

SOLAR ACCESS ASSESSMENT

22-32 Park Avenue, Waitara

Prepared for:

Statewide Planning Pty Ltd
L1, 31 Cowper Street
Parramatta NSW 2150

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BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Statewide Planning Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
610.19164-R02-v4.0	19 October 2021	James Cleary	Dr Neihad Al-Khalidy	Dr Neihad Al-Khalidy
610.19164-R02-v3.0	26 March 2021	James Cleary	Dr Neihad Al-Khalidy	Dr Neihad Al-Khalidy
610.19164-R02-v2.0	26 March 2021	James Cleary	Dr Neihad Al-Khalidy	Dr Neihad Al-Khalidy
610.19164-R02-v1.0	3 February 2020	James Cleary	Dr Neihad Al-Khalidy	Dr Neihad Al-Khalidy

EXECUTIVE SUMMARY

SLR Consulting Australia (SLR) has been engaged by Statewide Planning Pty Ltd to conduct a detailed solar access assessment of the proposed residential development at 22-32 Park Avenue, Waitara, in accordance with the Apartment Design Guide parts:

- Part 3D - Communal and Public Open Space
- Part 4A - Solar and Daylight Access

The assessment will form part of the development application to Hornsby Shire Council.

The State Environmental Planning Policy (SEPP) 65 supported by the Apartment Design Guide - Part 03 and 04 is relevant to the assessment of the daylight access into the residential component of the proposed development. The above regulation states that:

- 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.
- In all other areas, living rooms and private open spaces of at least 70% of the apartments in a building receive a minimum of 3 hours direct sunlight between 9 am and 3 pm at mid-winter.
- A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid-winter.
- Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid-winter).

The ADG also outlines the following design guidance:

- To maximise the benefit to residents of direct sunlight within living rooms and private open spaces, a minimum of $1m^2$ of direct sunlight, measured at 1m above floor level is achieved for at least 15 minutes.

From the model provided SLR has calculated the below summarised ADG assessed direct sunlight to residential apartments for June 21, between the hours of 9.00 am and 3.00 pm.

- 73.94 % (122 of 165) of apartments will achieve 2 hours solar access across the assessment window.
- 7.27 % (12 of 165) of apartments will receive no solar access across the assessment window.

SLR has also assessed the communal space of the proposed development to be compliant with ADG requirements.

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1 Introduction

SLR Consulting Australia (SLR) has been engaged by Statewide Planning Pty Ltd to conduct a detailed solar access assessment of the proposed residential development at 22-32 Park Avenue, Waitara, in accordance with the Apartment Design Guide parts:

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1.1 Development Site

The site is located east of Park Avenue, across from Mark Taylor Oval. Residential development bounds the site to the north, east and south. Surrounds of the site are a combination of low to mid-level residential development, with the neighbouring oval providing predominantly open area to the west.

Figure 1 Site Location



Image: Nearmap, 12 November 2019

1.2 Proposed Development Description

From the plans provided the proposed development contains the following.

- Two levels of basement car parking;
- Five 6-storey buildings (Buildings A-E);
- Ground level with building lobbies, communal open space and residential apartments;
- Level 2-4 with single storey residential apartments; and
- Two storey residential apartments across levels 5 and 6.

2 Solar Access

The State Environmental Planning Policy (SEPP) 65 supported by the Apartment Design Guide - Part 03 and 04 is relevant to the assessment of the daylight access into the residential component of the proposed development. The above regulation states that:

- 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.
- In all other areas, living rooms and private open spaces of at least 70% of the apartments in a building receive a minimum of 3 hours direct sunlight between 9 am and 3 pm at mid-winter.
- A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid-winter.
- Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid winter).

The ADG also outlines the following design guidance:

- To maximise the benefit to residents of direct sunlight within living rooms and private open spaces, a minimum of $1m^2$ of direct sunlight, measured at 1m above floor level is achieved for at least 15 minutes.

3 Solar Access Analysis

The 3D CAD file, listed below, provided by Linx Constructions Pty Ltd was utilised to conduct the solar analysis (Refer **Figure 2**):

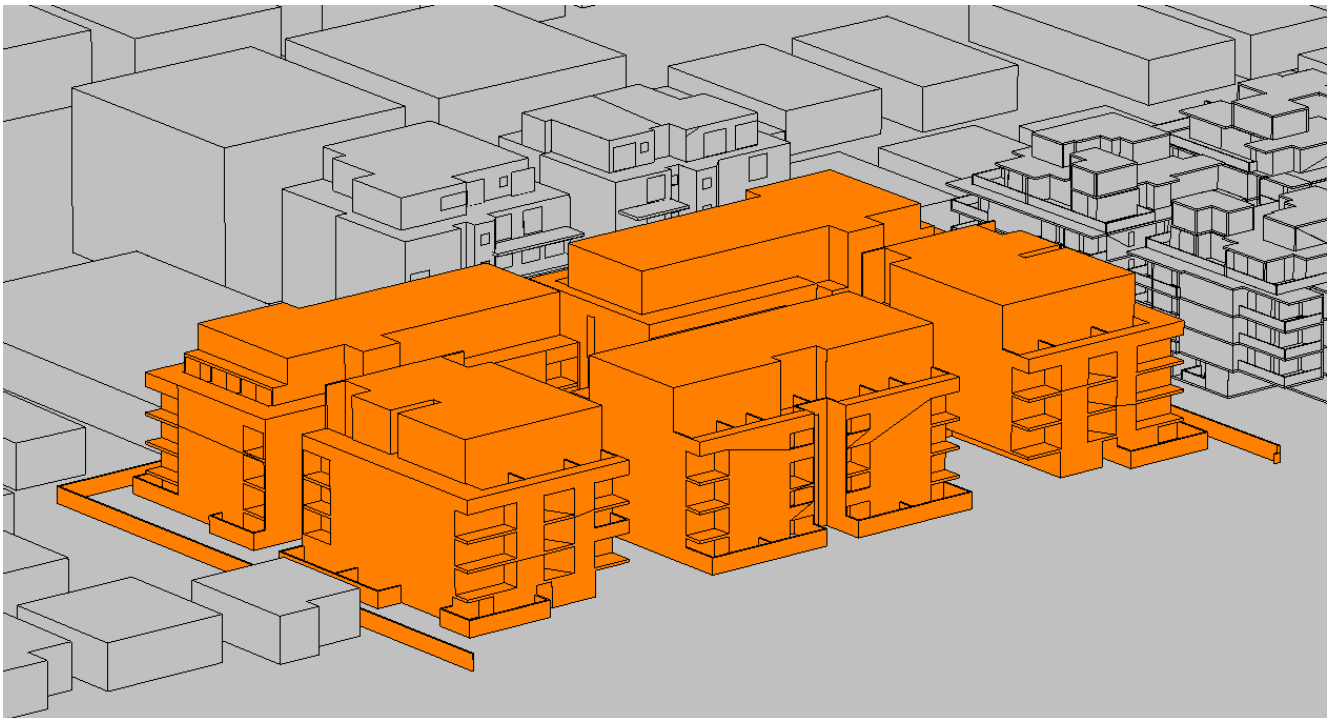
- waitara 3d model updated 3march2021.dwg, received 22 March 2021

Additional surrounds were added to the model to incorporate elements which may impact the solar access assessment.

SLR revised the 3D model for the proposed site based on drawings provided on 06.10.2021.

SLR used DA architectural plans DA00 D – DA17 D, prepared by Aleksandar Projects and dated 29.09.2021, (provided 19.10.2021) to review the internal layout of apartments for the Waitara Site.

Figure 2 3D Model of Proposed Site and Surrounds



4 Results

SLR imported the AutoCAD 3D model into ECOTECT and sun's eye view diagrams were generated for each 15-minute interval between 9.00 am and 3.00 pm on the Winter Solstice (21 June). These can be seen in attached **Appendix A**.

4.1 Solar Access to Apartments

Results of solar access to living rooms and private open spaces of apartments for the proposed 22-32 Park Avenue, Waitara development on June 21 (winter solstice) between the hours of 9.00 am and 3.00 pm inclusive are summarised in the table below, detailed results can be found in **Appendix B**.

Table 1 Solar Access Summary using 2 hour criterion between 9.00am to 3.00pm on June 21st

Building	Number of Apartments	Number of Apartments with at least 2hr of direct sunlight	Percentage of Apartments with at least 2hr of direct sunlight
A	39	30	76.92%
B	43	31	72.09%
C	24	17	70.83%
D	35	27	77.14%
E	24	17	70.83%
Total	168	122	73.94%

Table 2 Solar Access Summary for "no direct sunlight" criterion between 9.00am to 3.00pm on June 21st

Building	Number of Apartments	Number of Apartments without direct sunlight	Percentage of Apartments without direct sunlight
A	39	4	10.26%
B	43	4	9.30%
C	24	2	8.33%
D	38	0	-
E	24	2	8.33%
Total	168	12	7.27%

4.2 Solar Access to Public Open Space

In assessing solar access to Public Open Space within the proposed development, SLR has determined the most appropriate location for the principal usable part of the communal open space. To maximise solar to the principle communal open space, SLR recommend that the space be located in the area defined in **Figure 3**.

Figure 3 Recommended Area for Principle Usable Communal Open Space



Assessing solar access to the proposed principle Communal Open Space yielded the results shown in **Table 3**, demonstrating the spaces capacity to meet a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid winter).

Table 3 Available Solar to Principle Open Space

Time	Availability of Solar to Communal Open Space
900	0.00%
915	0.00%
930	0.00%
945	0.00%
000	5.02%
1015	29.66%
1030	50.34%
1045	65.97%
1100	82.13%
1115	92.76%
1130	98.46%

Time	Availability of Solar to Communal Open Space
1145	92.85%
1200	81.16%
1215	67.56%
1230	52.90%
1245	38.45%
1300	22.85%
1315	3.08%
1330	0.00%
1345	0.00%
1400	0.00%
1415	0.00%
1430	0.00%
1445	0.00%
1500	0.00%

5 Conclusions

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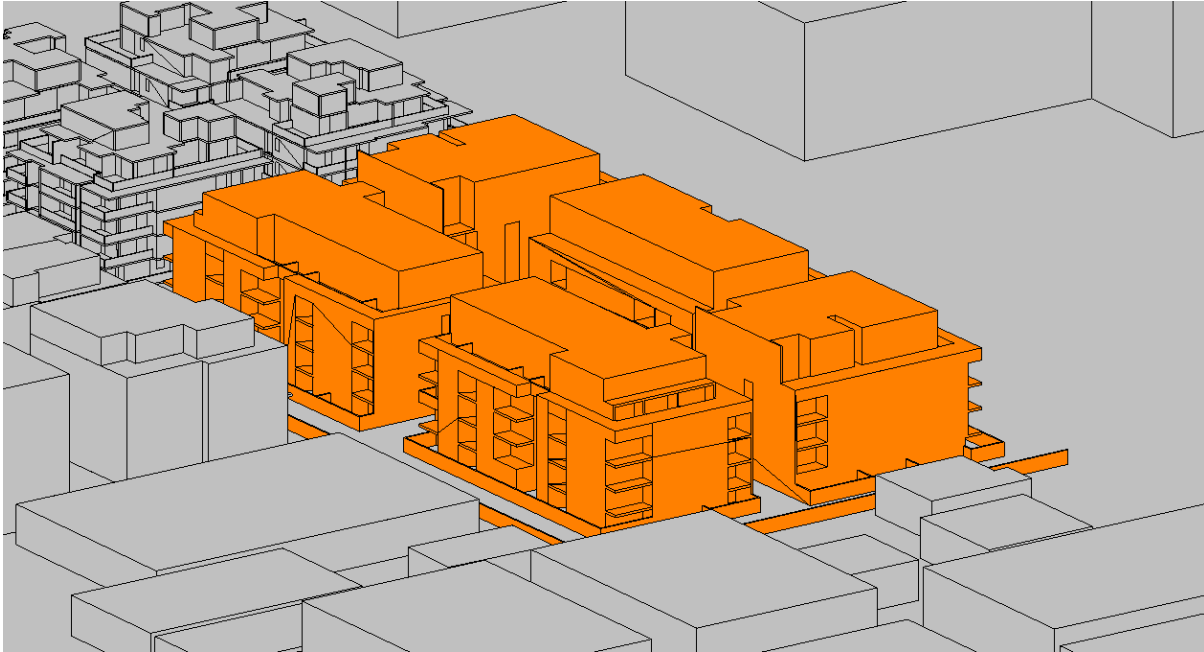
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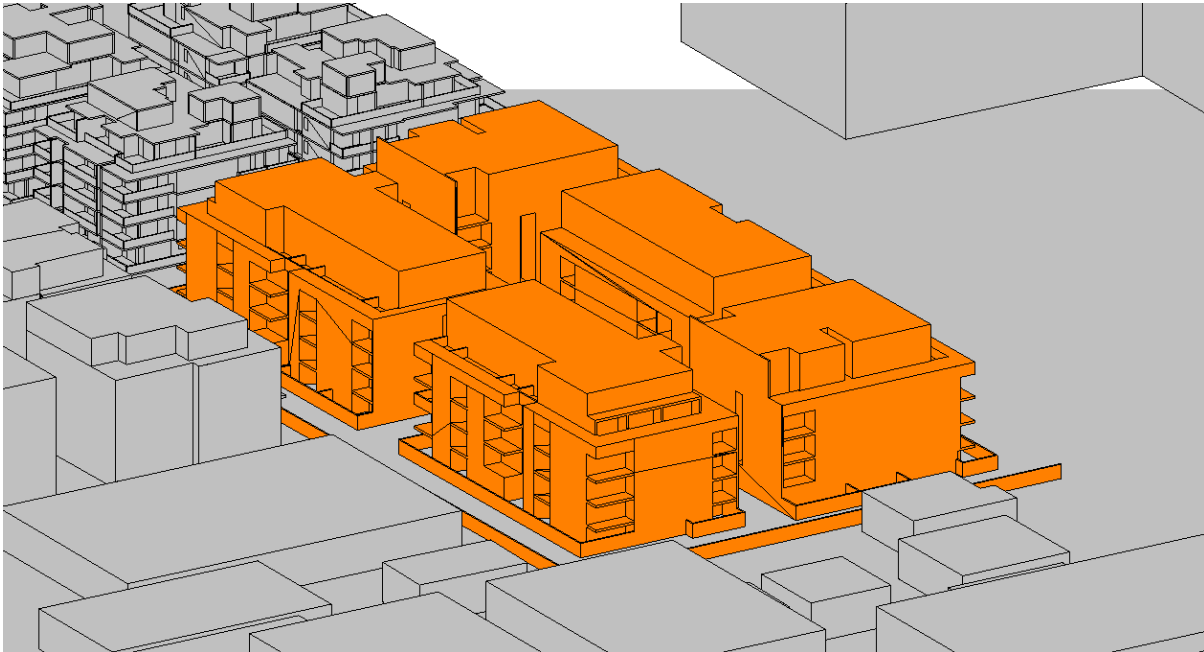
APPENDIX A

Sun Eye Views

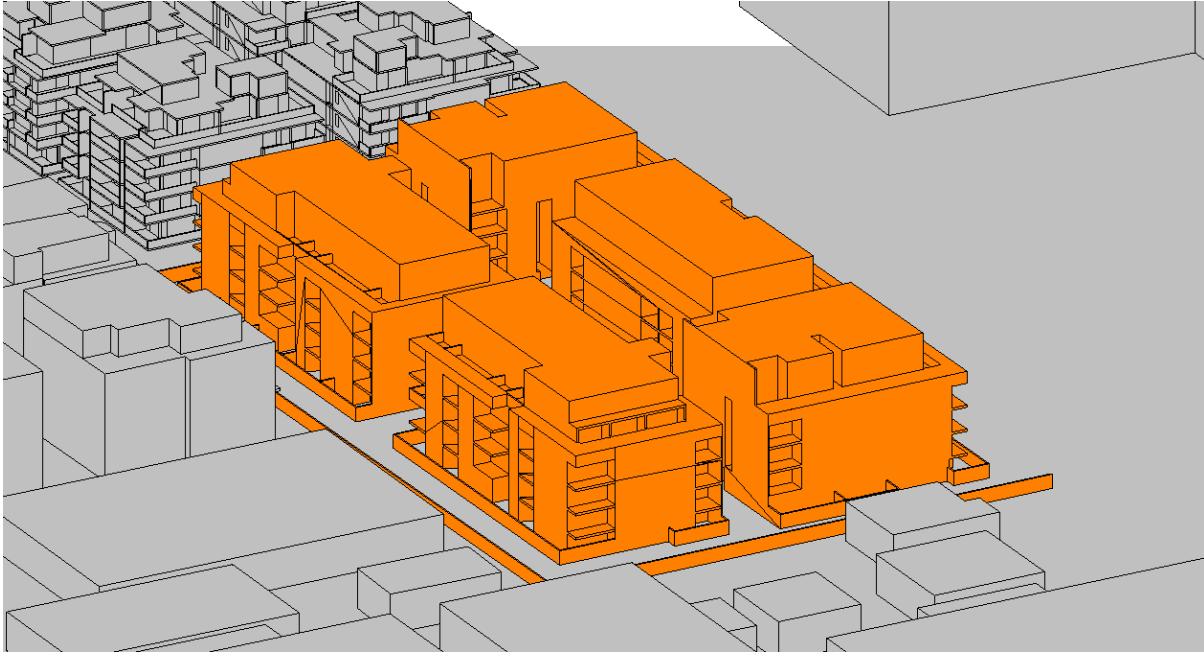
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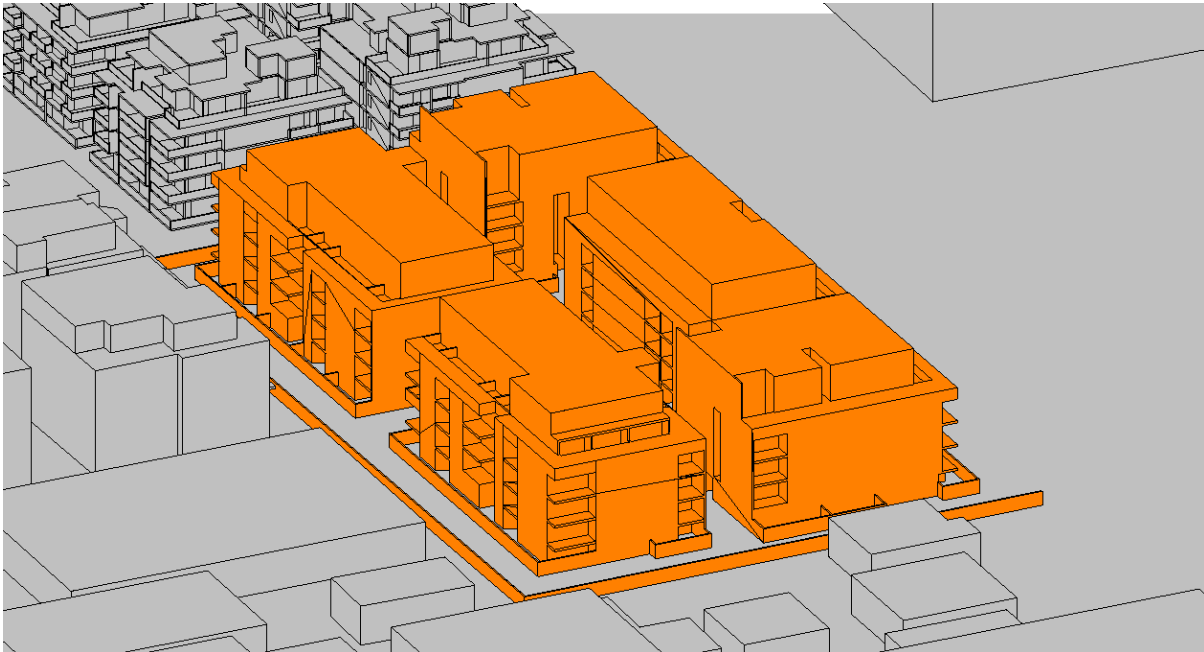
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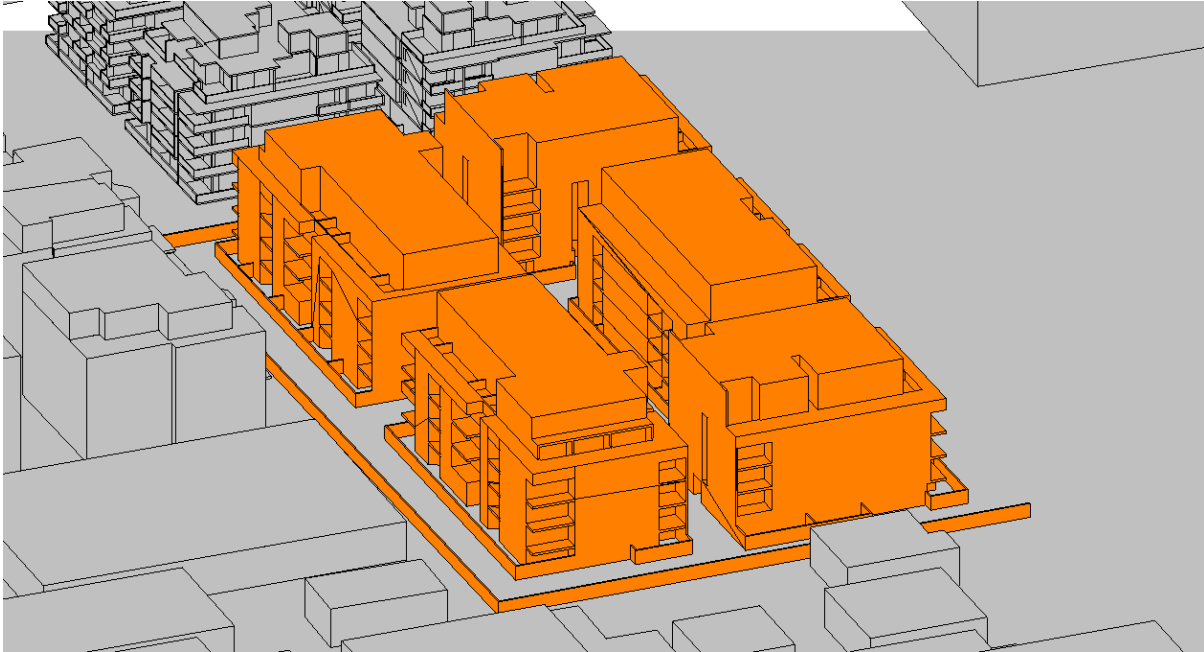
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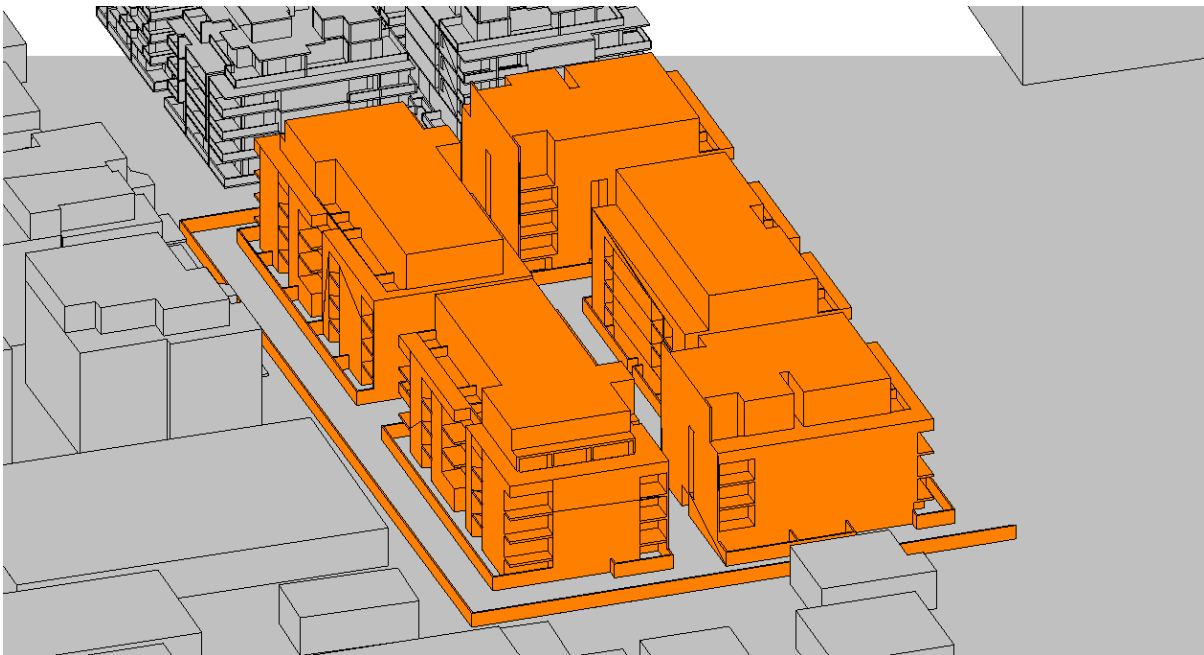
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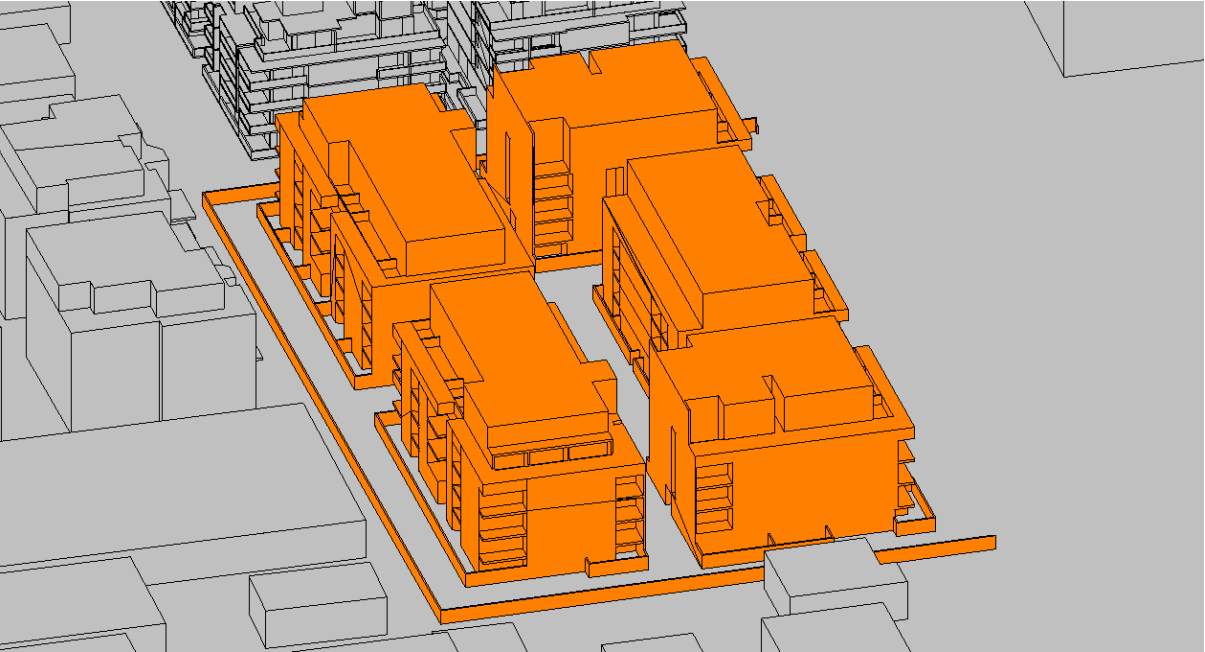
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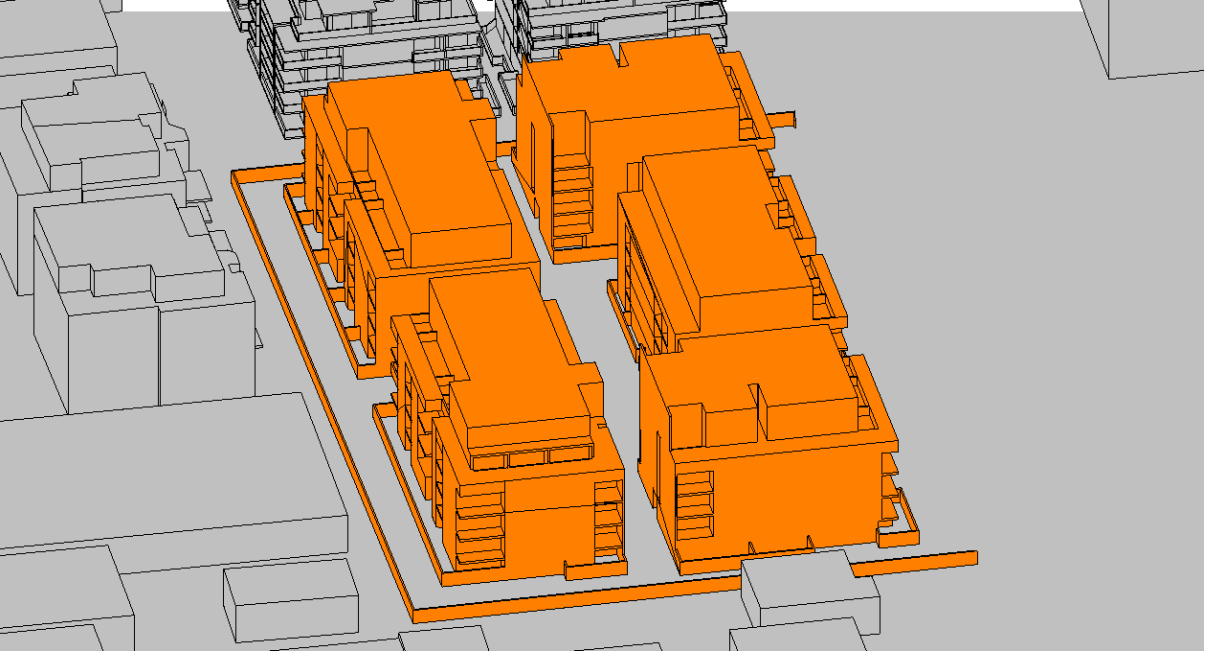
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1030



1045



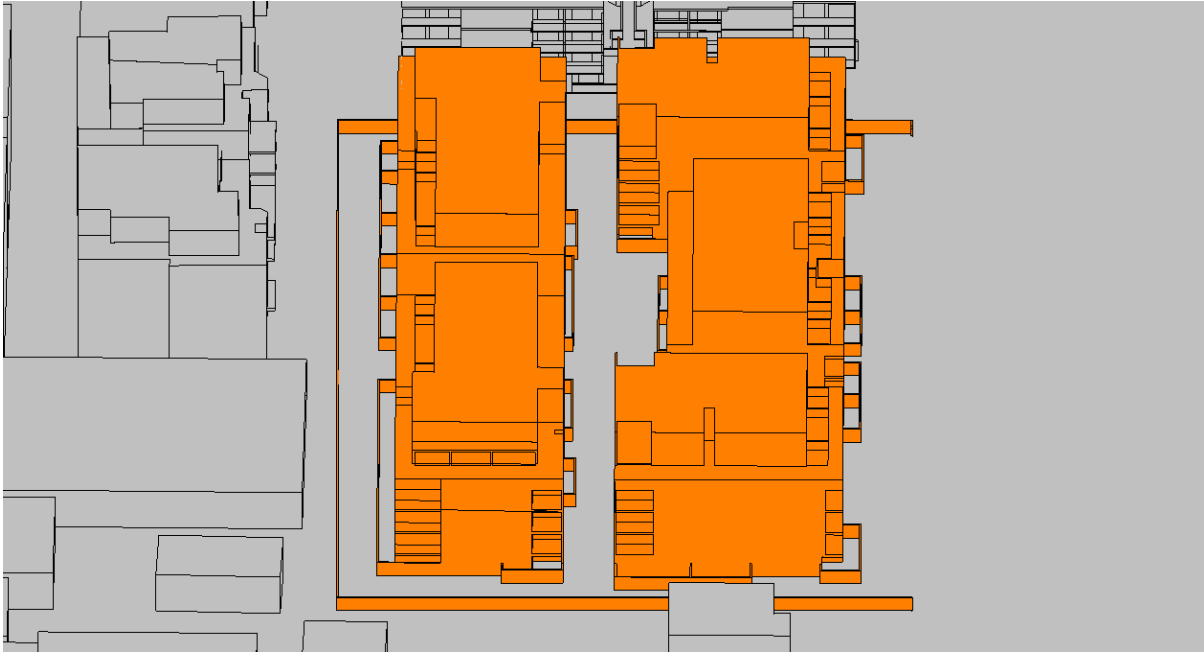
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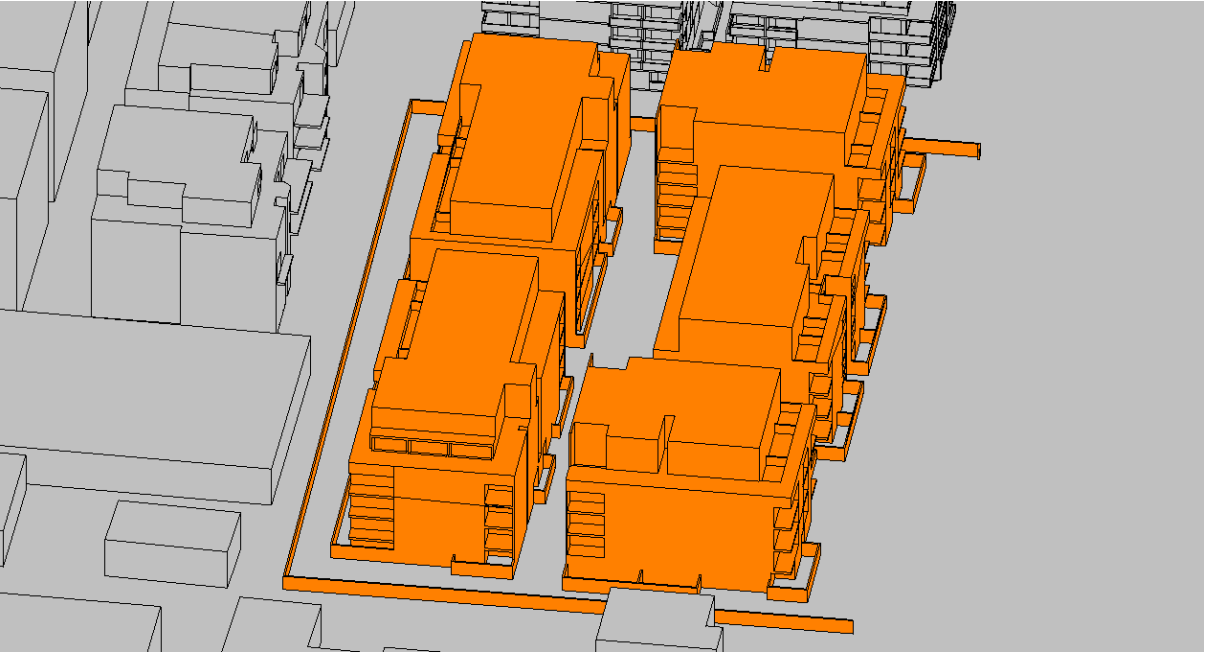
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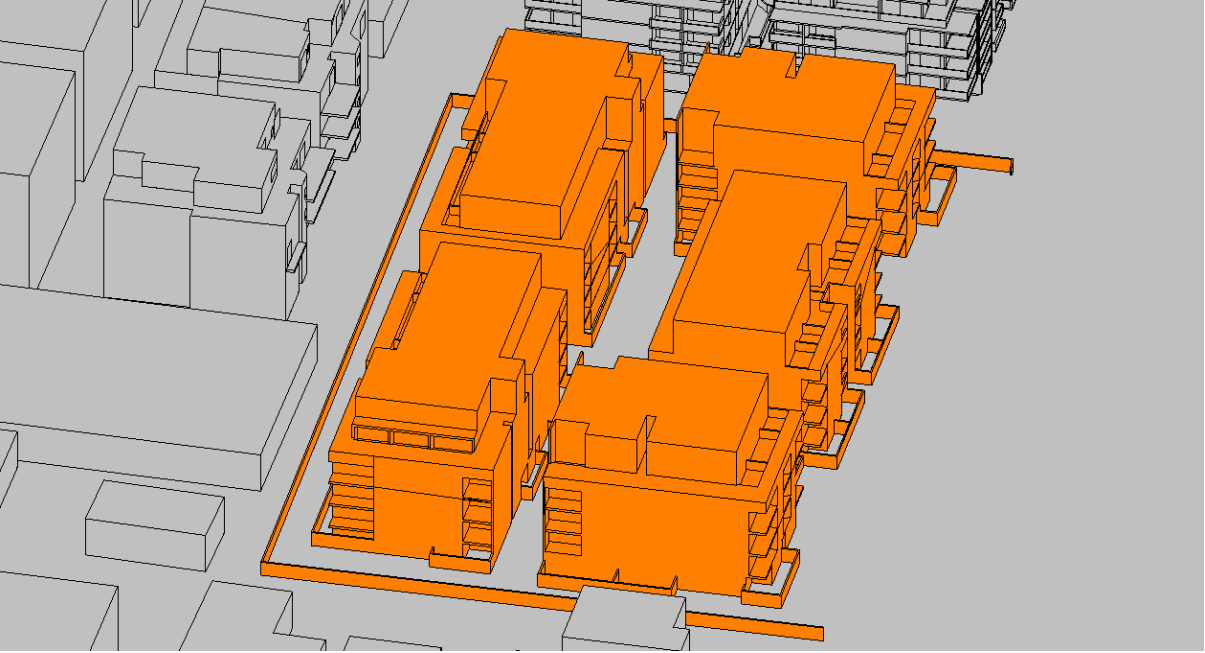
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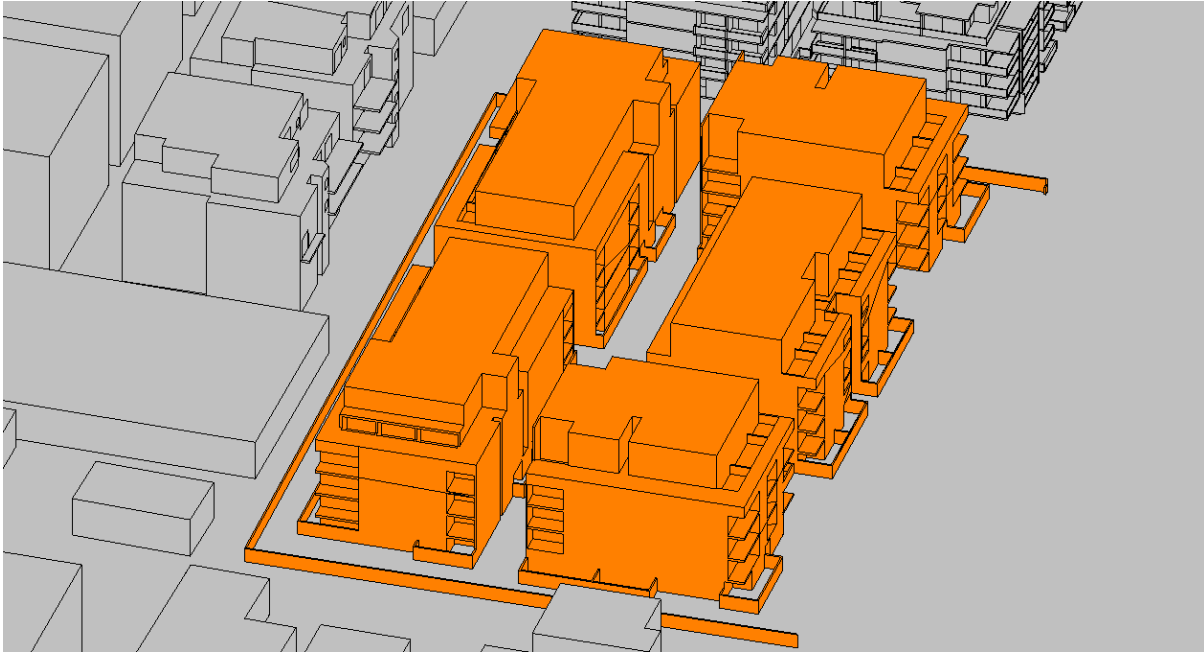
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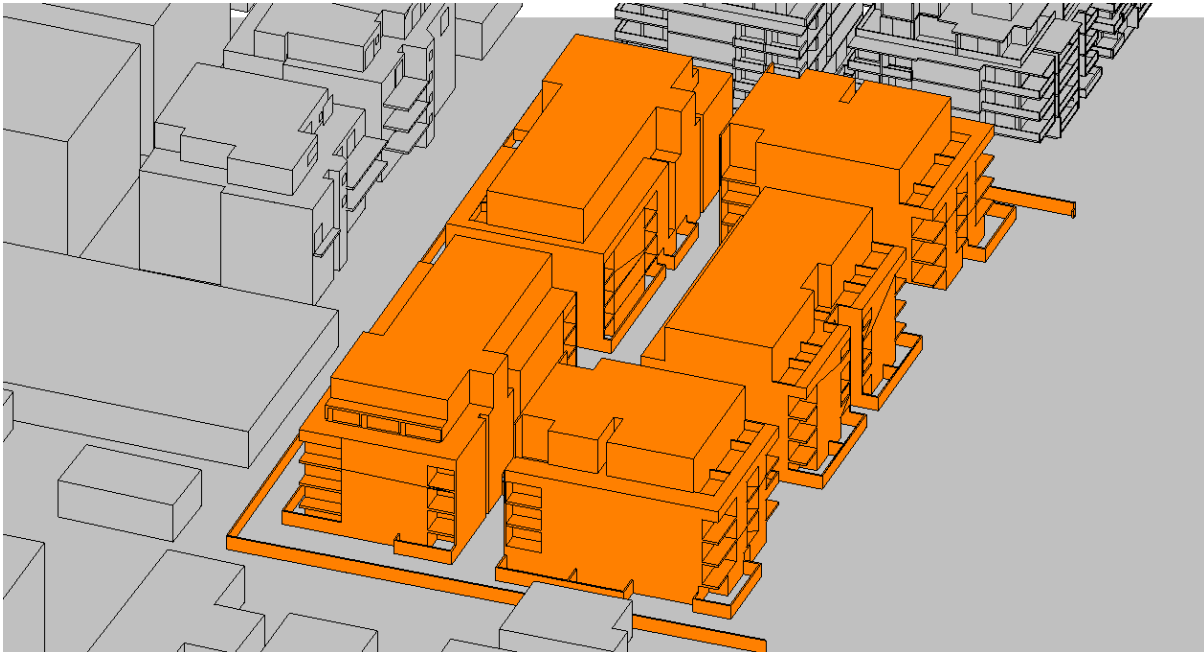
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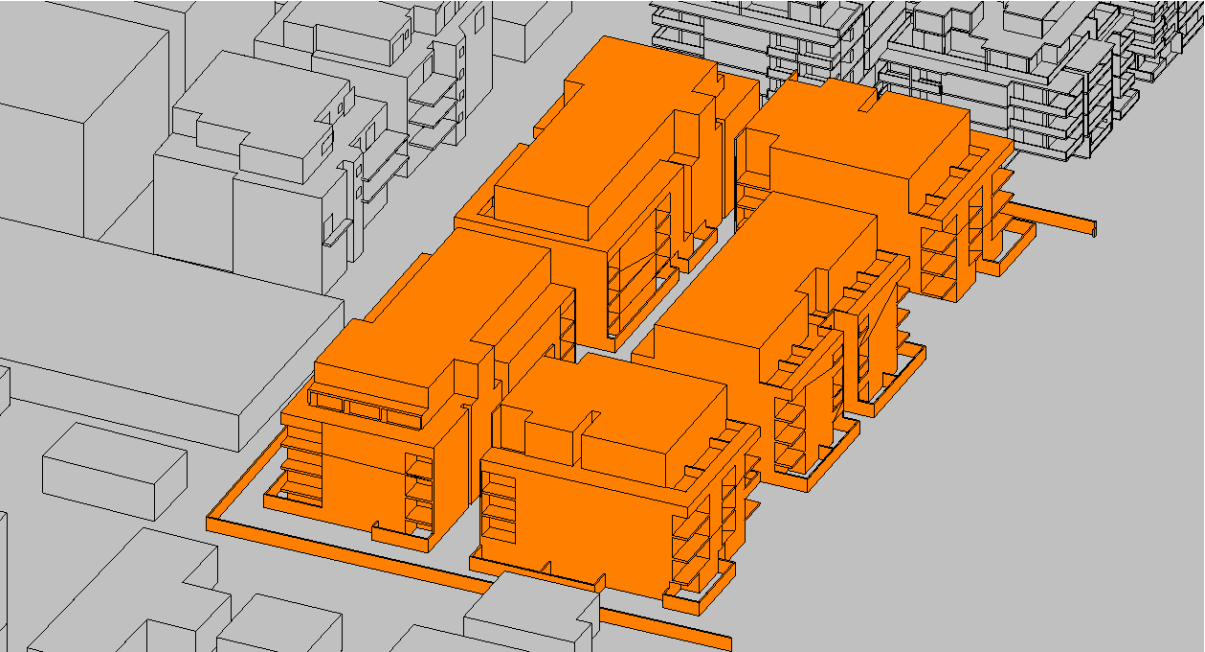
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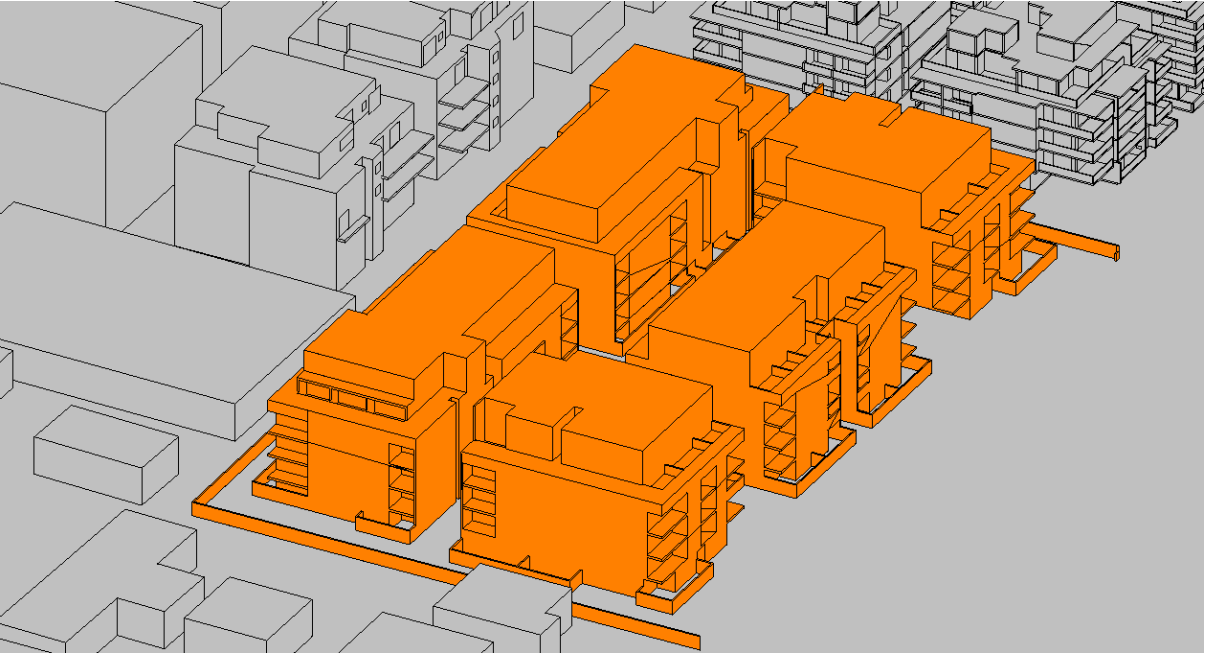
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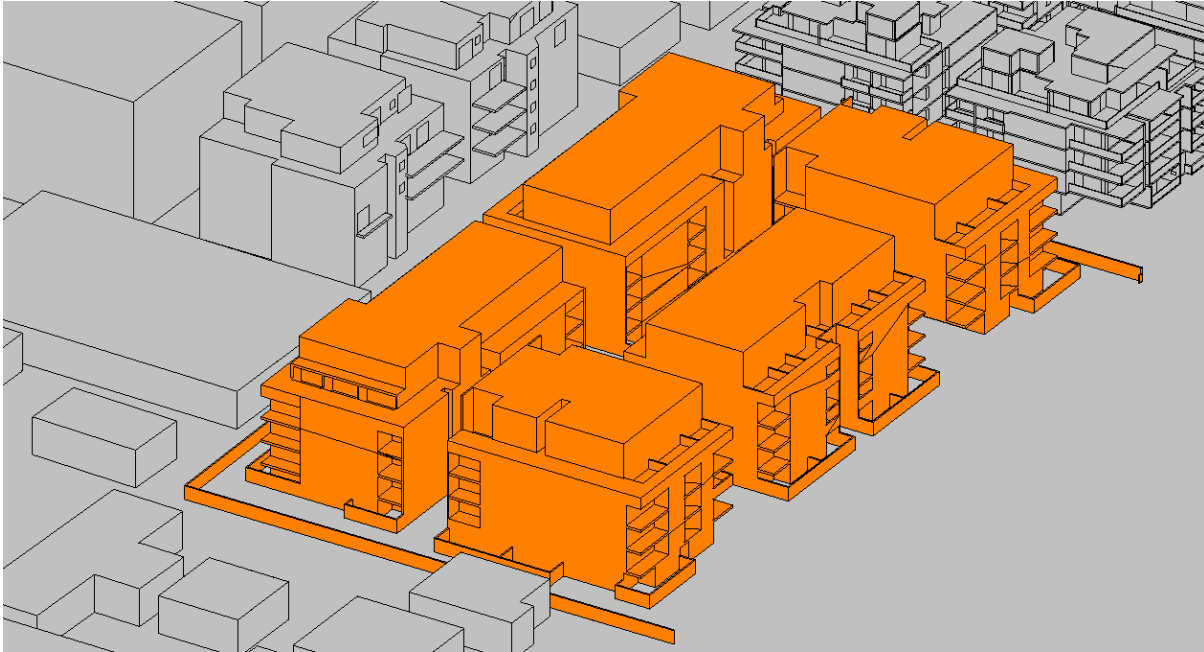
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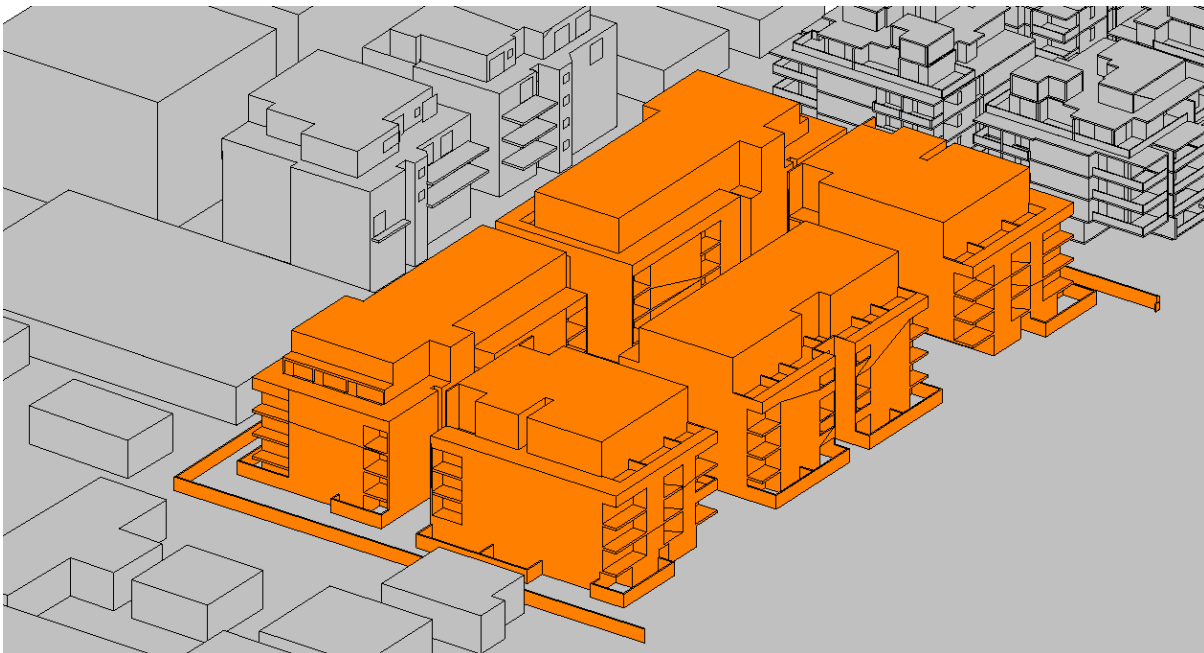
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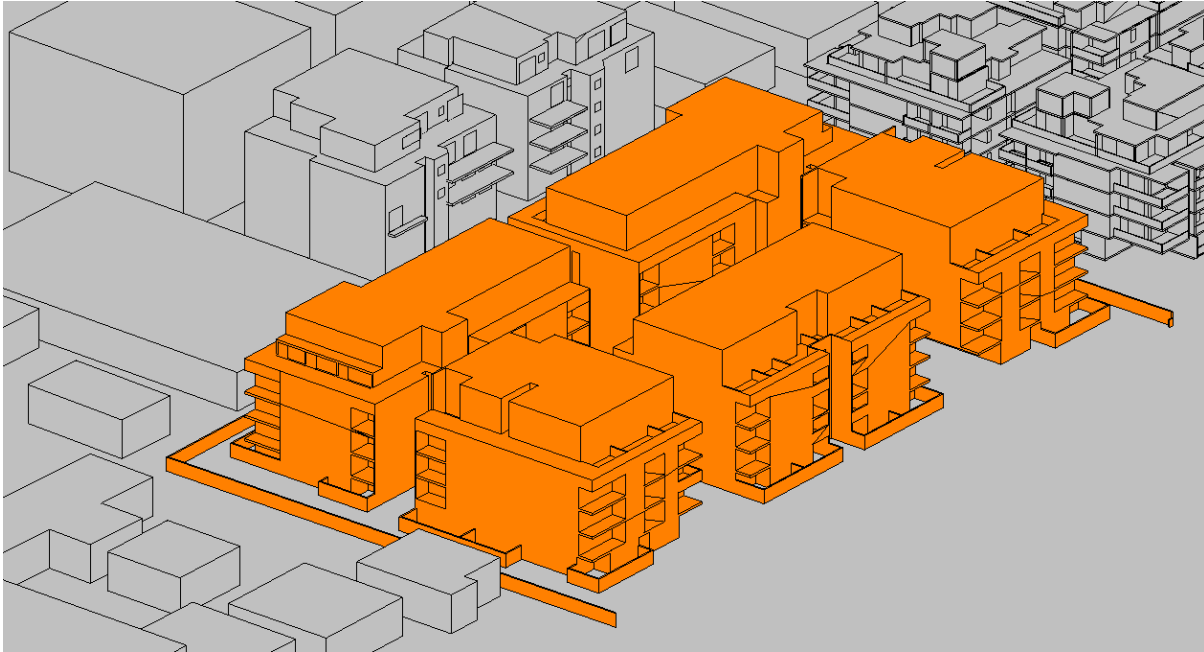
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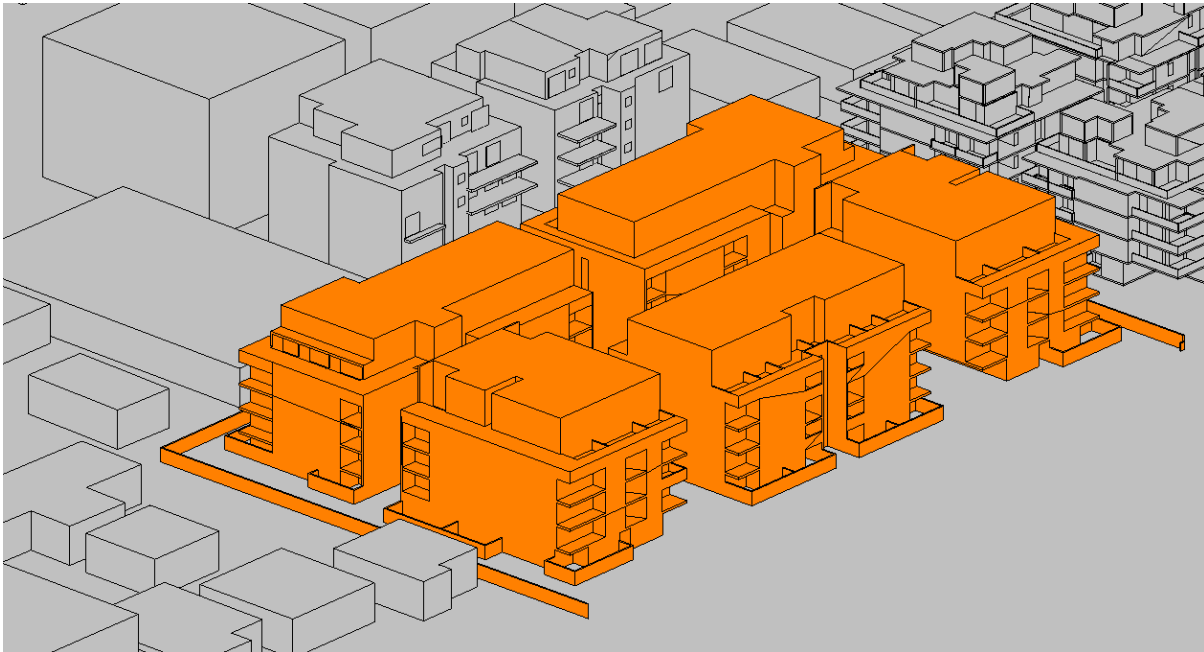
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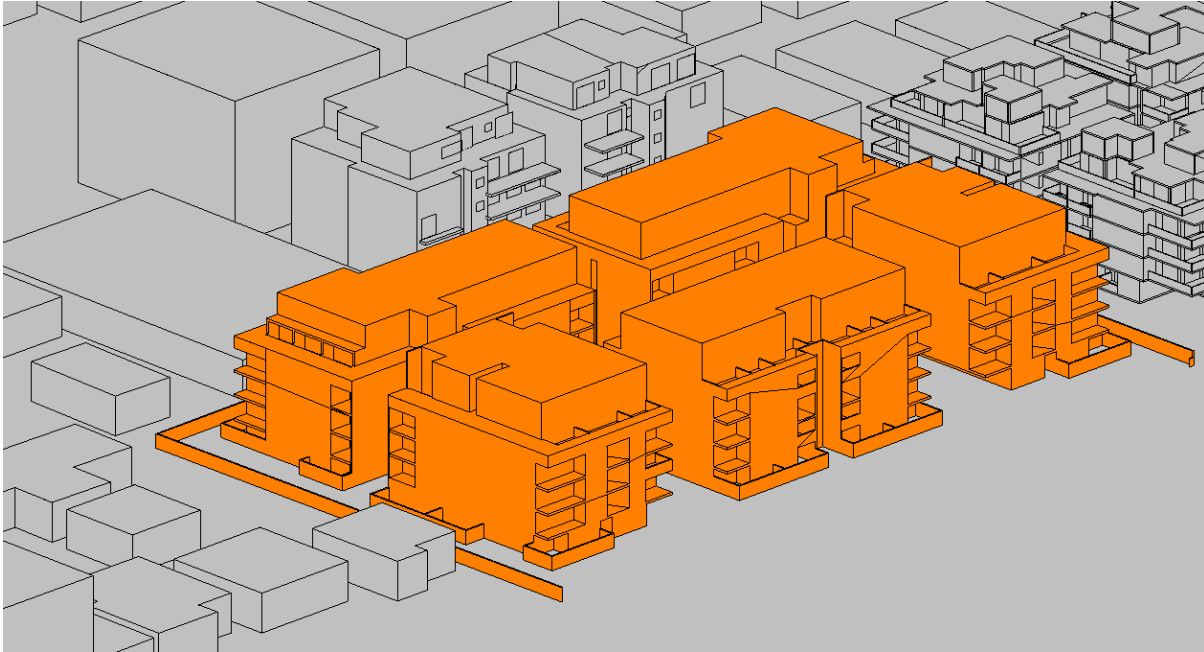
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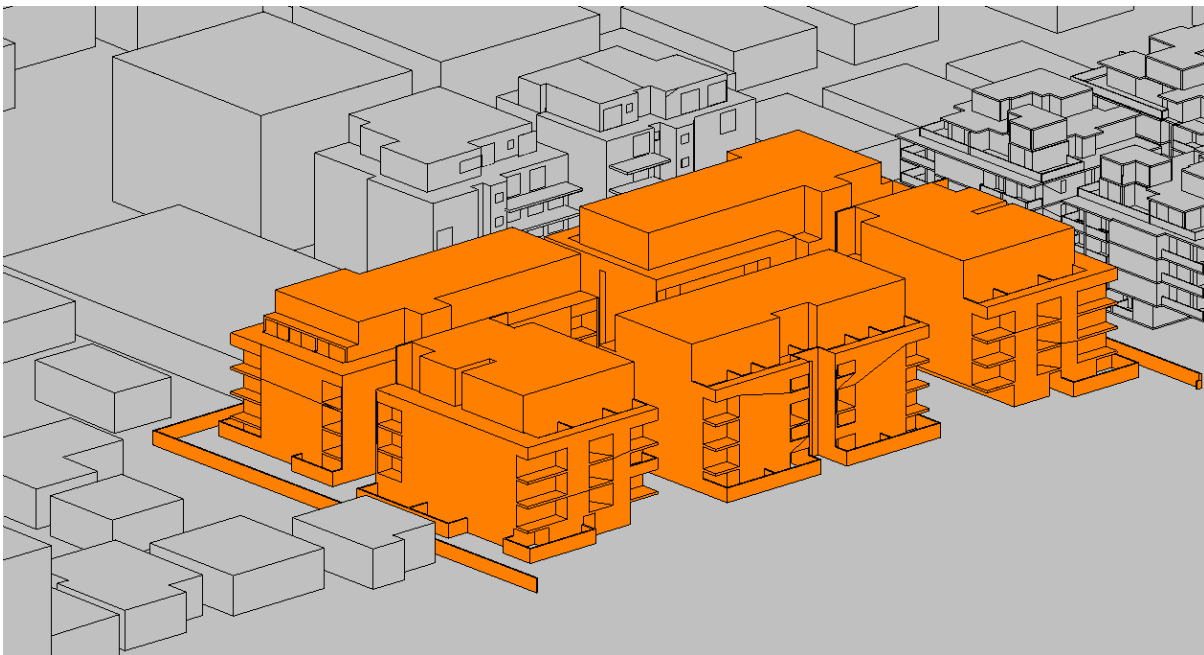
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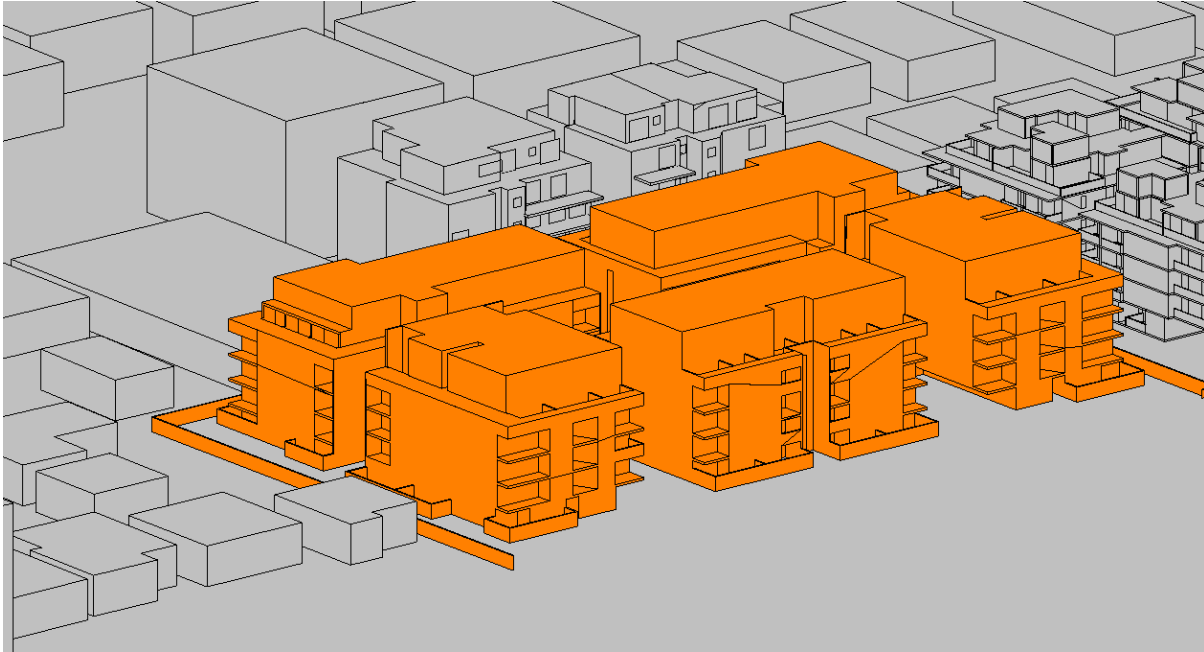
1430



1445



1500



APPENDIX B

Solar Access Calculations

Unit	9:00	9:15	9:30	9:45	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30	13:45	14:00	14:15	14:30	14:45	15:00	Total hr of sunlight betw 9am- 3pm	2hr sunlight betw 9.00- 15.00	No direct sunlight
A101		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	4.50	1	0
A102		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	6.00	1	0
A103		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25															2.25	1	0
A104		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25															2.25	1	0
A105		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25															2.25	1	0
A106		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25															2.25	1	0
A107													0.25	0.25												0.50	0	0
A108																										0.00	0	1
A201		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25							4.50	1	0
A202		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	6.00	1	0
A203		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25															2.25	1	0
A204																										0.00	0	1
A205		0.25	0.25	0.25	0.25	0.25																				1.25	0	0
A206		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25																2.25	1	0
A207		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25																2.25	1	0
A208													0.25	0.25	0.25											0.75	0	0
A301		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25							4.50	1	0
A302		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	6.00	1	0
A303		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25															2.25	1	0
A304																										0.00	0	1
A305		0.25	0.25	0.25	0.25	0.25																				1.25	0	0
A306		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25															2.25	1	0
A307		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25															2.25	1	0
A308													0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25						2.00	1	0
A401		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25							4.50	1	0
A402		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	6.00	1	0
A403		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25															2.25	1	0
A404																										0.00	0	1
A405		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25															2.25	1	0
A406		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25															2.25	1	0
A407		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25															2.25	1	0
A408													0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	3.25	1	0
A501		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25																2.25	1	0
A502		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25															2.25	1	0
A503		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25																2.25	1	0
A504		0.25	0.25																							0.50	0	0
A505		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	6.00	1	0
A506		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	6.00	1	0
A507		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	6.00	1	0
B101																		0.25								0.25	0	0
B102			0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25																2.00	1	0
B103				0.25	0.25	0.25	0.25	0.25	0.25	0.25																1.75	0	0
B104				0.25	0.25	0.25	0.25	0.25	0.25	0.25																1.75	0	0
B105		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25																2.25	1	0
B106		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25																2.25	1	0
B107													0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25					2.00	1	0	
B108													0.25	0.25	0.25	0.25	0.25	0.25	0.25						1.75	0	0	
B109													0.25	0.25	0.25	0.25	0.25	0.25	0.25						1.75	0	0	
B201																	0.25									0.25	0	0
B202		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25																2.25	1	0

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