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PO6 4TY

15 February 2022

Dear Donncha,

Re: 220 Elgar Road South, Reading RG2 0BW – Daylight and sunlight addendum considering January 2022 scheme revisions

Introduction

eb7 have been instructed to consider the daylight and sunlight implications of the recent scheme amendments at 220 Elgar Road South, Reading RG2 0BW.

The previous proposed development submitted for planning on the 6th April 2021 (planning ref: 21/0526/FUL) consisted of the following: -

“Residential redevelopment comprising demolition of existing single-storey building and erection of 18 dwellings together with associated works.”

Following refusal, the scheme has been further rationalised to respond to design comments received from the planning officers. These recent scheme changes include: -

- The removal of the third level apartments within the roof space;
- A reduction in height of the southernmost part of the proposed roof adjacent to 228 Elgar Road South between c.0.7m and c.3m;
- Minor amendments to the positioning and proportions of the fenestration;
- Reconfigurations of the layouts across the ground, first and second levels.

Given the external amendments to the scheme result in reductions in massing / height from the previous submission scheme, the daylight / sunlight amenity will only improve from this previous position whereby the effects were considered in line with the BRE guidelines. For this latest technical review, we have therefore focused on the internal daylight and sunlight provision within the proposed habitable rooms.

The following images are 3D aerial views of the previous submission scheme which was refused at planning alongside the amended scheme considered as part of this latest study.

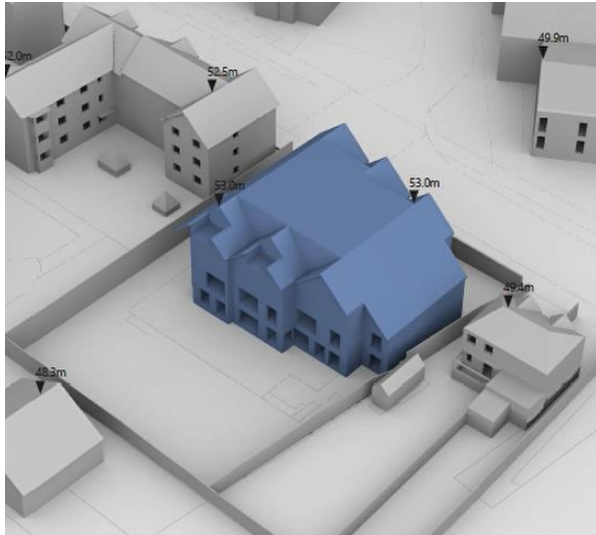


Image 1: Previous proposal (REF: 21/0526)

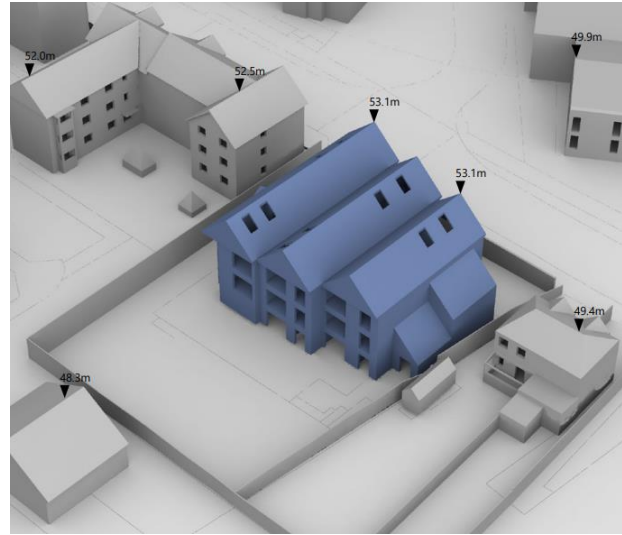


Image 2: Latest revised scheme

The below commentary provides a summary of the revised findings of our latest internal daylight and sunlight assessments for the proposed accommodation.

Guidance

The Building Research Establishment (BRE) Report 209, 'Site layout planning for daylight and sunlight: A guide to good practice', is the reference document used by most local authorities for assessing daylight and sunlight in relation to new developments. Commonly referred to as 'the BRE guidelines', it provides various testing methodologies to calculate the potential light levels received by neighbours of a development site and provided within proposed new development.

Daylight to new buildings

The ADF method calculates the average illuminance within a room as a proportion of the illuminance available to an unobstructed point outdoors under a sky of known luminance and luminance distribution. This is the most detailed of the daylight calculations and considers the physical nature of the room behind the window, including window transmittance and surface reflectivity. The BRE guidance and British Standard sets the following recommended ADF levels for habitable room uses:

Bedrooms

1% ADF

Living rooms & Dining rooms	1.5% ADF
Kitchens	2% ADF

For multi-purpose living / kitchen / diner (L/K/D) arrangements the higher 2% 'kitchen' target can be difficult to achieve due to the depth of internal space. In such cases, it is not uncommon to apply the living room 1.5% target instead as this is the predominant use of the space.

Detailed sunlight assessments

For sunlight, the Annual Probable Sunlight Hours (APSH) test calculates the percentage of probable hours of sunlight received by a window or room over the course of a year.

The BRE recommends that in general for a dwelling or non-domestic building which has a particular requirement for sunlight will appear reasonably sunlit throughout the year provided at least one main windows wall faces within 90° of due south and the centre of at least one window to a main living room can receive 25% of annual probable sunlight hours, including at least 5% annual probable sunlight hours during the winter months between 21st September the 21st March.

Application of the guidance

Scope of assessment

Our assessment has considered all of the proposed residential units within the scheme. The daylight assessment considers all of the main habitable rooms (bedrooms, living rooms, kitchens etc.), toilets, hallways and staircases are not considered habitable use.

For sunlight the BRE acknowledges that windows with a predominantly northern orientation are unlikely to satisfy its targets and that main living rooms are most important. Therefore, our sunlight assessment focusses on the relevant living areas with windows facing within 90° of due south only.

Application of the numerical criteria

The opening paragraphs of the BRE guidelines state:

"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".

It is therefore very important to apply the BRE guidance sensibly and flexibly, with careful consideration of the specific site context.

Sources of information

A topographical survey and architectural drawings have been used to create a 3D computer model of the proposed development in the context of the existing site and surrounding buildings.

Where survey information was unavailable for the neighbouring buildings, these have been positioned from Ordnance Survey data. In absence of an elevational survey for the neighbouring properties, the neighbouring elevations have been modelled from available planning records or based on brick counts from site photographs.

The full list of sources of information used in this assessment is as follows: -

KTK Group

Topographical Survey

KTK-S27-11-001(2010_REV_A).dwg

Received 24/03/2021

Sawkings Harper Architects

2D drawings of the proposed development

A4080-2000-P6-Proposed Site Plan.dwg

A4080-2100-P6-Proposed GF Plan.dwg

A4080-2101-P6-Proposed FF Plan.dwg

A4080-2102-P5-Proposed SF Plan.dwg

A4080-2104-P5-Proposed Roof Plan.dwg

A4080-2200-P5-Proposed Street Elevation.dwg

A4080-2201-P6-Proposed East-West Elevation.dwg

A4080-2202-P6-Proposed North-South Elevation.dwg

Received 26/01/22

Internal Daylight & Sunlight Amenity

The daylight and sunlight amenity provided within the proposed residential accommodation has been assessed using the ADF and APSH tests following the methodology of the BRE guidance.

Full results of the daylight and sunlight assessments within the proposed apartments, along with drawings to show the revised layout of rooms and windows, are attached within Appendix 1.

Daylight

Room Type	ADF Target	Total No. of Rooms	Rooms That Meet ADF Target
L/K/D	2%	16	16 (100%)
Bedroom	1%	22	22 (100%)

Total		38	38 (100%)
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Table 1 - Summary ADF results for proposed accommodation

The results of our ADF assessments show that all (100%) of the proposed habitable rooms will exceed the BRE recommendations of at least 1.5% for a main living space and 1% for a bedroom. The main living spaces will enjoy ADFs between 2.9-6.7% with the bedrooms achieving between 1.2-4.5%.

Our analysis demonstrates that the proposed accommodation will be sufficiently daylight and is in accordance with the BRE guidelines with relation to internal daylight amenity.

Sunlight

Room Type	Total No. of rooms	Rooms that meet APSH/WPSH criteria
L/K/Ds	16	16 (100%)

Table 2 - Summary APSH results for proposed accommodation

As set out in our previous daylight and sunlight report, the focus of the BRE sunlight guidelines is on main living spaces: -

"3.1.2 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. Sunlight is also required in conservatories. It is viewed as less important in bedrooms and in kitchens"

The results of our internal sunlight assessments based on the revised scheme show that all 16 (100%) of the main living spaces being proposed will enjoy sunlight levels in excess of the BRE recommendations where all rooms exceed at least 25% Annual Probable Sunlight Hours for total annual levels and at least 5% during the winter.

This level of compliance is excellent for a residential apartment scheme and demonstrates full adherence with the BRE guidelines for internal sunlight provision.

Conclusions

This practice has been instructed to review the revised proposals at 220 Elgar Road South, Reading in terms of the daylight and sunlight amenity. This addendum report follows on from our earlier daylight and sunlight assessments undertaken for the previous submission scheme (LPA REF: 21/0526/FUL) which was considered in line with the BRE recommendations.

The latest scheme amendments lead to reductions in both mass and height from the previous April 2021 submission scheme therefore it has not been necessary to revisit our technical assessments for the impacts to the neighbours. This addendum focuses solely on the internal daylight and sunlight provision to the proposed habitable spaces given there has been some rearrangement of the proposed floorplans.

The results of our Average Daylight Factor (ADF) and Annual Probable Sunlight Hours (APSH) assessments demonstrate that all of the proposed habitable rooms between ground and second level will meet or exceed the BRE recommended levels. Our analysis therefore shows that the future residents will enjoy sufficient

levels of daylight and sunlight amenity and will provide a good quality living environment in line with Policy CC8: Safeguarding Amenity of the Reading Borough Local Plan.

I trust that the above is useful in setting out the latest daylight and sunlight position for the latest proposals. If you have any queries regarding any of the above, please do not hesitate to get in touch.

Yours Sincerely,

A handwritten signature in black ink, appearing to read 'M. G. M.', is positioned below the closing 'Yours Sincerely,'.

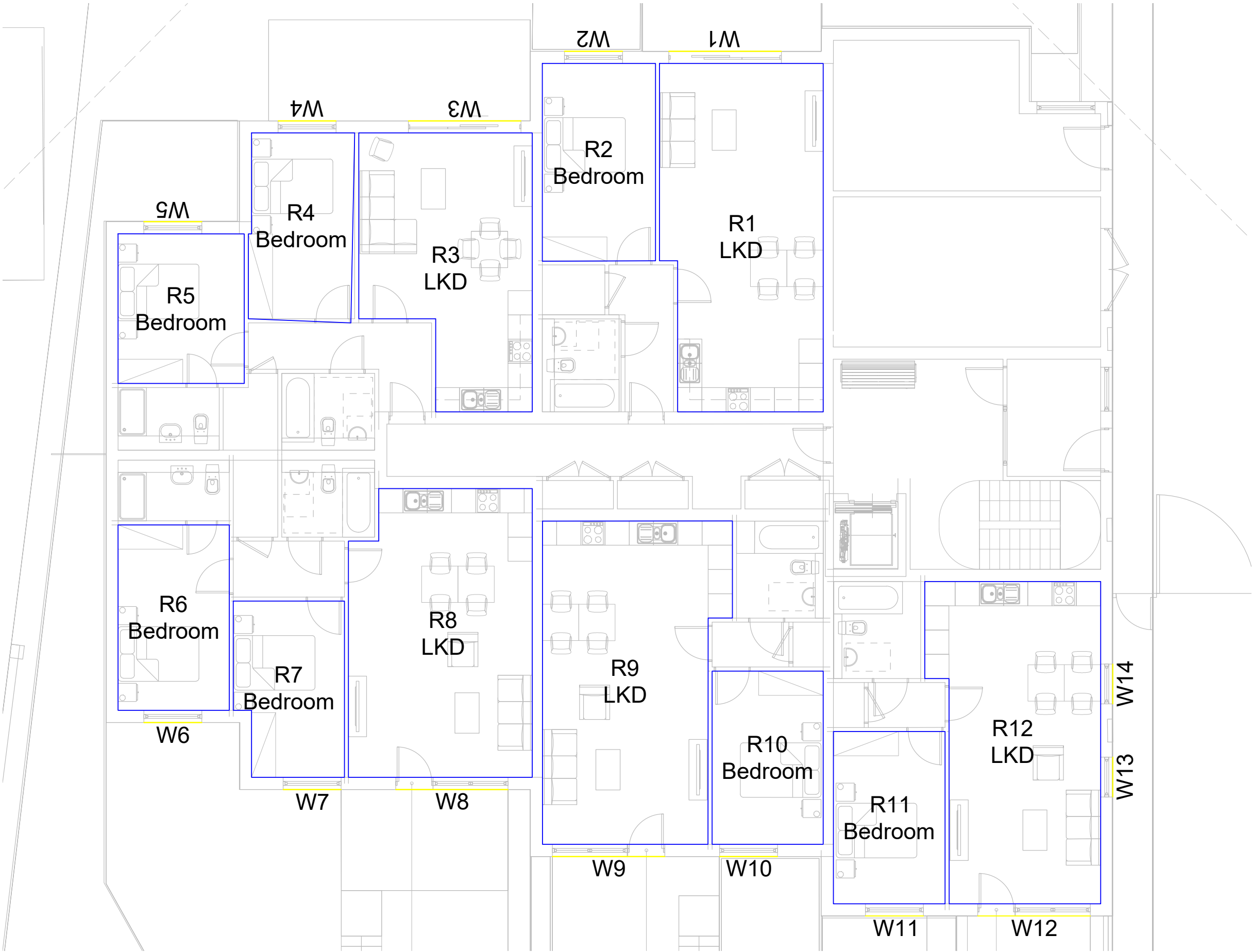
Senior Surveyor

Eb7 Ltd



Appendix 1

Results of the daylight and sunlight assessments
within the proposed dwellings

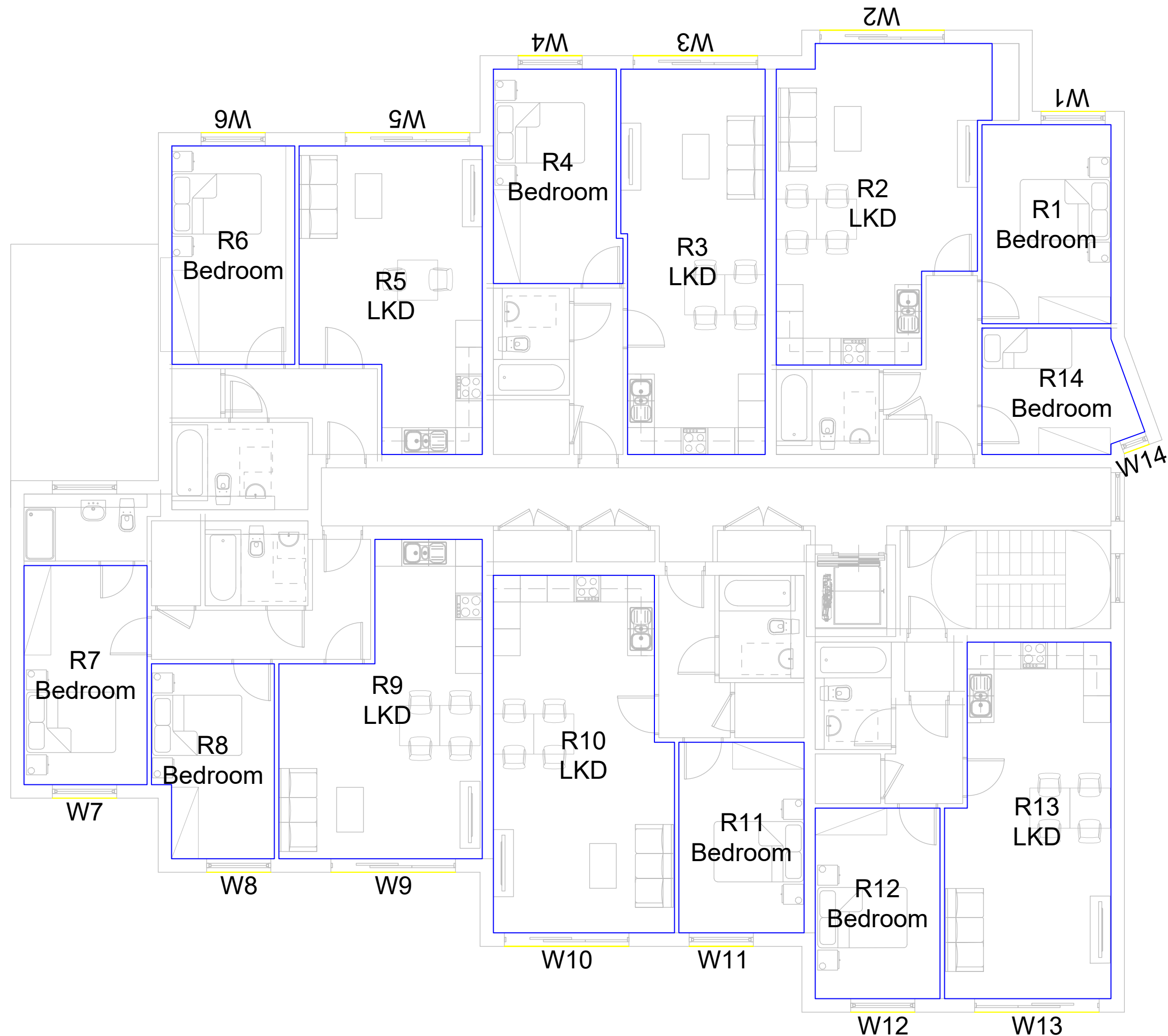


Sources of information

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dwg
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tion.dwg
A4080-2202-P6-Proposed North-South
Elevation.dwg
Received 26/01/2022
- Promap-855199-951103-720-0.DWG
Received 16/03/2021



Project	220 Elgar Road South Reading		
Title	Proposed Ground Floor Room Layout		
Drawn	JC	Checked	--
Date	07/02/2022	Project	4681
Rel no.	02	Prefix	ID01
		Page no.	ID01



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Received 26/01/2022

Promap-855199-951103-720-0.DWG
Received 16/03/2021

NORTH



Project 220 Elgar Road South
Reading

Title Proposed First Floor
Room Layout

Drawn JC Checked --

Date 07/02/2022 Project 4681

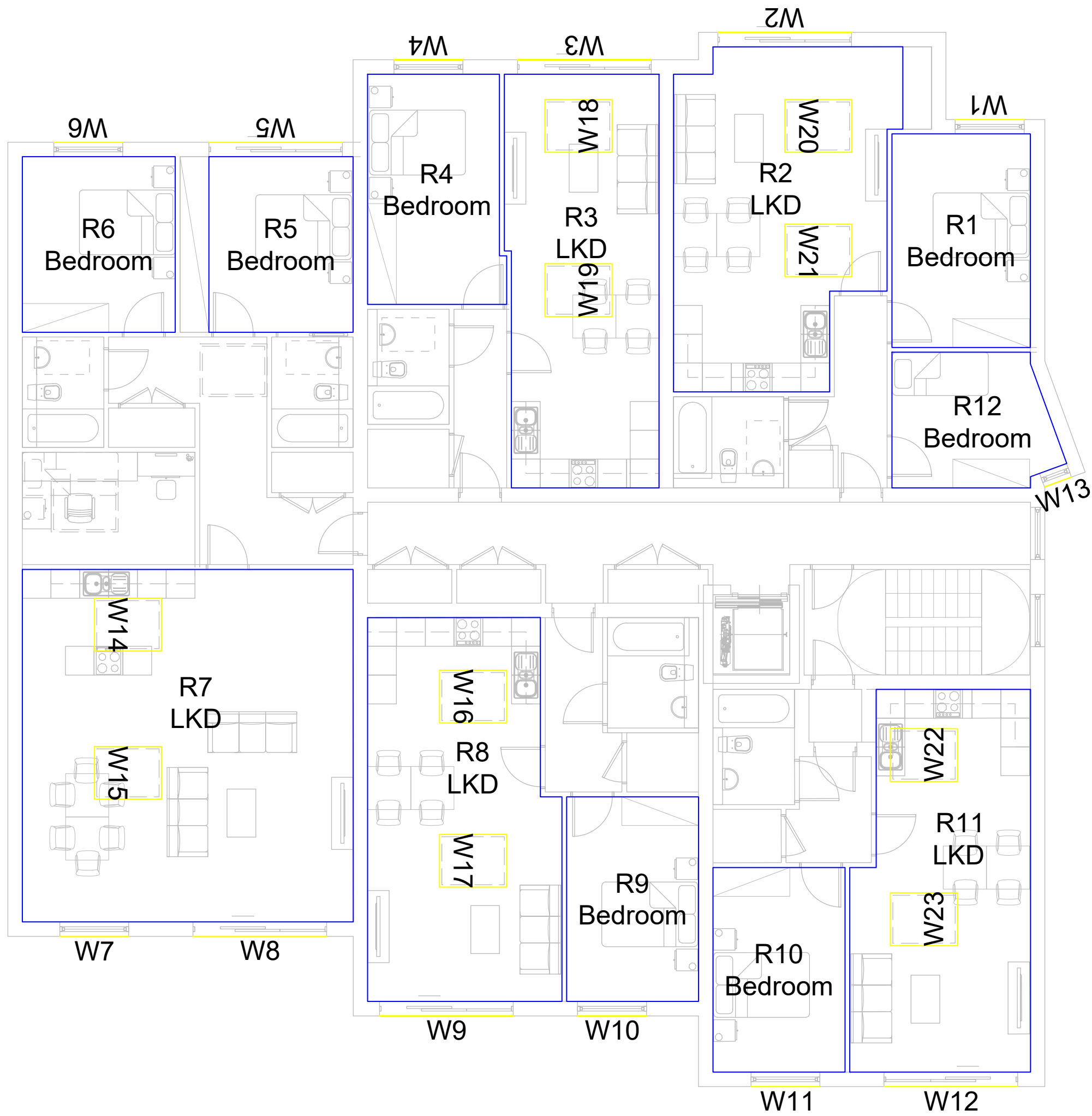
Rel no. 02 Prefix ID01 Page no. ID02

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Project	220 Elgar Road South Reading		
Title	Proposed Second Floor Room Layout		
Drawn	JC	Checked	--
Date	07/02/2022	Project	4681
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		Page no.	ID03



Floor	Room ID	Window ID	Room Use	ADF	TOTAL ADF	ROOM TOTAL APSH	ROOM WINTER APSH
Proposed							
Ground	R1	W1-L	LKD	0.6			
		W1-U	LKD	2.5	3.1	45	15
Ground	R2	W2-L	Bedroom	0.7			
		W2-U	Bedroom	2.7	3.4		
Ground	R3	W3-L	LKD	0.7			
		W3-U	LKD	2.7	3.4	45	14
Ground	R4	W4-L	Bedroom	0.7			
		W4-U	Bedroom	2.9	3.6		
Ground	R5	W5-L	Bedroom	0.5			
		W5-U	Bedroom	2.3	2.8		
Ground	R6	W6-L	Bedroom	0.6			
		W6-U	Bedroom	2.4	3.0		
Ground	R7	W7-L	Bedroom	0.7			
		W7-U	Bedroom	3.0	3.7		
Ground	R8	W8-L	LKD	0.5			
		W8-U	LKD	2.4	2.9	35	7
Ground	R9	W9-L	LKD	0.5			
		W9-U	LKD	2.3	2.9	35	7
Ground	R10	W10-L	Bedroom	0.6			
		W10-U	Bedroom	2.7	3.3		
Ground	R11	W11-L	Bedroom	0.6			
		W11-U	Bedroom	2.8	3.3		
Ground	R12	W12-L	LKD	0.5			
		W12-U	LKD	2.4			
		W13	LKD	0.3			
		W14	LKD	0.3	3.5	29	6
First	R1	W1-L	Bedroom	0.6			
		W1-U	Bedroom	2.2	2.8		
First	R2	W2-L	LKD	0.8			
		W2-U	LKD	3.0	3.7	46	15
First	R3	W3-L	LKD	0.8			
		W3-U	LKD	3.1	3.9	46	15
First	R4	W4-L	Bedroom	0.8			
		W4-U	Bedroom	3.0	3.7		
First	R5	W5-L	LKD	0.8			
		W5-U	LKD	3.0	3.8	46	15
First	R6	W6-L	Bedroom	0.7			
		W6-U	Bedroom	2.9	3.7		
First	R7	W7-L	Bedroom	0.6			
		W7-U	Bedroom	2.5	3.1		
First	R8	W8-L	Bedroom	0.8			
		W8-U	Bedroom	3.2	4.0		
First	R9	W9-L	LKD	0.7			
		W9-U	LKD	2.8	3.5	39	9
First	R10	W10-L	LKD	0.7			
		W10-U	LKD	2.8	3.5	39	9
First	R11	W11-L	Bedroom	0.7			
		W11-U	Bedroom	2.8	3.5		
First	R12	W12-L	Bedroom	0.8			
		W12-U	Bedroom	3.2	3.9		

Floor	Room ID	Window ID	Room Use	ADF	TOTAL ADF	ROOM TOTAL APSH	ROOM WINTER APSH
First	R13	W13-L	LKD	0.8			
		W13-U	LKD	3.0	3.8	39	9
First	R14	W14-L	Bedroom	0.3			
		W14-U	Bedroom	1.0	1.3		
Second	R1	W1-L	Bedroom	0.3			
		W1-U	Bedroom	0.9	1.2		
Second	R2	W2-L	LKD	0.5			
		W2-U	LKD	1.8			
		W20	LKD	2.0			
		W21	LKD	2.0	6.4	90	29
Second	R3	W3-L	LKD	0.5			
		W3-U	LKD	1.9			
		W18	LKD	2.1			
		W19	LKD	2.1	6.7	43	14
Second	R4	W4-L	Bedroom	0.5			
		W4-U	Bedroom	1.7	2.2		
Second	R5	W5-L	Bedroom	1.0			
		W5-U	Bedroom	3.5	4.5		
Second	R6	W6-L	Bedroom	0.5			
		W6-U	Bedroom	1.9	2.4		
Second	R7	W7-L	LKD	0.2			
		W7-U	LKD	0.7			
		W8-L	LKD	0.3			
		W8-U	LKD	1.2			
		W14	LKD	1.5			
		W15	LKD	1.5	5.3	86	27
Second	R8	W9-L	LKD	0.5			
		W9-U	LKD	1.8			
		W16	LKD	2.0			
		W17	LKD	2.0	6.3	86	27
Second	R9	W10-L	Bedroom	0.5			
		W10-U	Bedroom	1.7	2.2		
Second	R10	W11-L	Bedroom	0.5			
		W11-U	Bedroom	1.9	2.4		
Second	R11	W12-L	LKD	0.5			
		W12-U	LKD	1.9			
		W22	LKD	2.2			
		W23	LKD	2.2	6.7	42	9
Second	R12	W13-L	Bedroom	0.3			
		W13-U	Bedroom	1.1	1.4		