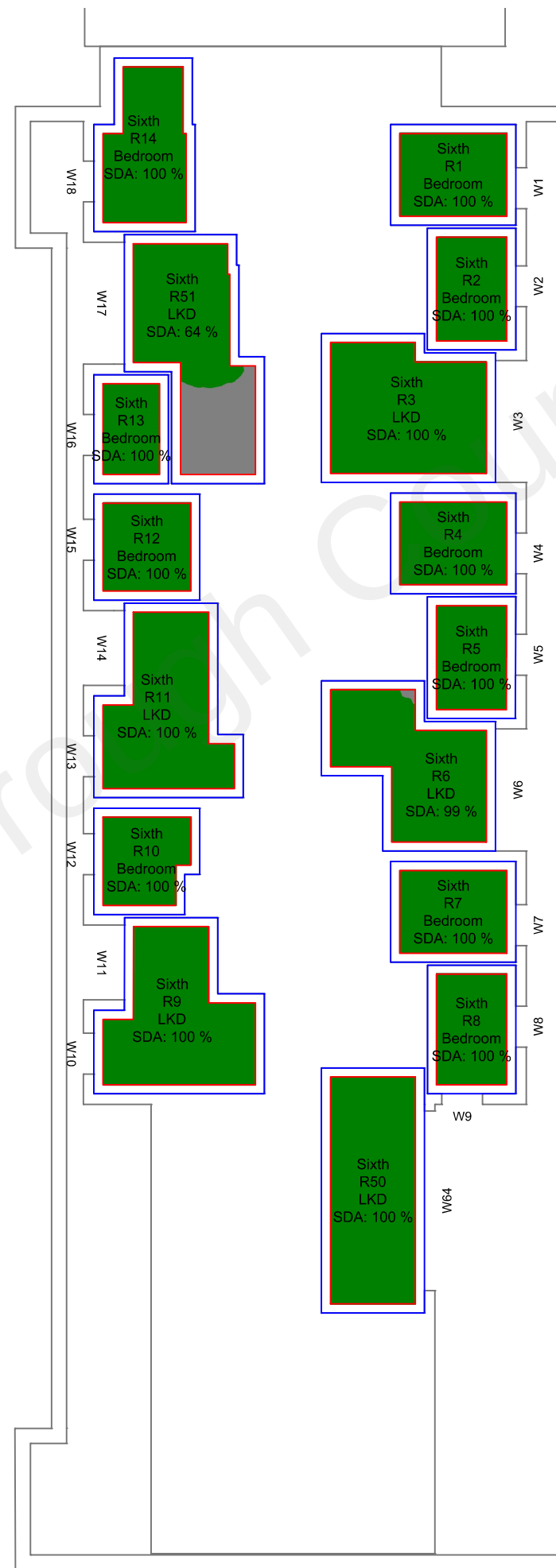
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GRAVESEND & NORTH KENT
HOSPITAL (M BLOCK)
CLIFTON ROAD
GRAVESEND, KENT

Drawing Description
SPATIAL DAYLIGHT
AUTONOMY
PROPOSED BLOCK M

Project Reference 20223730	Drawing Sheet No Rel01/22
Date 02/08/2022	
Scale 1:200 @ A3	



PROPOSED BLOCK M
FIFTH FLOOR
SCALE 1:200 @ A3



PROPOSED BLOCK M
SIXTH FLOOR
SCALE 1:200 @ A3



LEGEND

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3D PHOTOGRAMMETRIC MODEL
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Project Name and Address
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HOSPITAL (M BLOCK)
CLIFTON ROAD
GRAVESEND, KENT

Drawing Description
SPATIAL DAYLIGHT
AUTONOMY
PROPOSED BLOCK M

Project Reference 20223730	Drawing Sheet No Rel01/23
Date 02/08/2022	
Scale 1:200 @ A3	

APPENDIX 2

Tables;

SDA

Sunlight Exposure

APPENDIX 20223730
DAYLIGHT & SUNLIGHT
SELF TEST ASSESSMENT

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Project Name: 20223730 Gravesend_M01_Self-Test
Project No.:
Report Title: SDA BS En17037 Analysis - Proposed Scheme
Date of Analysis: 02/08/2022

Floor Ref	Room Ref	Room Attribute	Property Type	Room Use	Room Area m2	Effective Area	Area Meeting Req Lux	% of Area Meeting Req Lux	Req Lux	Req % of Effective Area	Req % of Daylight Hours	Daylight Hours	Meets Criteria
Proposed Block M													
First	R1	Residential	LKD		26.57	20.06	11.28	56%	200	50%	50%	4380	YES
	R2	Residential	Bedroom		14.30	10.07	10.07	100%	100	50%	50%	4380	YES
	R3	Residential	LKD		26.10	19.61	8.55	44%	200	50%	50%	4380	NO
	R4	Residential	Bedroom		14.29	10.07	10.07	100%	100	50%	50%	4380	YES
	R5	Residential	LKD		26.10	19.61	11.60	59%	200	50%	50%	4380	YES
	R6	Residential	Bedroom		14.29	10.07	10.07	100%	100	50%	50%	4380	YES
	R7	Residential	Bedroom		13.54	9.43	9.43	100%	100	50%	50%	4380	YES
	R8	Residential	LKD		22.13	15.64	8.76	56%	200	50%	50%	4380	YES
	R9	Residential	LKD		26.10	19.61	13.76	70%	200	50%	50%	4380	YES
	R10	Residential	Bedroom		14.30	10.07	10.07	100%	100	50%	50%	4380	YES
	R11	Residential	LKD		25.25	18.16	13.67	75%	200	50%	50%	4380	YES
	R12	Residential	Bedroom		9.20	5.65	5.65	100%	100	50%	50%	4380	YES
	R13	Residential	Bedroom		11.47	7.73	7.73	100%	100	50%	50%	4380	YES
	R14	Residential	Bedroom		13.35	9.32	9.32	100%	100	50%	50%	4380	YES
	R15	Residential	Bedroom		11.47	7.76	7.70	99%	100	50%	50%	4380	YES
	R16	Residential	LKD		22.39	16.64	9.05	54%	200	50%	50%	4380	YES
	R17	Residential	Bedroom		13.23	8.79	8.42	96%	100	50%	50%	4380	YES
	R18	Residential	LKD		24.68	18.67	9.42	50%	200	50%	50%	4380	YES
	R19	Residential	Bedroom		12.04	8.12	8.12	100%	100	50%	50%	4380	YES
	R20	Residential	LKD		24.57	18.08	13.65	75%	200	50%	50%	4380	YES
	R21	Residential	LKD		24.92	18.55	11.19	60%	200	50%	50%	4380	YES
	R22	Residential	Bedroom		12.04	8.12	8.12	100%	100	50%	50%	4380	YES
	R23	Residential	LKD		27.87	21.31	8.96	42%	200	50%	50%	4380	NO
	R24	Residential	Bedroom		11.46	7.74	7.74	100%	100	50%	50%	4380	YES
	R25	Residential	Bedroom		13.47	9.42	9.38	100%	100	50%	50%	4380	YES
Second	R1	Residential	LKD		26.57	20.06	11.49	57%	200	50%	50%	4380	YES
	R2	Residential	Bedroom		14.30	10.07	10.07	100%	100	50%	50%	4380	YES
	R3	Residential	LKD		26.10	19.61	8.88	45%	200	50%	50%	4380	NO
	R4	Residential	Bedroom		14.29	10.07	10.07	100%	100	50%	50%	4380	YES
	R5	Residential	LKD		26.10	19.61	11.93	61%	200	50%	50%	4380	YES
	R6	Residential	Bedroom		14.29	10.07	10.07	100%	100	50%	50%	4380	YES
	R7	Residential	Bedroom		13.54	9.43	9.43	100%	100	50%	50%	4380	YES
	R8	Residential	LKD		22.13	15.64	9.46	60%	200	50%	50%	4380	YES
	R9	Residential	LKD		26.10	19.61	11.84	60%	200	50%	50%	4380	YES
	R10	Residential	Bedroom		14.30	10.07	10.07	100%	100	50%	50%	4380	YES
	R11	Residential	LKD		25.25	18.16	10.99	60%	200	50%	50%	4380	YES
	R12	Residential	Bedroom		9.20	5.65	5.65	100%	100	50%	50%	4380	YES
	R13	Residential	Bedroom		11.47	7.73	7.73	100%	100	50%	50%	4380	YES
	R14	Residential	Bedroom		13.35	9.32	9.32	100%	100	50%	50%	4380	YES
	R15	Residential	Bedroom		11.47	7.76	7.76	100%	100	50%	50%	4380	YES
	R16	Residential	LKD		22.39	16.64	10.44	63%	200	50%	50%	4380	YES
	R17	Residential	Bedroom		13.23	8.79	8.79	100%	100	50%	50%	4380	YES
	R18	Residential	LKD		24.68	18.67	11.08	59%	200	50%	50%	4380	YES
	R19	Residential	Bedroom		12.04	8.12	8.12	100%	100	50%	50%	4380	YES
	R20	Residential	LKD		24.57	18.08	15.37	85%	200	50%	50%	4380	YES
	R21	Residential	LKD		24.92	18.55	11.74	63%	200	50%	50%	4380	YES
	R22	Residential	Bedroom		12.04	8.12	8.12	100%	100	50%	50%	4380	YES
	R23	Residential	LKD		27.87	21.31	9.84	46%	200	50%	50%	4380	NO
	R24	Residential	Bedroom		11.46	7.74	7.74	100%	100	50%	50%	4380	YES
	R25	Residential	Bedroom		13.47	9.42	2.66	28%	100	50%	50%	4380	NO
Third	R1	Residential	LKD		26.57	20.06	11.71	58%	200	50%	50%	4380	YES
	R2	Residential	Bedroom		14.30	10.07	10.07	100%	100	50%	50%	4380	YES
	R3	Residential	LKD		26.10	19.61	9.13	47%	200	50%	50%	4380	NO
	R4	Residential	Bedroom		14.29	10.07	10.07	100%	100	50%	50%	4380	YES
	R5	Residential	LKD		26.10	19.61	12.35	63%	200	50%	50%	4380	YES
	R6	Residential	Bedroom		14.29	10.07	10.07	100%	100	50%	50%	4380	YES
	R7	Residential	Bedroom		13.54	9.43	9.43	100%	100	50%	50%	4380	YES
	R8	Residential	LKD		22.13	15.64	9.68	62%	200	50%	50%	4380	YES
	R9	Residential	LKD		26.10	19.61	12.24	62%	200	50%	50%	4380	YES
	R10	Residential	Bedroom		14.30	10.07	10.07	100%	100	50%	50%	4380	YES
	R11	Residential	LKD		25.25	18.16	11.60	64%	200	50%	50%	4380	YES
	R12	Residential	Bedroom		9.20	5.65	5.65	100%	100	50%	50%	4380	YES
	R13	Residential	Bedroom		11.47	7.73	7.73	100%	100	50%	50%	4380	YES
	R14	Residential	Bedroom		13.35	9.32	9.32	100%	100	50%	50%	4380	YES
	R15	Residential	Bedroom		11.47	7.76	7.76	100%	100	50%	50%	4380	YES
	R16	Residential	LKD		22.39	16.64	11.83	71%	200	50%	50%	4380	YES
	R17	Residential	Bedroom		13.23	8.79	8.79	100%	100	50%	50%	4380	YES
	R18	Residential	LKD		24.68	18.67	12.96	69%	200	50%	50%	4380	YES
	R19	Residential	Bedroom		12.04	8.12	8.12	100%	100	50%	50%	4380	YES
	R20	Residential	LKD		24.57	18.08	18.08	100%	200	50%	50%	4380	YES
	R21	Residential	LKD		24.92	18.55	12.94	70%	200	50%	50%	4380	YES
	R22	Residential	Bedroom		12.04	8.12	8.12	100%	100	50%	50%	4380	YES
	R23	Residential	LKD		27.87	21.31	10.59	50%	200	50%	50%	4380	YES
	R24	Residential	Bedroom		11.46	7.74	7.74	100%	100	50%	50%	4380	YES
	R25	Residential	Bedroom		13.47	9.42	2.87	30%	100	50%	50%	4380	NO
Fourth	R1	Residential	LKD		26.57	20.06	12.26	61%	200	50%	50%	4380	YES
	R2	Residential	Bedroom		14.30	10.07	10.07	100%	100	50%	50%	4380	YES
	R3	Residential	LKD		26.10	19.61	9.46	48%	200	50%	50%	4380	NO
	R4	Residential	Bedroom		14.29	10.07	10.07	100%	100	50%	50%	4380	YES
	R5	Residential	LKD		26.10	19.61	13.06	67%	200	50%	50%	4380	YES
	R6	Residential	Bedroom		14.29	10.07	10.07	100%	100	50%	50%	4380	YES
	R7	Residential	Bedroom		13.54	9.43	9.43	100%	100	50%	50%	4380	YES
	R8	Residential	LKD		22.13	15.64	9.96	64%	200	50%	50%	4380	YES
	R9	Residential	LKD		26.10	19.61	13.12	67%	200	50%	50%	4380	YES
	R10	Residential	Bedroom		14.30	10.07	10.07	100%	100	50%	50%	4380	YES
	R11	Residential	LKD		25.25	18.16	13.22	73%	200	50%	50%	4380	YES
	R12	Residential	Bedroom		9.20	5.65	5.65	100%	100	50%	50%	4380	YES
	R13	Residential	Bedroom		11.47	7.73	7.73	100%	100	50%	50%	4380	YES



Project Name: 20223730 Gravesend_M01_Self-Test□
Project No.: □
Report Title: SDA BS En17037 Analysis - Proposed Scheme□
Date of Analysis: 02/08/2022□

Floor Ref	Room Ref	Room Attribute	Property Type	Room Use	Room Area m2	Effective Area	Area Meeting Req Lux	% of Area Meeting Req Lux	Req Lux	Req % of Effective Area	Req % of Daylight Hours	Daylight Hours	Meets Criteria
	R14		Residential	Bedroom	13.35	9.32	9.32	100%	100	50%	50%	4380	YES
	R15		Residential	Bedroom	11.47	7.76	7.76	100%	100	50%	50%	4380	YES
	R16		Residential	LKD	22.39	16.64	12.63	76%	200	50%	50%	4380	YES
	R17		Residential	Bedroom	13.23	8.79	8.79	100%	100	50%	50%	4380	YES
	R18		Residential	LKD	24.68	18.67	13.94	75%	200	50%	50%	4380	YES
	R19		Residential	Bedroom	12.04	8.12	8.12	100%	100	50%	50%	4380	YES
	R20		Residential	LKD	24.57	18.08	18.08	100%	200	50%	50%	4380	YES
	R21		Residential	LKD	24.92	18.55	14.20	77%	200	50%	50%	4380	YES
	R22		Residential	Bedroom	12.04	8.12	8.12	100%	100	50%	50%	4380	YES
	R23		Residential	LKD	27.87	21.31	11.57	54%	200	50%	50%	4380	YES
	R24		Residential	Bedroom	11.46	7.74	7.74	100%	100	50%	50%	4380	YES
	R25		Residential	Bedroom	13.47	9.42	2.96	31%	100	50%	50%	4380	NO
Fifth	R1		Residential	LKD	26.57	20.06	14.03	70%	200	50%	50%	4380	YES
	R2		Residential	Bedroom	14.30	10.07	10.07	100%	100	50%	50%	4380	YES
	R3		Residential	LKD	26.10	19.61	15.35	78%	200	50%	50%	4380	YES
	R4		Residential	Bedroom	14.29	10.07	10.07	100%	100	50%	50%	4380	YES
	R5		Residential	LKD	26.10	19.61	15.37	78%	200	50%	50%	4380	YES
	R6		Residential	Bedroom	14.29	10.07	10.07	100%	100	50%	50%	4380	YES
	R7		Residential	Bedroom	13.54	9.43	9.43	100%	100	50%	50%	4380	YES
	R8		Residential	LKD	22.13	15.64	10.22	65%	200	50%	50%	4380	YES
	R9		Residential	LKD	26.10	19.61	15.37	78%	200	50%	50%	4380	YES
	R10		Residential	Bedroom	14.30	10.07	10.07	100%	100	50%	50%	4380	YES
	R11		Residential	LKD	25.25	18.16	14.42	79%	200	50%	50%	4380	YES
	R12		Residential	Bedroom	9.20	5.65	5.65	100%	100	50%	50%	4380	YES
	R13		Residential	Bedroom	11.47	7.73	7.73	100%	100	50%	50%	4380	YES
	R14		Residential	Bedroom	13.35	9.32	9.32	100%	100	50%	50%	4380	YES
	R15		Residential	Bedroom	11.47	7.76	7.76	100%	100	50%	50%	4380	YES
	R16		Residential	LKD	22.39	16.64	16.64	100%	200	50%	50%	4380	YES
	R17		Residential	Bedroom	13.23	8.79	8.79	100%	100	50%	50%	4380	YES
	R18		Residential	LKD	24.68	18.67	17.79	95%	200	50%	50%	4380	YES
	R19		Residential	Bedroom	12.04	8.12	8.12	100%	100	50%	50%	4380	YES
	R20		Residential	LKD	24.57	18.08	18.08	100%	200	50%	50%	4380	YES
	R21		Residential	LKD	24.92	18.55	18.55	100%	200	50%	50%	4380	YES
	R22		Residential	Bedroom	12.04	8.12	8.12	100%	100	50%	50%	4380	YES
	R23		Residential	LKD	27.87	21.31	14.28	67%	200	50%	50%	4380	YES
	R24		Residential	Bedroom	11.46	7.74	7.74	100%	100	50%	50%	4380	YES
	R25		Residential	Bedroom	13.47	9.42	9.42	100%	100	50%	50%	4380	YES
Sixth	R1		Residential	Bedroom	13.93	9.79	9.79	100%	100	50%	50%	4380	YES
	R2		Residential	Bedroom	11.91	8.07	8.07	100%	100	50%	50%	4380	YES
	R3		Residential	LKD	27.14	21.05	21.05	100%	200	50%	50%	4380	YES
	R4		Residential	Bedroom	13.93	9.79	9.79	100%	100	50%	50%	4380	YES
	R5		Residential	Bedroom	11.87	8.04	8.04	100%	100	50%	50%	4380	YES
	R6		Residential	LKD	24.47	17.96	17.81	99%	200	50%	50%	4380	YES
	R7		Residential	Bedroom	13.93	9.79	9.79	100%	100	50%	50%	4380	YES
	R8		Residential	Bedroom	12.57	8.60	8.60	100%	100	50%	50%	4380	YES
	R9		Residential	LKD	26.17	19.61	19.61	100%	200	50%	50%	4380	YES
	R10		Residential	Bedroom	11.79	7.91	7.91	100%	100	50%	50%	4380	YES
	R11		Residential	LKD	25.32	18.81	18.81	100%	200	50%	50%	4380	YES
	R12		Residential	Bedroom	12.41	8.55	8.55	100%	100	50%	50%	4380	YES
	R13		Residential	Bedroom	8.99	5.69	5.69	100%	100	50%	50%	4380	YES
	R14		Residential	Bedroom	17.76	12.64	12.64	100%	100	50%	50%	4380	YES
	R50		Residential	LKD	27.88	21.30	21.30	100%	200	50%	50%	4380	YES
	R51		Residential	LKD	29.21	21.81	14.03	64%	200	50%	50%	4380	YES

Property	Number of Rooms Tested	Rooms satisfying Criteria		Rooms not satisfying Criteria
		No.	%	
Proposed Block M	141	132	94%	9
Total	141	132	94%	9



Project Name: 20223730 Gravesend_M01_Self-Test
Project No.:
Report Title: Sunlight Exposure Analysis - Proposed Scheme <Report Title>
Date: 02/08/2022

Floor Ref	Room Ref	Room Attribute	Property Type	Room Use	Window Ref	Existing Sunlight Exposure (Hours)	Rating	Calc Datetime
Proposed Block M								
First	R1	Residential	LKD	W1	102°	4.1	4.1	High
						2.7	2.5	Minimum
First	R2	Residential	Bedroom	W2	102°	2.7	2.7	Minimum
						2.5	2.7	Minimum
First	R3	Residential	LKD	W4	102°	4.2	4.2	High
						2.7	2.5	Minimum
First	R4	Residential	Bedroom	W5	102°	2.7	2.5	Minimum
						2.5	2.7	Minimum
First	R5	Residential	LKD	W7	102°	4.2	4.2	High
						2.7	2.5	Minimum
First	R6	Residential	Bedroom	W8	102°	2.7	2.5	Minimum
						2.5	2.7	Minimum
First	R7	Residential	Bedroom	W10	102°	4.2	4.2	High
						2.7	2.5	Minimum
First	R8	Residential	LKD	W11	102°	2.7	2.5	Minimum
						2.5	2.7	Minimum
First	R9	Residential	LKD	W13	102°	4.2	4.2	High
						2.7	2.5	Minimum
First	R10	Residential	Bedroom	W14	102°	2.7	2.5	Minimum
						2.5	2.7	Minimum
First	R11	Residential	LKD	W16	102°	4.2	4.2	High
						2.7	2.5	Minimum
First	R12	Residential	Bedroom	W17	102°	2.7	2.7	Minimum
						2.5	2.7	Minimum
First	R13	Residential	Bedroom	W19	102°	4.1	4.1	High
						2.7	2.5	Minimum
First	R14	Residential	Bedroom	W20	282°N	1	1	Failed
						1.3	1.3	Failed
First	R15	Residential	Bedroom	W21	282°N	2.7	2.7	Minimum
						1.5	1.5	Minimum
First	R16	Residential	LKD	W22	282°N	2.8	2.8	Minimum
						1.5	1.5	Minimum
First	R17	Residential	Bedroom	W23	282°N	2.9	2.9	Minimum
						1.4	1.4	Failed
First	R18	Residential	LKD	W24	282°N	2.9	2.9	Minimum
						1.5	1.5	Minimum
First	R19	Residential	Bedroom	W25	282°N	2.9	2.9	Minimum
						1.4	1.4	Failed
First	R20	Residential	LKD	W26	282°N	2.9	2.9	Minimum
						1.4	1.4	Failed
First	R21	Residential	LKD	W28	282°N	2.9	2.9	Minimum
						1.4	1.4	Failed
First	R22	Residential	Bedroom	W29	282°N	2.9	2.9	Minimum
						1.4	1.4	Failed
First	R23	Residential	LKD	W30	282°N	2.9	2.9	Minimum
						1.5	1.5	Minimum
First	R24	Residential	Bedroom	W31	282°N	2.9	2.9	Minimum
						1.5	1.5	Minimum
First	R25	Residential	Bedroom	W32	282°N	2.9	2.9	Minimum
						1.5	1.5	Minimum
Second	R1	Residential	LKD	W1	102°	4.1	4.1	High
						2.7	2.5	Minimum
Second	R2	Residential	Bedroom	W2	102°	2.7	2.7	Minimum
						2.5	2.7	Minimum



Project Name: 20223730 Gravesend_M01_Self-Test
Project No.:
Report Title: Sunlight Exposure Analysis - Proposed Scheme <Report Title>
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Floor Ref	Room Ref	Room Attribute	Property Type	Room Use	Window Ref	Existing Sunlight Exposure (Hours)	Rating	Calc Datetime
Second	R3		Residential	LKD	W4	102°	4.2	
							4.2	High
Second	R4		Residential	Bedroom	W5	102°	2.7	
					W6	102°	2.5	
							2.7	Minimum
Second	R5		Residential	LKD	W7	102°	4.2	
							4.2	High
Second	R6		Residential	Bedroom	W8	102°	2.7	
					W9	102°	2.5	
							2.7	Minimum
Second	R7		Residential	Bedroom	W10	102°	4.2	
							4.2	High
Second	R8		Residential	LKD	W11	102°	2.7	
					W12	102°	2.5	
							2.7	Minimum
Second	R9		Residential	LKD	W13	102°	4.2	
							4.2	High
Second	R10		Residential	Bedroom	W14	102°	2.7	
					W15	102°	2.5	
							2.7	Minimum
Second	R11		Residential	LKD	W16	102°	4.2	
							4.2	High
Second	R12		Residential	Bedroom	W17	102°	2.7	
					W18	102°	2.5	
							2.7	Minimum
Second	R13		Residential	Bedroom	W19	102°	4.1	
							4.1	High
Second	R14		Residential	Bedroom	W20	282°N	1.5	
							1.5	Minimum
Second	R15		Residential	Bedroom	W21	282°N	1.6	
							1.6	Minimum
Second	R16		Residential	LKD	W22	282°N	2.9	
							2.9	Minimum
Second	R17		Residential	Bedroom	W23	282°N	1.5	
							1.5	Minimum
Second	R18		Residential	LKD	W24	282°N	2.9	
							2.9	Minimum
Second	R19		Residential	Bedroom	W25	282°N	1.5	
							1.5	Minimum
Second	R20		Residential	LKD	W26	282°N	2.9	
					W27	282°N	1.4	
							2.9	Minimum
Second	R21		Residential	LKD	W28	282°N	2.9	
							2.9	Minimum
Second	R22		Residential	Bedroom	W29	282°N	1.4	
							1.4	Failed
Second	R23		Residential	LKD	W30	282°N	2.9	
							2.9	Minimum
Second	R24		Residential	Bedroom	W31	282°N	1.5	
							1.5	Minimum
Second	R25		Residential	Bedroom	W32	282°N	1.5	
							1.5	Minimum
Third	R1		Residential	LKD	W1	102°	4.1	
							4.1	High
Third	R2		Residential	Bedroom	W2	102°	2.7	
					W3	102°	2.5	
							2.7	Minimum
Third	R3		Residential	LKD	W4	102°	4.2	
							4.2	High
Third	R4		Residential	Bedroom	W5	102°	2.7	
					W6	102°	2.5	
							2.7	Minimum
Third	R5		Residential	LKD	W7	102°	4.2	
							4.2	High