

SOLAR ACCESS ANALYSIS

Walsh² Analysis

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26 Whistler Street Manly

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1.0 PRELIMINARIES AND SUMMARY

1.1 PRELIMINARIES

1.1.1 This report is an analysis and verification of projected **solar access** and **overshadowing** compliance for the DA proposal at **26 Whistler Street Manly**.

1.1.2 Our qualifications and experience are summarized in *A.0 APPENDIX A: CREDENTIALS*.

1.1.3 The documents referred to in this report are detailed in *2.0 DOCUMENTS*.

1.2 SUMMARY

1.2.1 SOLAR ACCESS FOR APARTMENTS

To undertake the analysis we received a 3D model of the proposal located in the surrounding context. We then take half hourly views from the sun (Appendix B), and a detailed compliance table of the DA scheme is prepared (Appendix C).

32/41 (78.0%) of the dwellings achieve 2 hours or more sunlight to the Living area glazing and Private Open Space (POS) between 9am–3pm on June 21st. This represents full compliance with the relevant ADG design criterion.

4/41 (8.8%) of the dwellings are projected to achieve no sun 9am – 3pm June 21. This represents full compliance with the relevant ADG design criterion.

1.2.2 OVERSHADOWING OF SOUTHERN NEIGHBOUR

We have analysed the overshadowing impact to the southern building of 48 Sydney Road Manly. The architects have provided an existing model based on survey information as well as a Strata Plan of 48 Sydney Road.

The proposed building impacts 48 Sydney Road by reducing 2 hours of existing solar access to 4 units. This presents a reduction of overall compliance by 4.1% to the neighbouring property, which represents compliance with objective 3B-2 of the ADG design criterion.

2.0 DOCUMENTS AND INFORMATION

2.1 DOCUMENTENTS

2.1.1 We base our analysis and opinion on

- 'DA SUBMISSION' drawings by Wolski Coppin Architecture dated 07/06/19:
 - o DA01 Basement
 - o DA02 Ground
 - o DA03 Level 1
 - o DA04 Level 2
 - o DA05 Level 3
 - o DA06 Level 4
 - o DA07 Level 5
 - o DA08 Level 6
 - o DA09 Level 7
 - o DA10 Roof
 - o DA11 West Elevation
 - o DA12 East Elevation
 - o DA13 South Elevation
 - o DA14 North Elevation
 - o DA15 Long Section
 - o DA16 Section with Substation
- 3D digital model exported by the architects from the ArchiCAD package:
 - o 21806 26 Whistler St Manly 170519.skp
- Strata Plan of 48 Sydney Road Manly
 - o 17080_Vasey_Solar Studies_Proposed built form 1.pdf

2.2 SITE VISIT

2.2.1 We note that we have visited the site on 29/01/2019. The only area we could not obtain a suitable view of was the western side of 48 Sydney Road Manly; which had all of this façade covered with scaffolding.

3.0 SOLAR ACCESS

3.1 RELEVANT SOLAR ACCESS STANDARDS

3.1.1 APARTMENT DESIGN GUIDE

The *Apartment Design Guide (ADG)* gives effect to SEPP65 for assessing solar access and other amenity provisions and gives the following quantified recommendations:

<i>Objective 4A-1</i>	
To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space	
<i>Design criteria</i>	
1.	Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid winter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government areas
2.	In all other areas, living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 3 hours direct sunlight between 9 am and 3 pm at mid winter
3.	A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter

3.1.2 LOCAL CONTROLS

We note that **Solar access (6.1) Design criteria** in the ADG are *discretionary controls* which, by virtue of Cl. 6A of SEPP65, take precedence over controls contained in Councils' DCPs.

In quantifying the compliance for solar access for this application, we rely on satisfying the ADG as also satisfying the DCP.

3.2 PREDICTED SOLAR ACCESS: METHODOLOGY

We employ the following analysis methodology.

3.2.1 3D DIGITAL MODEL

For a detailed analysis of overshadowing and solar access, we refer to a 3D model that has been provided by Wolski Coppin Architecture. A 'proposed and existing' file was sent to us on the 05/02/2019 and again on the 17/05/19. The proposed 3D file was named "21806 26 Whistler St Manly 170519.skp"

3.2.2 MODEL IMPORT

With the supplied model, we have imported the existing DXF file into Trimble SketchUp.

We have independently geo-located the model and verified the direction of North, by reference to the cadastral grid north.

3.2.3 ACCURACY OF THE MODEL

From the model, we have summarily checked topographical and building dimensions that might otherwise give rise to any errors, by reference to figured RL dimensions. We have also reviewed photographs from our site visit to confirm the surrounding buildings are modelled appropriately. Having established the accuracy of the key points, we feel confident to rely on the general accuracy of the modelling.

3.2.4 VIEWS FROM THE SUN

The SketchUp software prepares the shadow projections by reference to accurate solar geometry. Because of the complexity of demonstrating the quantification of solar access to glazing and private open space of various orientations, our detailed analysis was performed primarily by using projections known as 'View from the Sun' taken at half hourly intervals.

A view from the sun shows all sunlit surfaces at a given time and date. It therefore allows a very precise count of sunlight hours on any glazing or horizontal surface, with little or no requirement for secondary calculations or interpolation. The technique is illustrated in Figure 1.

Note that a 'view from the sun' by definition does not show any shadows.

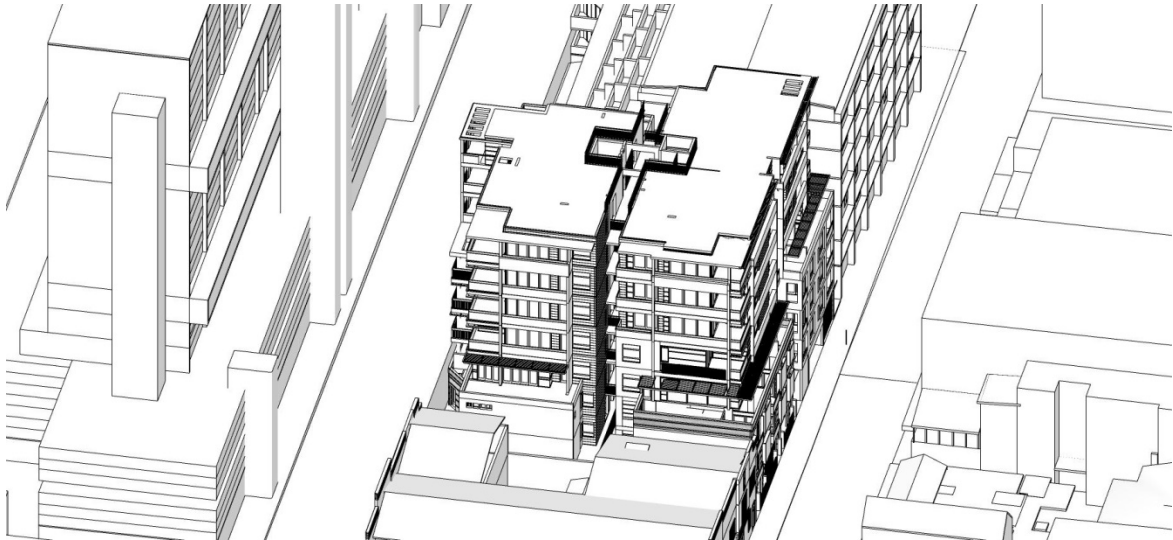


Figure 1: View from the sun, 12pm June 21

3.3 CHARACTERISATION OF SOLAR ACCESS COMPLIANCE

3.3.1 SUN PATCHES ON GLAZING

For the purpose of calculating the compliance with the control, we examine sun patches on the relevant glazing line of each apartment. Because of its key importance in the determination of what is 'effective sunlight' for characterisation of compliance, for both glazing and private open space, we refer specifically to the relevant *L+EC Planning Principle (The Benevolent Society v Waverley Council [2010] NSWLEC 1082)* in that:

- We quantify as complying all sun patches of 'reasonable size', which we generally take to be a minimum of approximately 1m².
- We ignore very large angles of incidence to the glazing surface, and unusably small areas of sunlit glazing.

There is no accepted standard for the absolute limit of acceptable area of the sun patch on partly shaded glazing. In accordance with the Court's Planning Principle, we consider this to be approximately 1m² (on the basis that it exceeds 50% of the area of a standard window 1500 x 1200 high which would normally be accepted as complying).

3.3.2 ROOF LIGHTS

Some adversely oriented top floor units may benefit from one of a variety of roof lights to admit direct sun and additional daylight. In this development, we do not require any roof lights for compliance.

3.3.3 SUN TO BEDROOMS

Periods of sun available to bedrooms contribute significantly to the amenity of any apartment that may have an otherwise unfavourably oriented or overshadowed living area. This characterisation is consistent with the

interpretation of *the BenSoc Principle* (and its predecessor *Parsonage Principle*) as previously accepted by the Land and Environment Court, and by various Councils.

*That said, in evaluating this development, we **do not** rely on periods of sun to bedrooms in lieu of living areas to characterise apartments as complying with the ADG Design criterion.*

3.3.4 SOLAR ACCESS CONTROLS : ADG

Part 6.1 of the Apartment Design Guide gives the following qualified recommendations:

Design criteria
1. Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid winter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government areas
2. In all other areas, living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 3 hours direct sunlight between 9 am and 3 pm at mid winter
3. A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter

4.0 SOLAR ACCESS FOR APARTMENTS

4.1 PREDICTED SOLAR ACCESS OF APARTMENTS

Table 1 below summarises the projected solar access for the living area glazing and private open space of the residential dwelling units for the amended design. Appendix C records the detailed solar access for individual apartments.

Total number of units	41	
Units which achieve 2 hours or more sunlight to glazing and POS 9am - 3pm June 21	32	78.0%
Units with no sun between 9am and 3pm June 21	4	8.8%

Table 1: Summary of solar access for amended DA scheme

The ADG Design criteria recommends a minimum of 70% of apartments should have the amenity of two hours winter sun between 9 AM and 3 PM. Overall compliance for solar access is therefore fully satisfied.

The ADG design criteria recommends that a maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid-winter. The DA scheme has a total of (8.8%) such apartments. Overall compliance for solar access is therefore fully satisfied.

5.0 OVERSHADOWING IMPACT ON NEIGHBOURING PROPERTIES

The same views from the sun employed for the solar access analysis for the subject site, are also the most effective technique for identifying potential overshadowing impacts for neighbouring properties.

5.1 POTENTIALLY AFFECTED PROPERTIES

The property to the south known as 48 Sydney Road Manly is the main property to be affected by the proposed development.



Figure 2: Photo of affected property taken 29/01/2019.

5.2 QUANTIFYING OVERSHADOWING IMPACT

We do not have access to any detailed design drawings of the potentially impacted building; however, we have been supplied with Strata Plans dated 24/12/1993.

Based off this information and survey information, Wolski Coppin Architects have produced a relatively accurate 3D model. This information is relied on for the below analysis.

5.3 APPLICABLE CONTROL

5.3.1 The ADG provides a test for acceptable additional overshadowing impact on adjacent multi-residential properties:

<i>Objective 3B-2</i>
Overshadowing of neighbouring properties is minimised during mid winter
<i>Design guidance</i>
Living areas, private open space and communal open space should receive solar access in accordance with sections 3D Communal and public open space and 4A Solar and daylight access
Solar access to living rooms, balconies and private open spaces of neighbours should be considered
Where an adjoining property does not currently receive the required hours of solar access, the proposed building ensures solar access to neighbouring properties is not reduced by more than 20%

5.4 EXISTING SOLAR ACCESS

5.4.1 We undertook an analysis of the existing solar access to the living rooms of the adjoining property. The below table demonstrates the existing conditions which shows a compliance of 51.6%

Level	Existing Compliance	Number of Units	Percentage
Level 1	9	23	
Level 2	12	23	
Level 3	11	16	
Level 4	9	17	
Level 5	9	18	
TOTALS	50	97	51.6%

5.4.2 We note that existing solar access would not comply with the Design criteria from the ADG.

5.5 PROPOSED OVERSHADOWING IMPACT

5.5.1 We undertook an analysis of the solar access to the adjoining property for the impact of the proposed building. The below table shows the change in compliance numbers

Level	Existing Compliance	Compliance with Proposed Building	Number of Units	Percentage Change
Level 1	9	9	23	0%
Level 2	12	10	23	-8.7%
Level 3	11	9	16	-12.5%
Level 4	9	9	17	0%
Level 5	9	9	18	0%
TOTALS	50	46	97	-4.1%

5.5.2 It is seen above that there is only a reduction of 4.1% in overall compliance. This is minor in nature and relates to the units currently facing north into the proposed development site. The units affected are units 38, 39, 56 and 57, all of which would lose two hours of sun with the proposed development.

5.5.3 Whilst the reduction in overall compliance is minor, it is our opinion that this is inevitable with the site redevelopment. With the current planning controls that are in place, the site would be undevelopable without impacting these 4 units.

5.5.4 Compliance with **objective 3B-2 is achieved** with the proposed DA.

6.0 CONCLUSIONS

6.1 SOLAR ACCESS FOR APARTMENTS

6.1.1 ADG COMPLIANCE

The ADG *Design criteria* recommend a minimum of 70% of apartments should have the amenity of two hours winter sun between 9 AM and 3 PM.

32/41 (78.0%) of the dwellings are projected to achieve 2 hours or more sunlight to glazing and POS 9am – 3pm June 21. This represents full compliance with the relevant ADG design criterion.

4/41 (8.8%) of the dwellings are projected to achieve no sun 9am – 3pm June 21. This represents full compliance with the relevant ADG design criterion.

6.2 OVERSHADOWING IMPACT ON NEIGHBOURING RFBS

6.2.1 We have carried out a solar access analysis on the neighbouring property of 48 Sydney Road Manly for both the existing and the proposed states.

6.2.2 The projected overshadowing impact of the approved concept envelope is quite small. The impact of the proposed DA is the loss of the two hours complying solar access for only 4 units. This equates to a loss of only 4.1% across the whole development which is compliant with Objective 3B-2 of the ADG.

In our considered opinion, the degree of overshadowing impact should be considered foreseeable and reasonable.

A.0 APPENDIX A: CREDENTIALS

Walsh² Analysis provides opinion based services primarily in relation to analysis and reporting of solar access and overshadowing compliance of multi residential projects.

Scott Walsh is a Director of Walsh² Analysis. He developed his specialised expertise under Steve King, a well-known expert in the field.

Scott started working for Steve King in 2011 as a tutor of Environmental Design at the University of New South Wales. From 2013 Scott has contracted to Steve King to undertake modelling and numerical analysis of solar access to large apartment projects. Over a number of years Scott contributed significantly to fine-tune the way the analysis was undertaken, and assisted in providing to the architects feedback in regards to areas that could be adjusted to improve solar access.

Scott holds a Masters of Architecture from the University of New South Wales as well as a Bachelor of Architecture. He is a registered architect in New South Wales (10366) and the Australian Capital Territory (2624) and a director of Walsh² Architects.

Stewart Cowan holds a Masters of Architecture at University of Technology Sydney. Stewart also assisted Steve King in undertaking modelling and numerical analysis work from early 2015.

Steve King:

I am pleased to provide my commendation and support for Walsh² Analysis. Scott and Stewart have undertaken solar access and overshadowing analysis of over 150 apartment buildings from as small as 10 units up to over 1000 units. I have relied on their technical expertise and accuracy to provide advice to architects, planners and to the Land and Environment Court, including independent third-party peer review of others' characterisation and reporting of compliance.

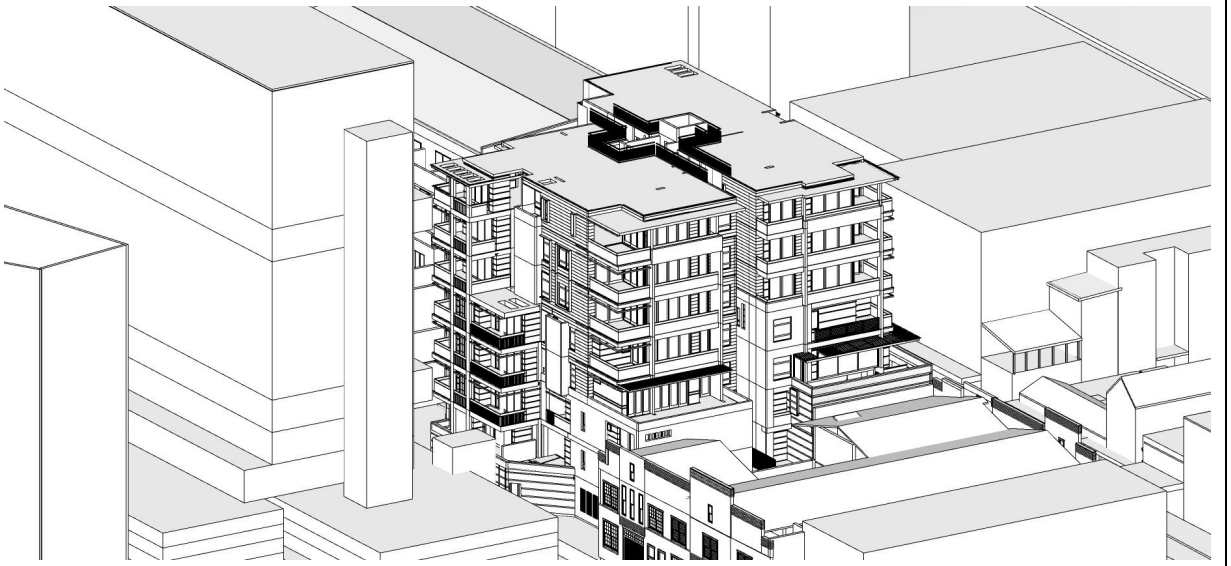
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B.0 APPENDIX B: VIEWS FROM THE SUN

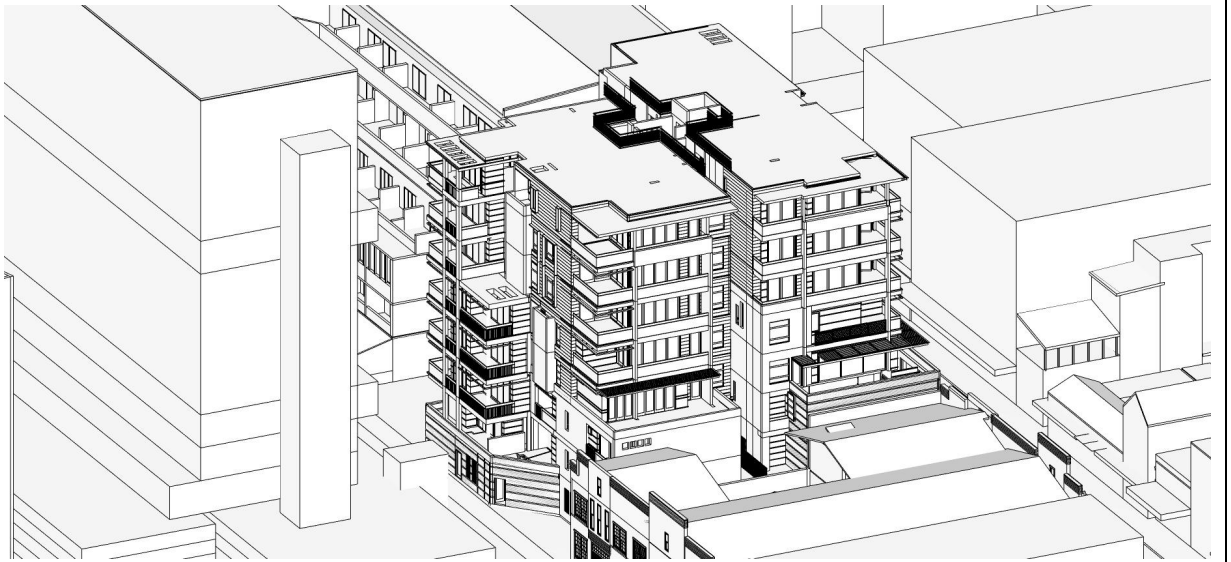
The table shows half-hourly views of solar access projections for June 21.

8.00	
8.30	

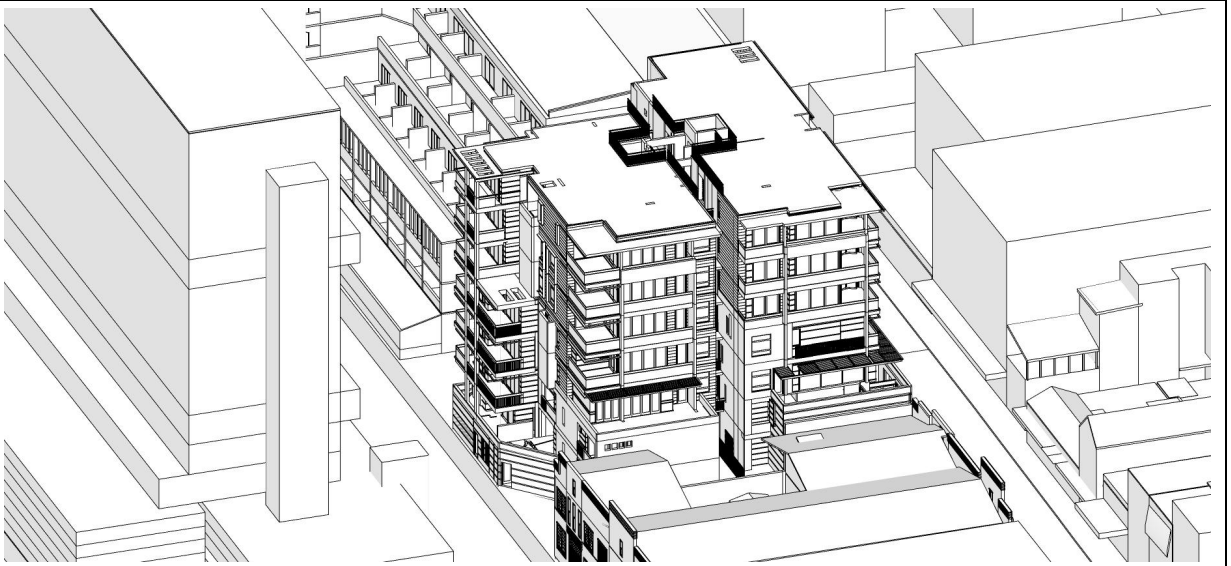
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9.30

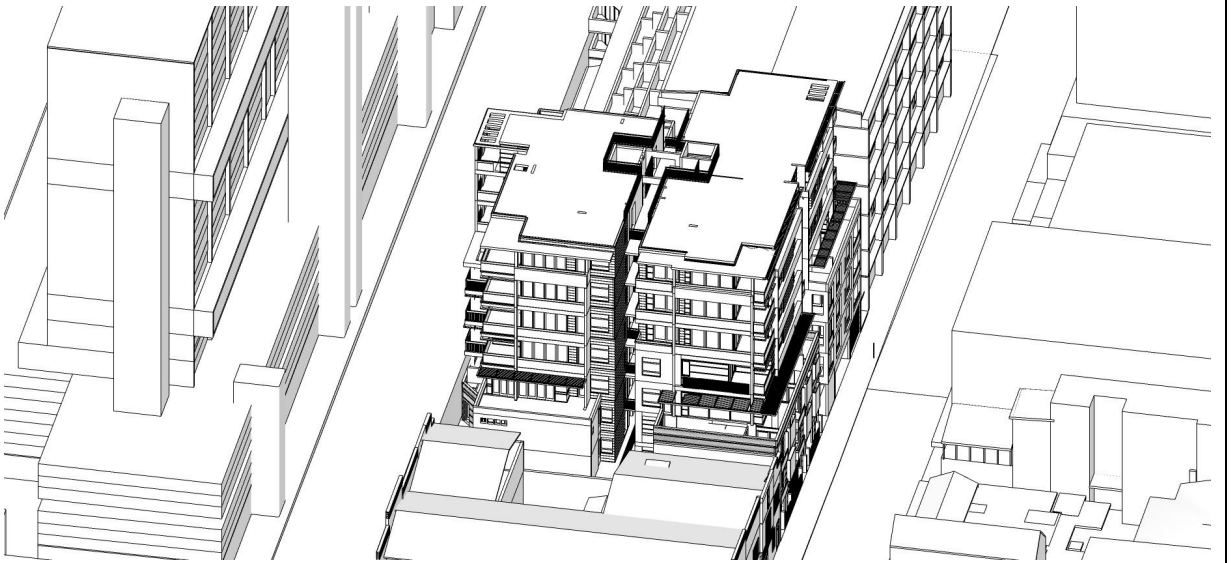


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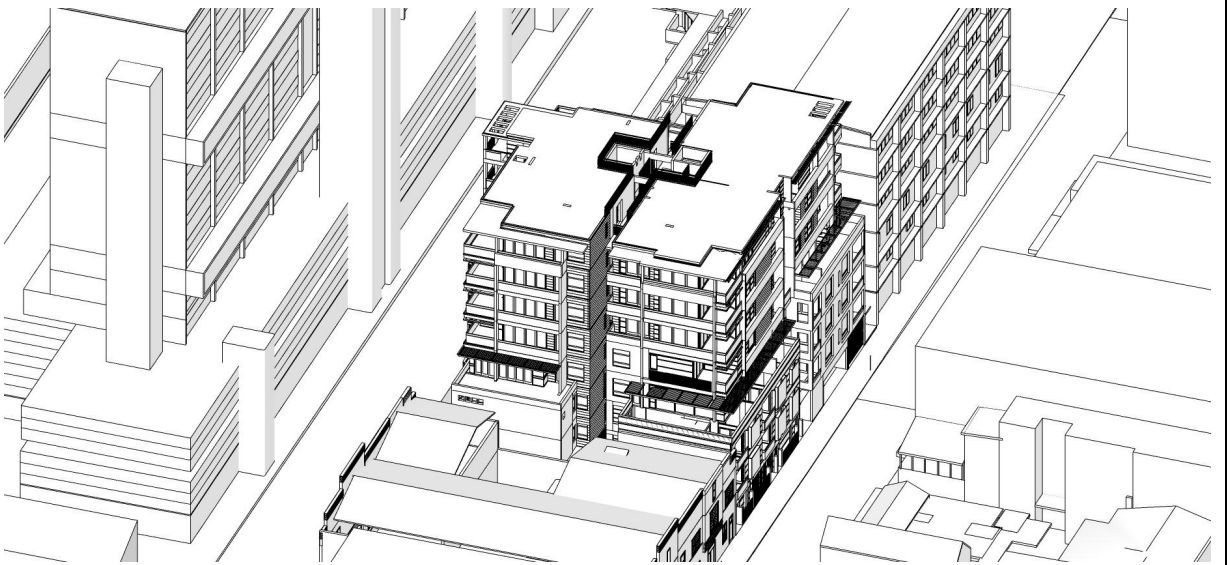


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11.00	
11.30	

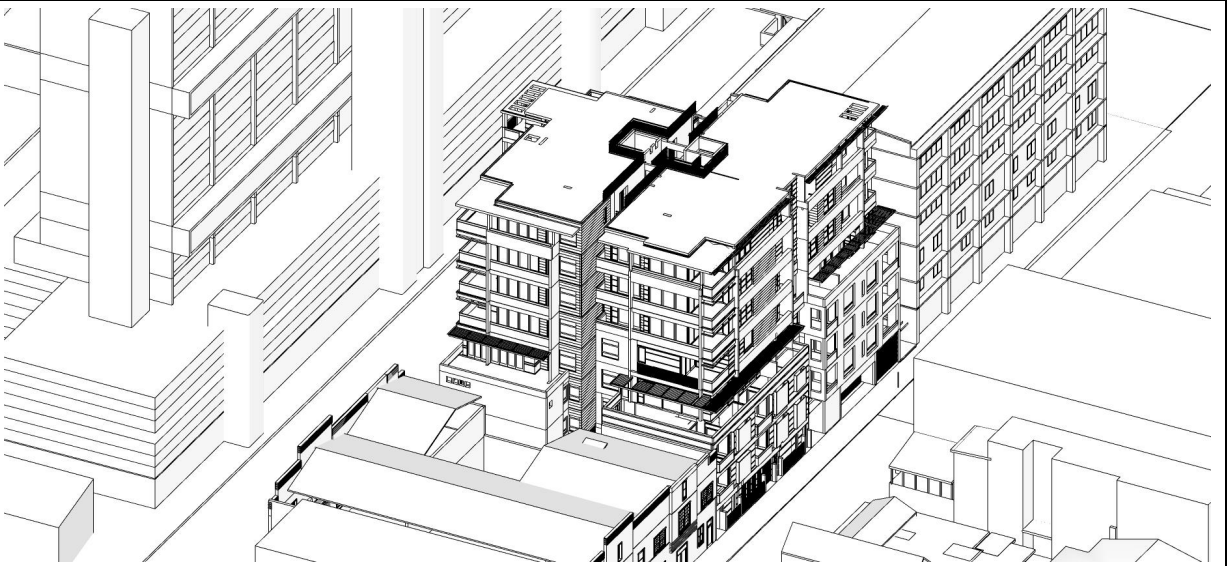
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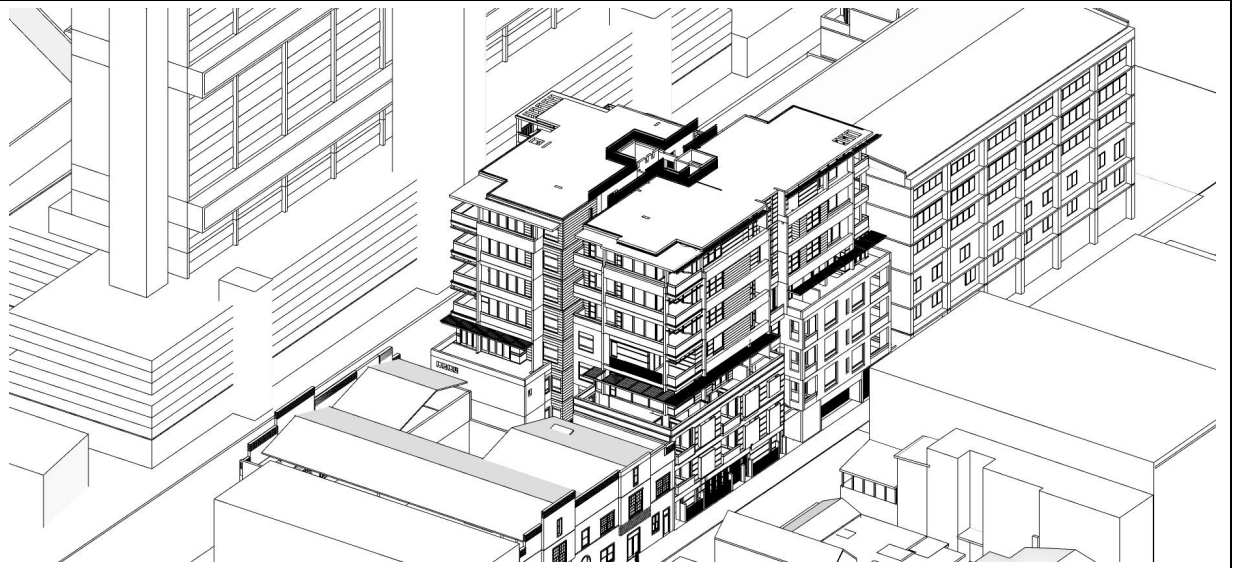
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1.00



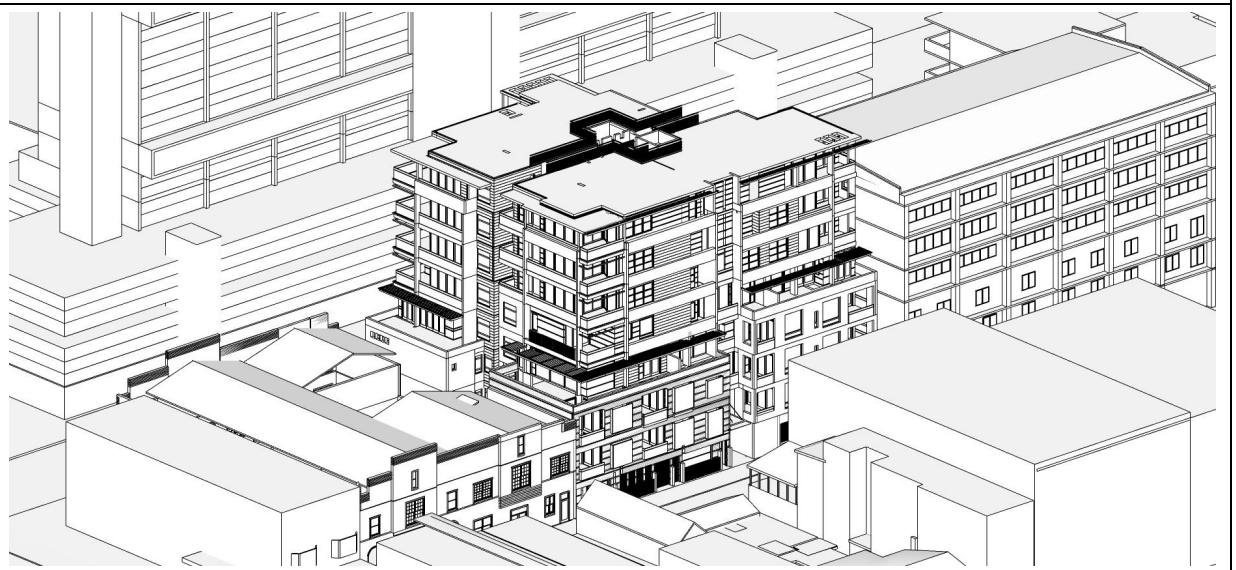
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2.00



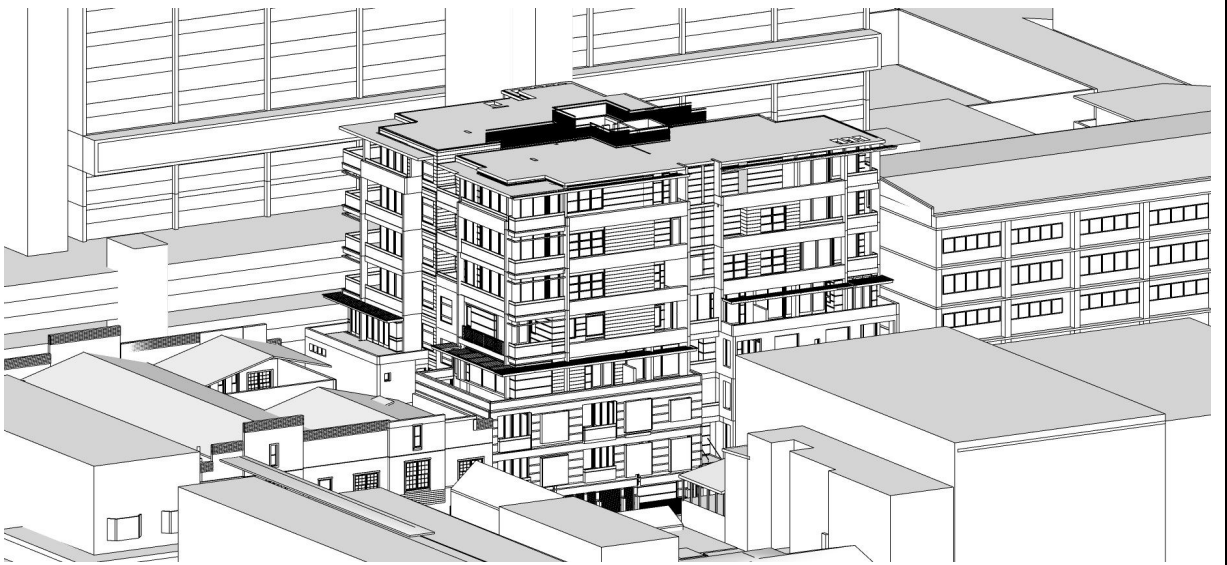
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3.00



3.30



4.00



C.0 APPENDIX C: DETAILED COMPLIANCE TABLE

The following table sets out in detail the solar access status of each apartment.

FLOOR	UNIT		8	830	9	930	10	1030	11	1130	12	1230	13	1330	14	1430	15	1530	16	>3 hrs 9-3	>2 hrs 9-3	Comply for Living + POS	>2hrs 8-4	No sun
LEVEL 1	101	Living	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	YES		YES		
		POS	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N					N/A
	102	Living	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	YES		YES		
		POS	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y					N/A
	103	Living	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	N	N	YES		YES		
		POS	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N					N/A
	104	Living	N	N	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	N					
		POS	N	N	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	N					N/A
	105	Living	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N					
		POS	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N					N/A
	106	Living	N	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N					
		POS	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N					N/A
	107	Living	N	B	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N		YES	YES		
		POS	N	N	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N					N/A
	108	Living	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N					YES
		POS	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N					N/A
LEVEL 2	201	Living	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	YES		YES		
		POS	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y					N/A
	202	Living	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	YES		YES		
		POS	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y					N/A
	203	Living	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	B	B	YES		YES		
		POS	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N					N/A
	204	Living	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	N	N	N		YES	YES		
		POS	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	N	N	N					N/A
	205	Living	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	YES		YES		
		POS	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N					N/A
	206	Living	N	B	B	B	B	N	N	N	N	N	N	N	N	N	N	N	N					
		POS	N	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N					N/A
	207	Living	N	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N		YES	YES		

LEVEL 3	208	POS	N	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N					N/A
		Living	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N					YES
		POS	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N					N/A
	301	Living	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	YES		YES		N/A
		POS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y					N/A
	302	Living	N	N	N	N	N	N	N	N	B	B	Y	Y	Y	Y	Y	Y	Y		YES	YES		N/A
		POS	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y					N/A
	303	Living	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	B	YES		YES		N/A
		POS	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N					N/A
	304	Living	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	YES		YES		N/A
		POS	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N					N/A
	305	Living	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	YES		YES		N/A
		POS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y					N/A
	306	Living	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N		YES	YES		N/A
		POS	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N					N/A
	307	Living	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N					YES
		POS	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N					N/A
LEVEL 4	401	Living	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	YES		YES		N/A
		POS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y					N/A
	402	Living	N	N	N	N	N	N	N	N	B	B	B	Y	Y	Y	Y	Y	Y			YES		N/A
		POS	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y					N/A
	403	Living	N	N	N	N	N	N	N	N	B	Y	Y	Y	Y	Y	Y	Y	Y		YES	YES		N/A
		POS	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y					N/A
	404	Living	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	YES		YES		N/A
		POS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y					N/A
	405	Living	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N		YES	YES		N/A
		POS	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N					N/A
LEVEL 5	406	Living	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N					YES
		POS	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N					N/A
	501	Living	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	YES		YES		N/A
		POS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y					N/A
	502	Living	N	N	N	N	N	N	N	N	B	B	Y	Y	Y	Y	Y	Y	Y		YES	YES		N/A
		POS	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y					N/A
	503	Living	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	YES		YES		N/A
		POS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y					N/A

LEVEL 6	504	Living	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	YES	YES		
		POS	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N		YES		N/A
	601	Living	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	YES	YES		
		POS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		YES		N/A
	602	Living	N	N	N	N	N	N	N	N	B	B	Y	Y	Y	Y	Y	Y	Y	Y	YES	YES		
		POS	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y		YES		N/A
	603	Living	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	YES	YES		
		POS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		YES		N/A
	604	Living	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	YES	YES		
		POS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N		YES		N/A
LEVEL 7	701	Living	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	YES	YES		
		POS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		YES		N/A
	702	Living	N	N	N	N	N	N	N	N	B	B	Y	Y	Y	Y	Y	Y	Y	Y	YES	YES		
		POS	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y		YES		N/A
	703	Living	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	YES	YES		
		POS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		YES		N/A
	704	Living	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	YES	YES		
		POS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N		YES		N/A

>3 hrs 9-3	>2 hrs 9-3	Comply for Living + POS	>2hrs 8-4	No sun
20	12	32	1	4
48.4%	29.3%	78.0%	2.4%	9.8%
	78.0%			