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Epping Park Stage 3
61 Mobbs Lane Epping
Solar Access Study

Report Number 610.11592-R2

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Epping Park Stage 3

61 Mobbs Lane Epping

Solar Access Study

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DOCUMENT CONTROL

Reference	Status	Date	Prepared	Checked	Authorised
610.11592-R2	Revision 0	13 August 2012	Peter Hayman	Neihad Al-Khalidy	Neihad Al-Khalidy

Executive Summary

SLR Consulting Pty Ltd (SLR) has been commissioned by Meriton Apartments Pty Ltd (Meriton) to prepare a Solar Access Study for the residential buildings 11 to 17 in Epping Park Stage 3 development.

The State Environmental Planning Policy (SEPP) 65 supported by the Residential Flat Design Code - Part 03 Building Design, 'Rules of Thumb' is relevant to the assessment of the daylight access into residential components of the proposed development. The above regulation states that:

- Living rooms and private open spaces for at least 70 % in a development should receive a minimum of three hours of direct sunlight between 9.00 am and 3.00 pm in mid winter. In dense urban areas a minimum of two hours may be acceptable.

Specific interest therefore lies in the solar access through the living areas windows and balconies of residential apartment of the proposed development during the winter solstice, June 21 between the hours of 9.00 am and 3.00 pm. Due to the low density population of mid to high rise buildings in Epping, the proposed development is required to comply with the minimum of three hours of direct sunlight to at least 70% of the living rooms and private open spaces in the development.

Using the latest 3D AutoCAD drawings package, 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)

On the basis of the current Solar Access Analysis of the development, SLR has concluded the following:

- The proposed development was found to provide **72.2 %** of the residential development with 3 hrs or more sunlight on the Winter Solstice, between the hours of 9.00 am to 3.00 pm at a 'sampling rate' of 15 minute intervals.

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1 INTRODUCTION

SLR Consulting Australia Pty Ltd (SLR) has been commissioned by Meriton Apartments Pty Ltd (Meriton) to prepare a Solar Access Study for the residential building 11, 12, 13-14, 15-16 and 17 of Stage 3 of Epping Park Site on 61 Mobbs Lane, Epping. 3D AutoCAD software is utilised to produce daylight access diagrams used for this study.

1.1 Site Description

The proposed Epping Park site is shown in **Figure 1**. The Stage 3 of the development is at the western part of the site. The proposed development is bounded by Mobbs Lane to the south, Ryde TAFE complex to the north and low rise residential premises to the east and south.

Figure 1 Proposed Site Location



Figure 2 Proposed Stage 3 Masterplan



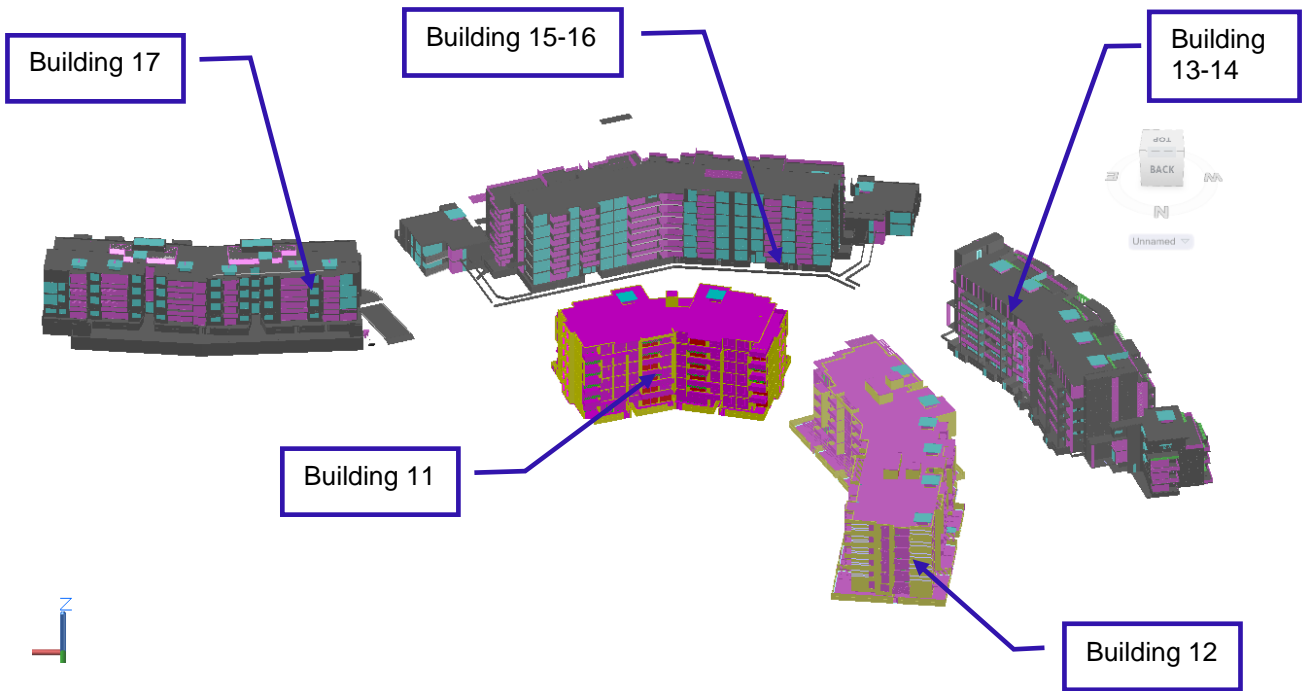
1.2 Stage 3 Development Description

Stage 3 comprises of the following buildings:

- Building 11 is located on the north perimeter of Stage 3 site and west to “Stage 2 Building 10”. Building 11 comprises of:
 - 5 levels of residential apartments (47 apartments)
- Building 12 is located on the northwest perimeter of Stage 3 site. Building 12 consists of:
 - 5 levels of residential apartments (83 apartments)
- Building 13-14 is located southwest to building 12 on the southwest boundary of Stage 3 site. Building 13-14 comprises of:
 - Swimming pool on the lower ground floor
 - 7 levels of residential apartments including lower ground level with four apartments (69 apartments)
- Building 15-16 is located south to building 11 on the south boundary of Stage 3 site. Building 15-16 comprises of:
 - 2 basement levels capark
 - 8 levels of residential apartments including 2 lower ground levels with four apartments on each (76 apartments)
- Building 17 is on the east part of Stage 3 site. Building 17 comprises of:
 - 4 levels of residential apartments (41 apartments)

Figure 3 shows north perspective view of the 3D AutoCAD model of the proposed Stage 3 development at Mobbs Lane.

Figure 3 3D model of Proposed Development



2 SOLAR ACCESS TO RESIDENTIAL BUILDINGS

2.1 Daylighting Considerations

The State Environmental Planning Policy (SEPP) 65 supported by the Residential Flat Design Code - Part 03 Building Design, 'Rules of Thumb' is relevant to the assessment of the daylight access into residential components of the proposed development. The above regulation states that:

- Living rooms and private open spaces for at least 70 % in a development should receive a minimum of three hours of direct sunlight between 9.00 am and 3.00 pm in mid winter. In dense urban areas a minimum of two hours may be acceptable.

Specific interest therefore lies in the solar access through the living areas windows and balconies of residential apartment of the proposed development during the winter solstice, June 21 between the hours of 9.00 am and 3.00 pm. Due to the low density population of mid to high rise buildings in Epping, the proposed development is required to comply with the minimum of three hours of direct sunlight to at least 70% of the living rooms and private open spaces in the development.

2.2 Solar Access Analysis

2.2.1 9.00 am – 3.00 pm on the Winter Solstice 21 June

Using the latest 3D AutoCAD drawings package, 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). Sun's Eye View diagrams prepared for each 15 minute interval between 9.00 am and 3.00 pm on the Winter Solstice (21 June) are shown in **Appendix A**. Detailed hours of direct sunlight calculation to each unit are identified in **Appendix B**

Results of solar access to the living rooms and private open spaces of apartments of Stage 3 Epping Park development on June 21 (winter solstice) between the hours of 9.00 am and 3.00 pm inclusive are summarised in **Table 1**.

Table 1 Solar Access Summary for each Residential Building within the Stage 3 Development between 9.00am to 3.00pm on June 21

Building	Number of Apartments	Number of Apartments with at least 3hr of direct sunlight	Percentage of Apartments with at least 3hr of direct sunlight
11	47	34	72.3%
12	83	60	72.3%
13-14	69	49	71.0%
15-16	83	61	73.9%
17	42	30	71.4%
All	324	234	72.2%

The proposed development was found to provide **72.2 %** of the residential development with 3 hrs or more sunlight on the Winter Solstice, between the hours of 9.00 am to 3.00 pm at a 'sampling rate' of 15 minute intervals, complying with SEPP 65 Solar Access Rules.

3 CONCLUSION

SLR Consulting Pty Ltd (SLR) has been commissioned by Meriton Apartments Pty Ltd (Meriton) to prepare a Solar Access Study for the residential buildings 11 to 17 in Epping Park Stage 3 development.

The State Environmental Planning Policy (SEPP) 65 supported by the Residential Flat Design Code - Part 03 Building Design, 'Rules of Thumb' is relevant to the assessment of the daylight access into residential components of the proposed development. The above regulation states that:

- Living rooms and private open spaces for at least 70 % in a development should receive a minimum of three hours of direct sunlight between 9.00 am and 3.00 pm in mid winter. In dense urban areas a minimum of two hours may be acceptable.

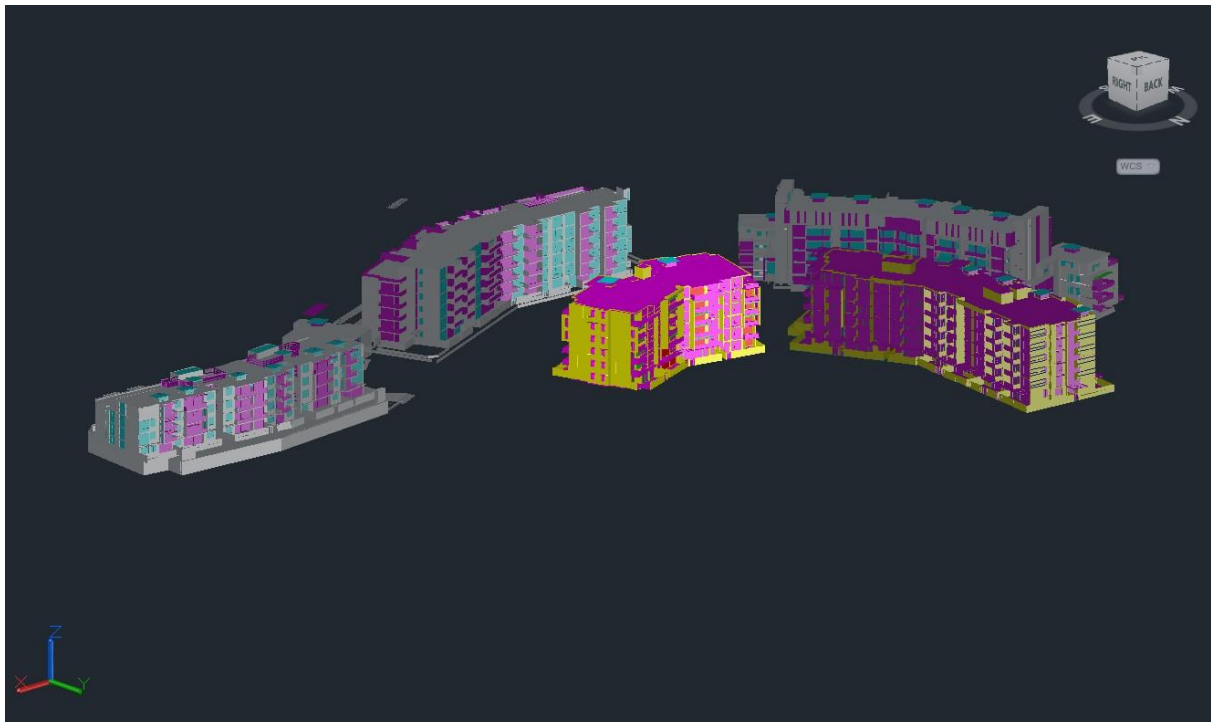
Specific interest therefore lies in the solar access through the living areas windows and balconies of residential apartment of the proposed development during the winter solstice, June 21 between the hours of 9.00 am and 3.00 pm. Due to the low density population of mid to high rise buildings in Epping, the proposed development is required to comply with the minimum of three hours of direct sunlight to at least 70% of the living rooms and private open spaces in the development.

Using the latest 3D AutoCAD drawings package, 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)

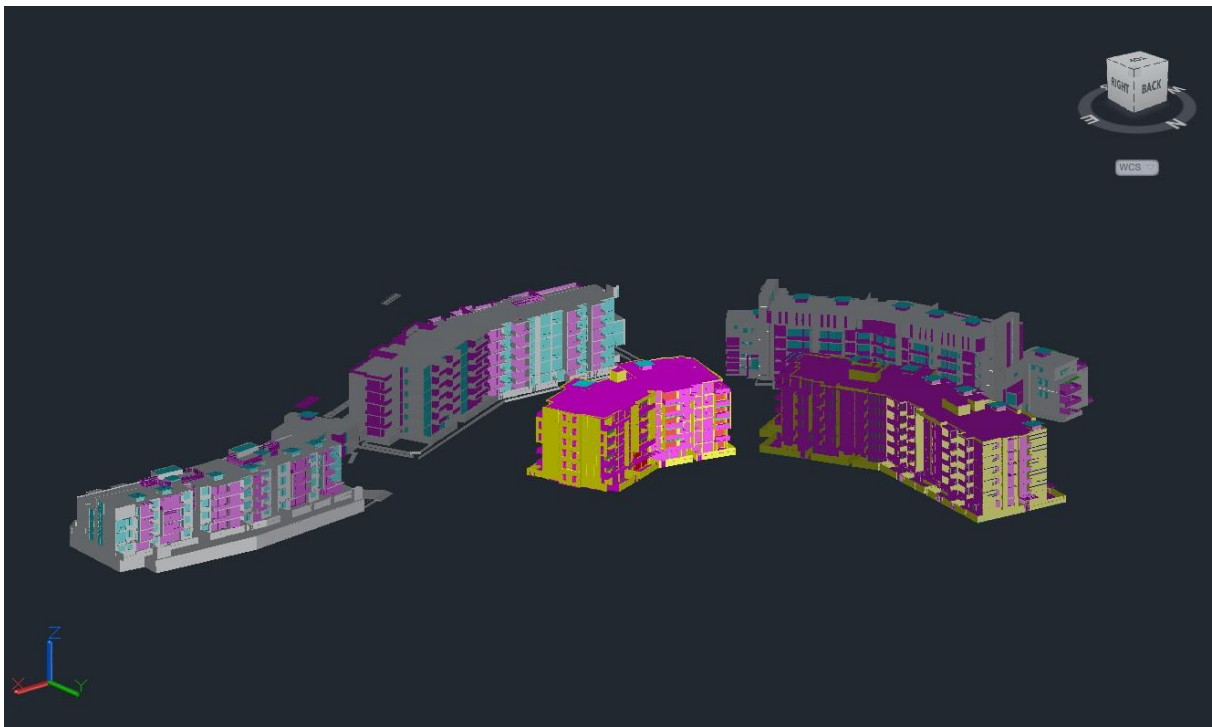
On the basis of the current Solar Access Analysis of the development, SLR has concluded the following:

- The proposed development was found to provide **72.2 %** of the residential development with 3 hrs or more sunlight on the Winter Solstice, between the hours of 9.00 am to 3.00 pm at a 'sampling rate' of 15 minute intervals.

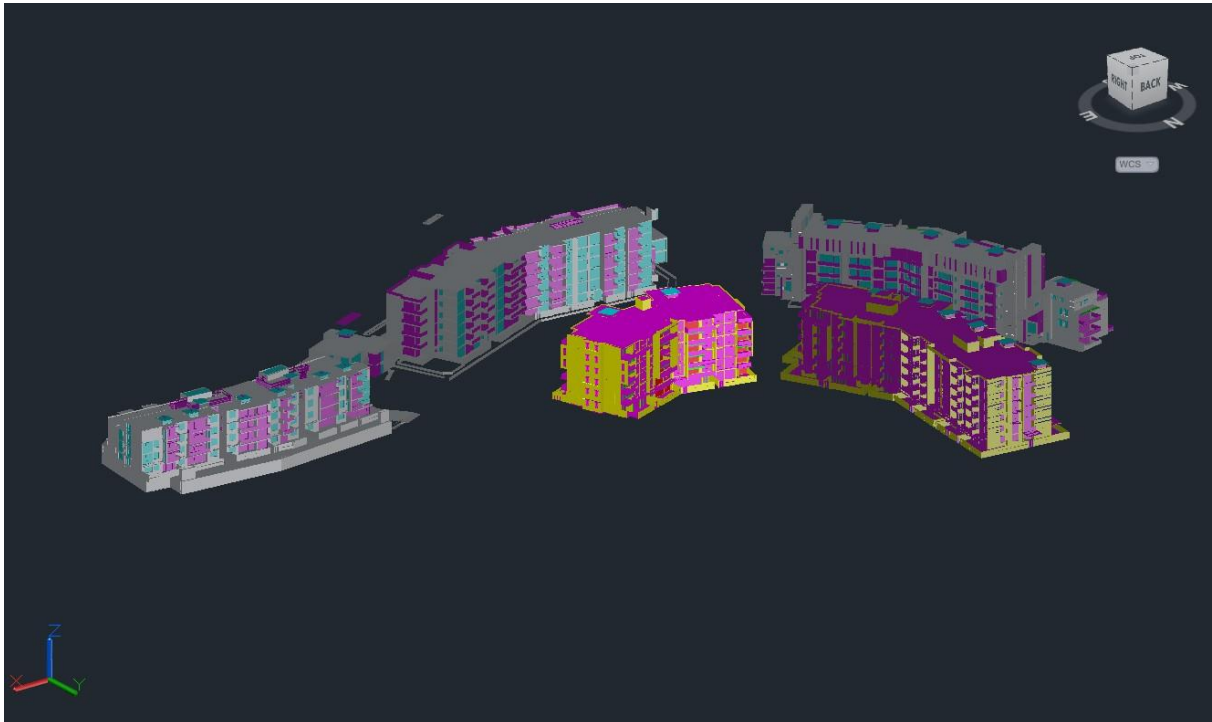
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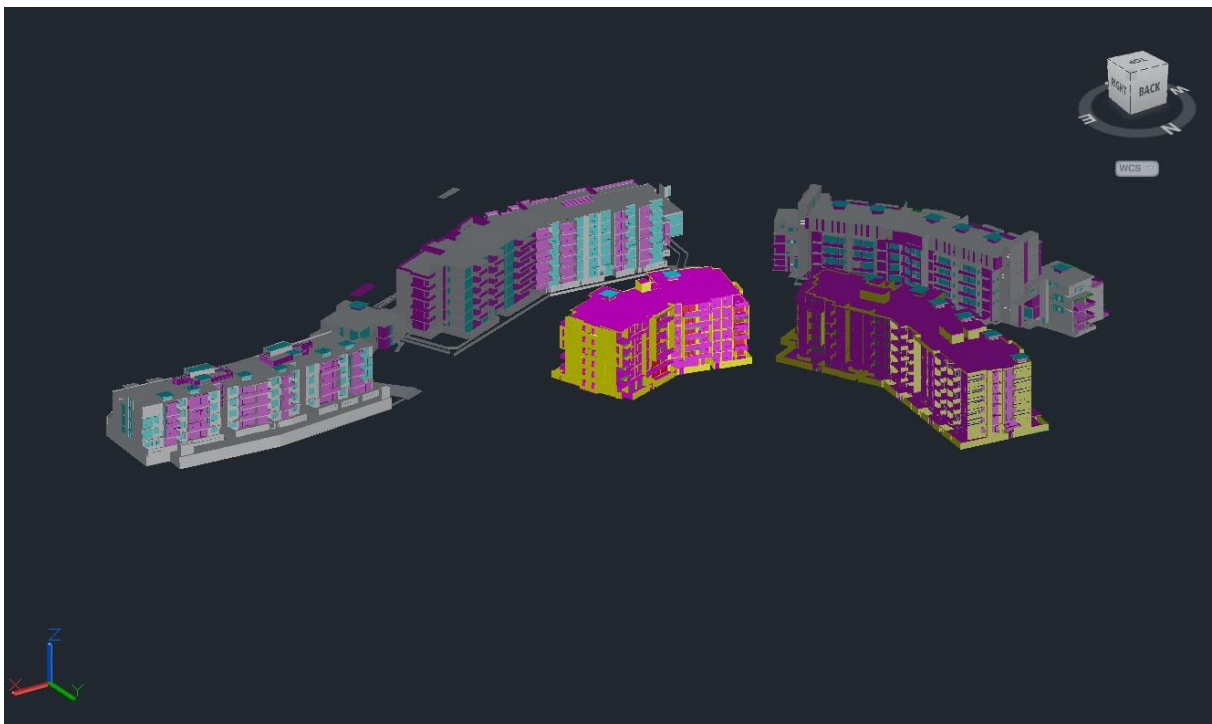
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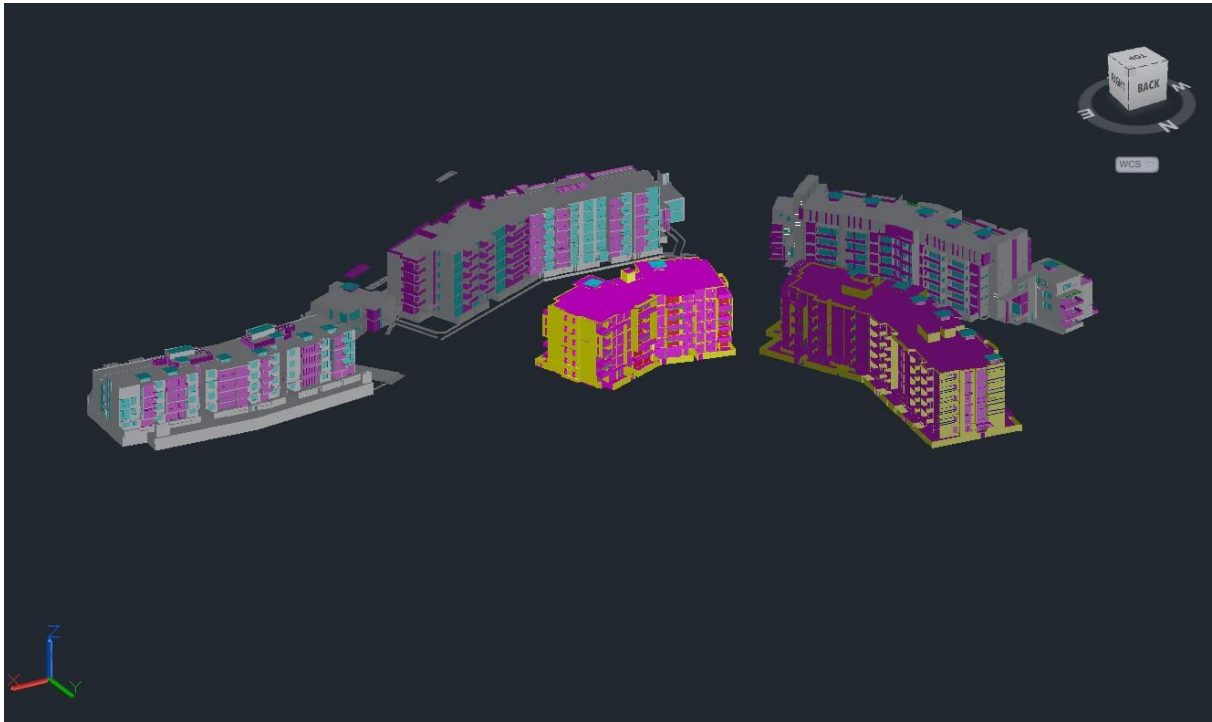
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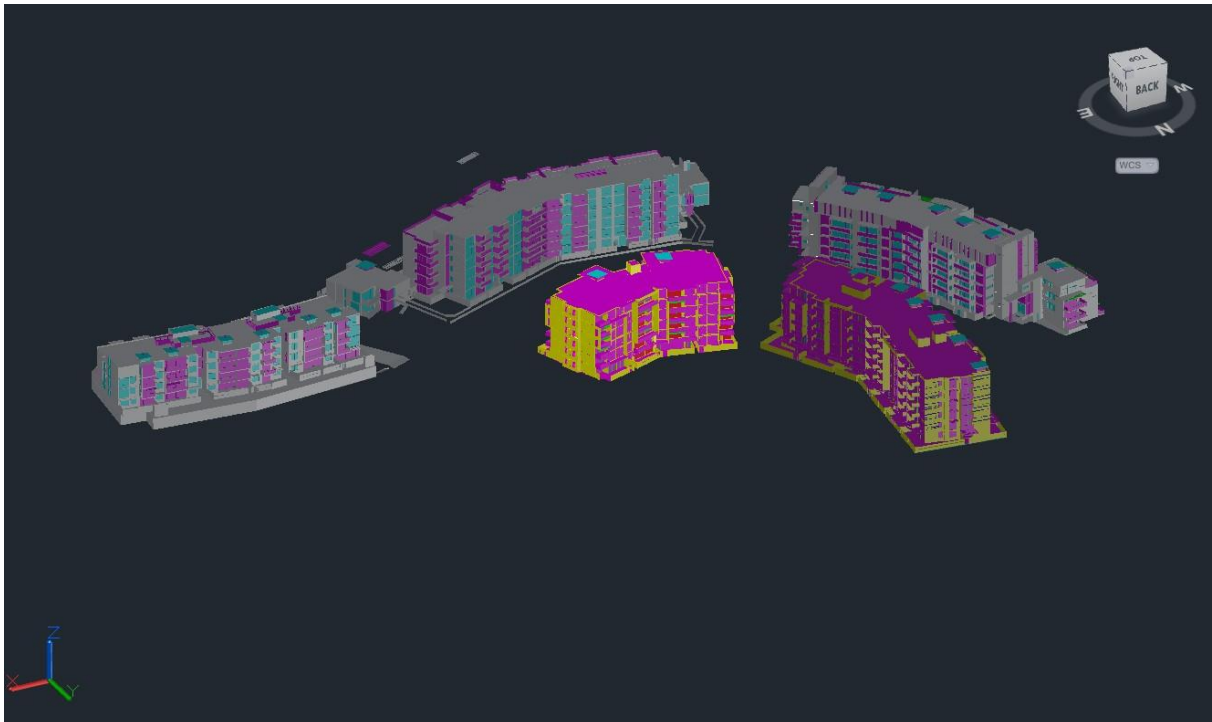
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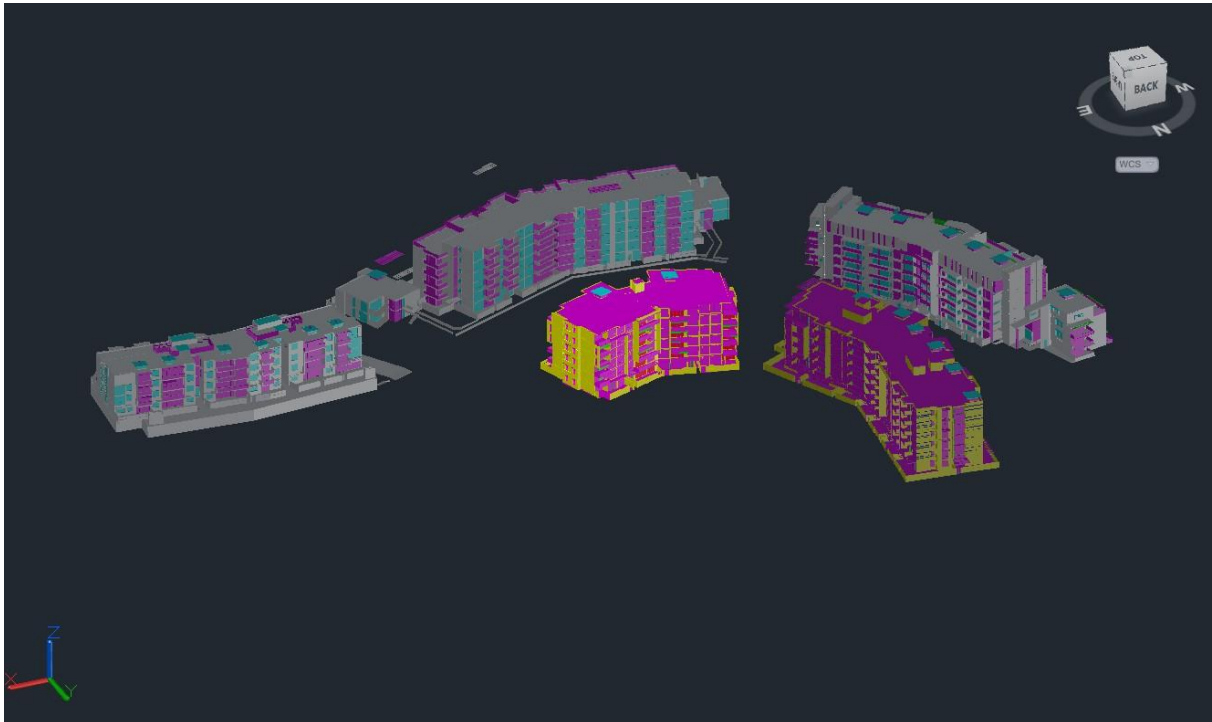
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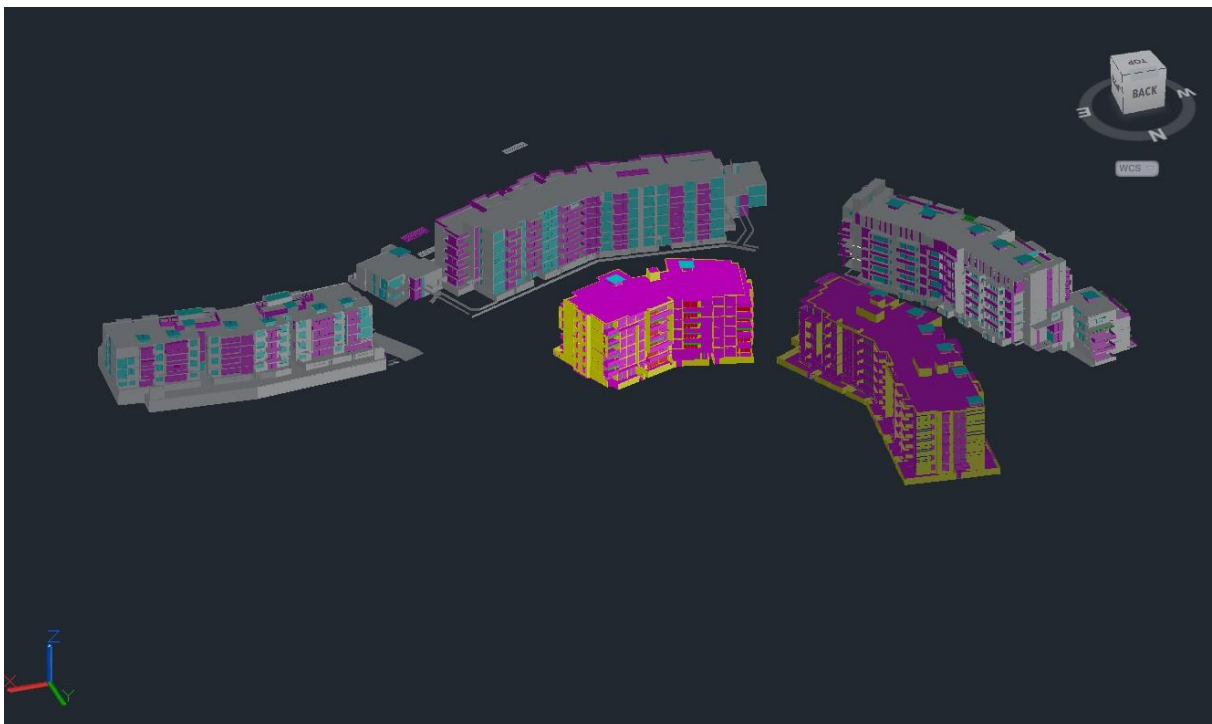
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June 21 10.30am



June 21 10.45am



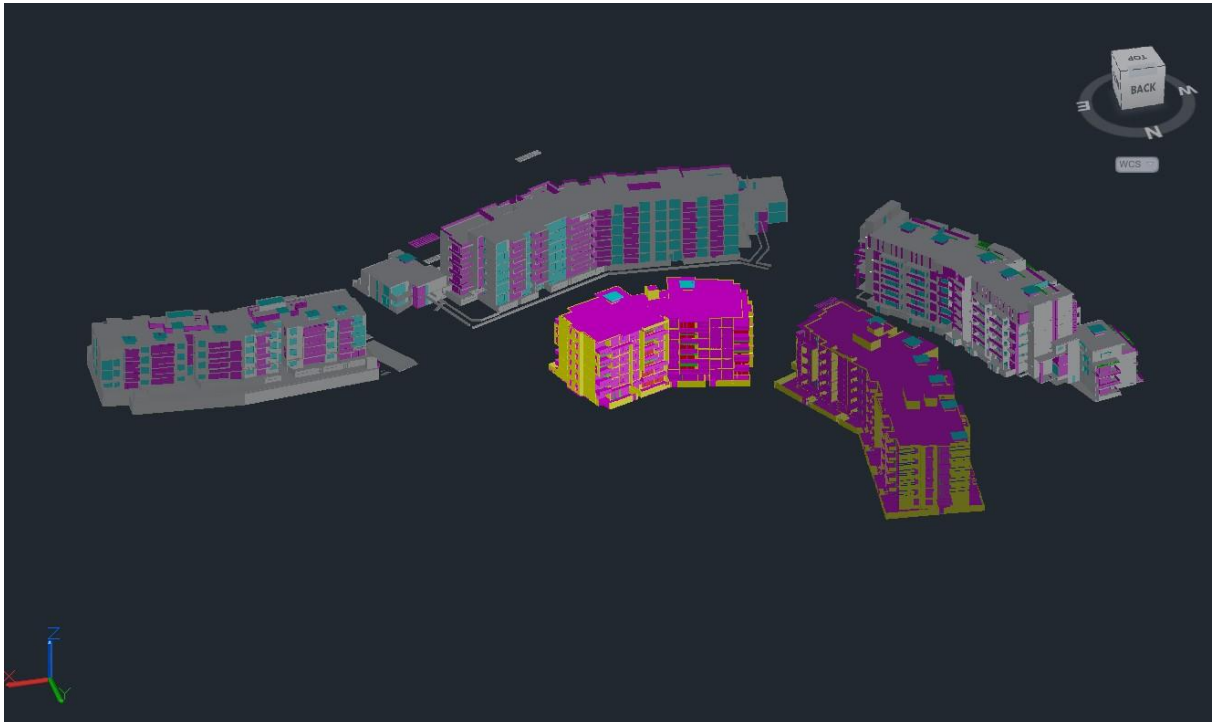
Appendix A

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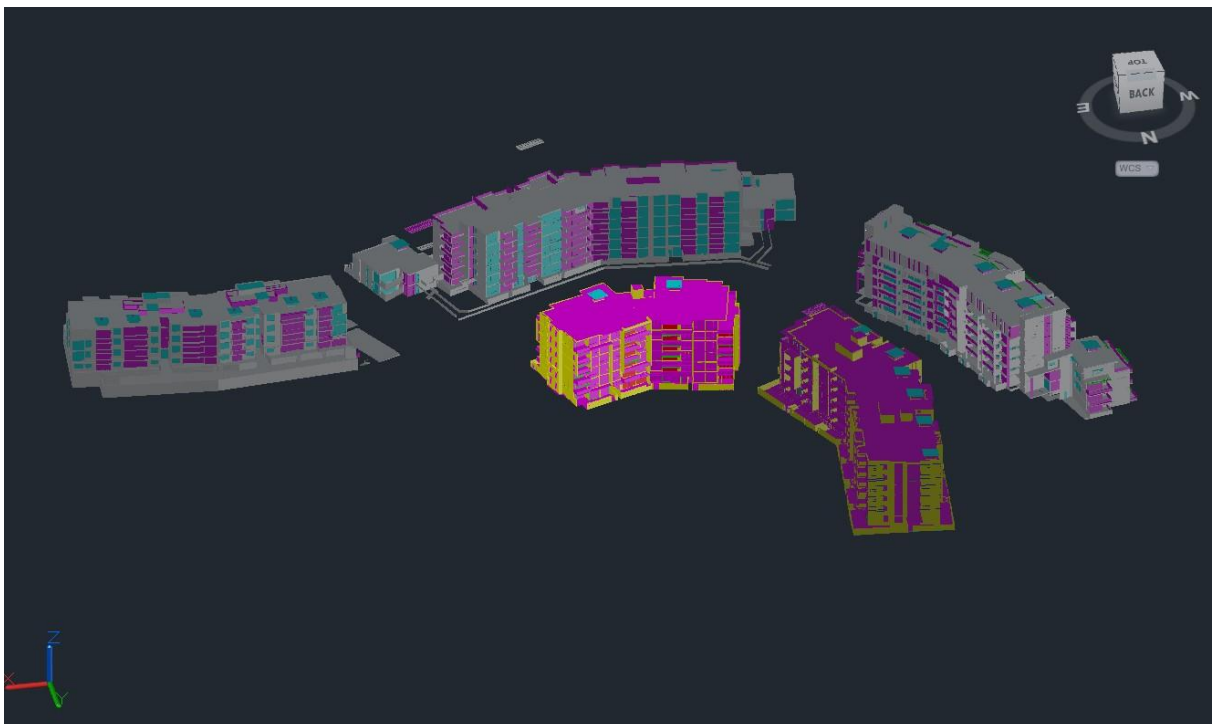
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JUNE 21 SUN EYE VIEWS

June 21 11.00am



June 21 11.15am



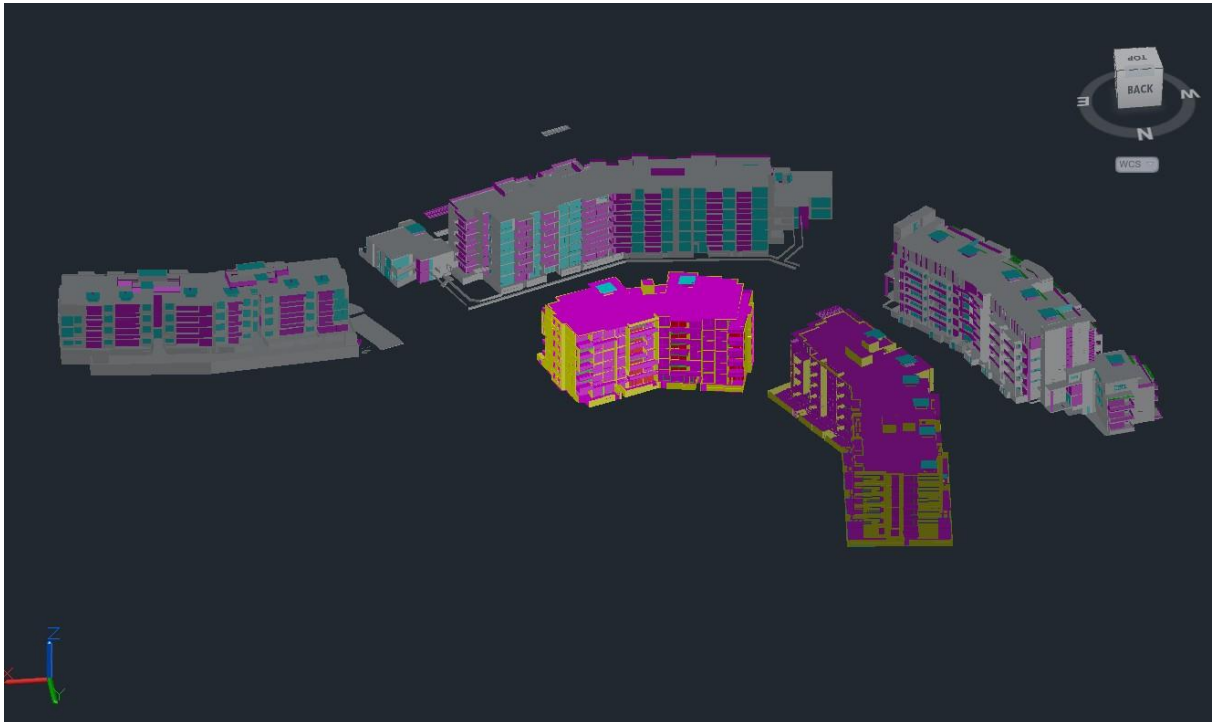
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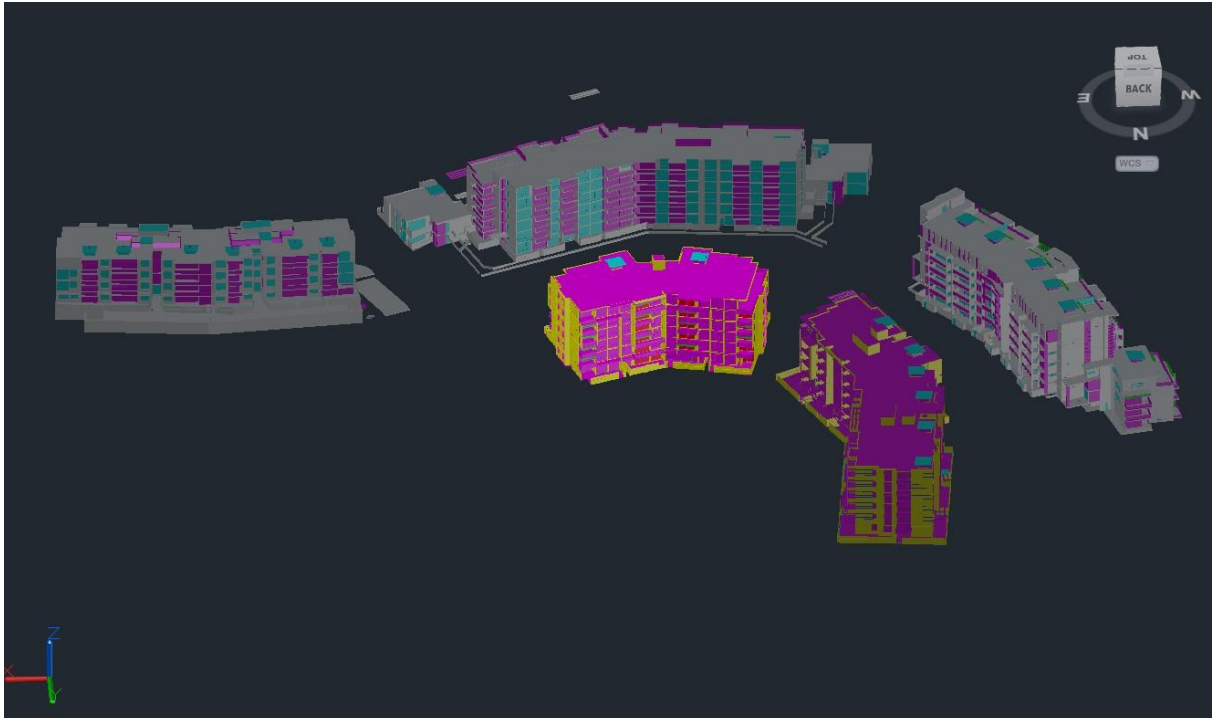
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JUNE 21 SUN EYE VIEWS

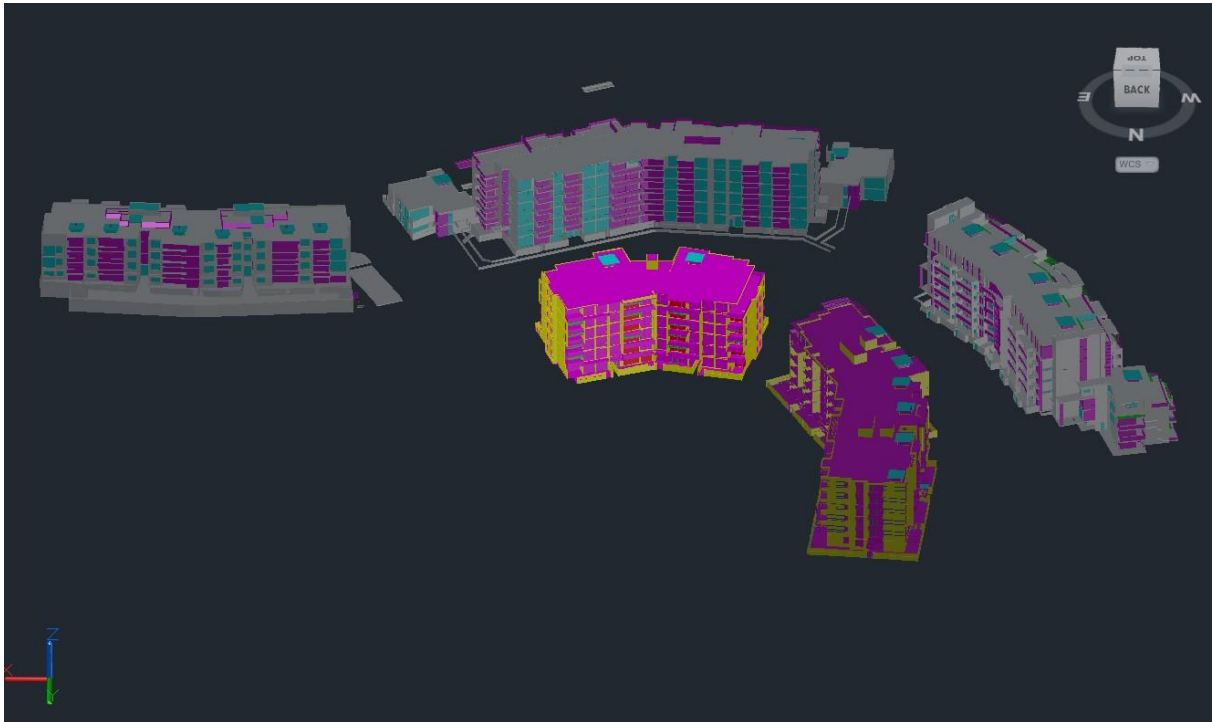
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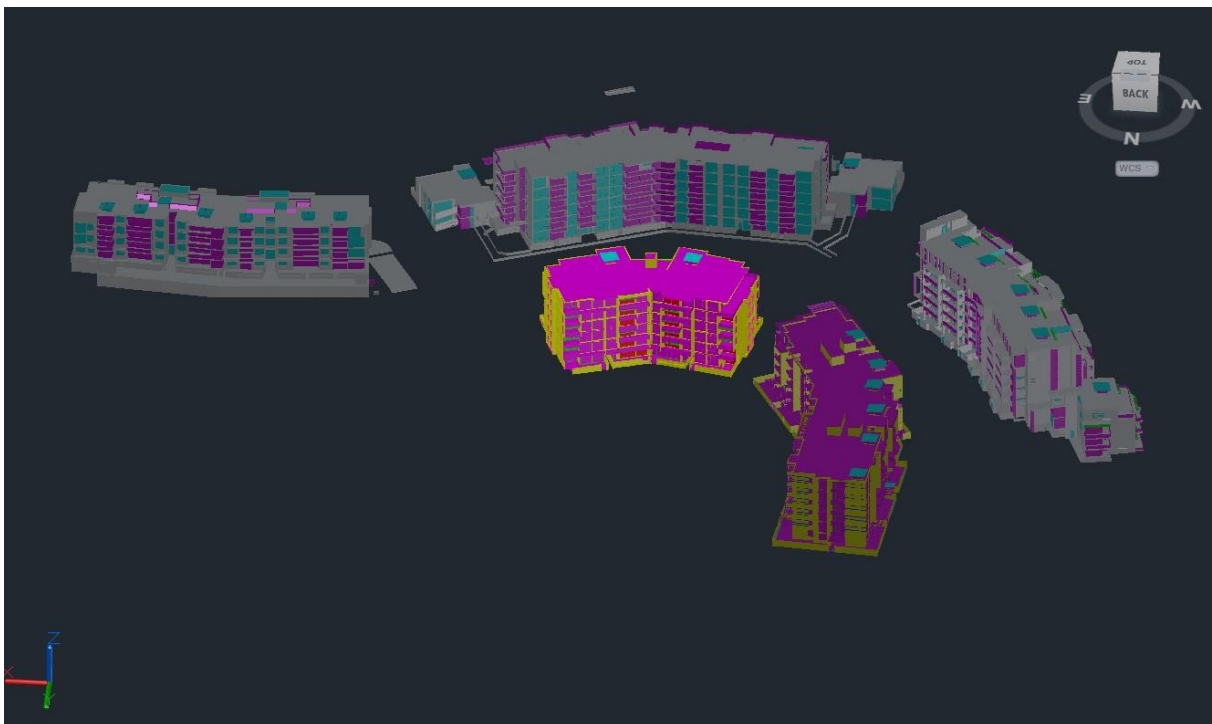
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June 21 12.00pm



June 21 12.15pm



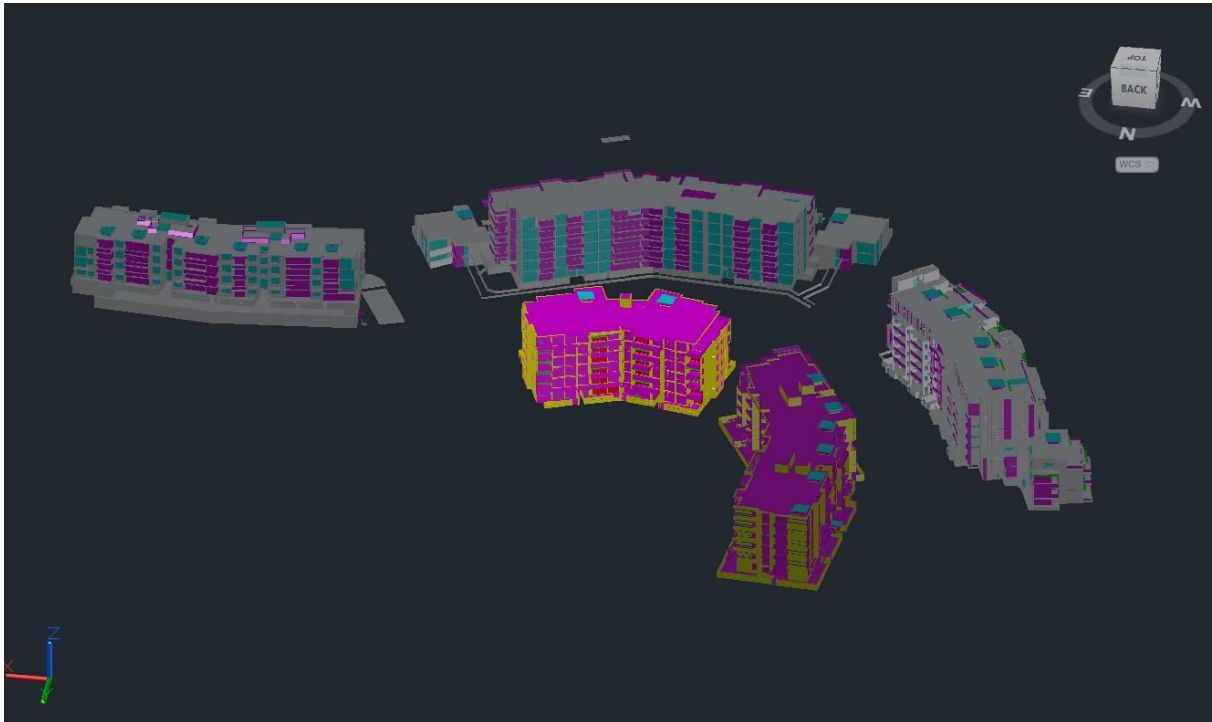
Appendix A

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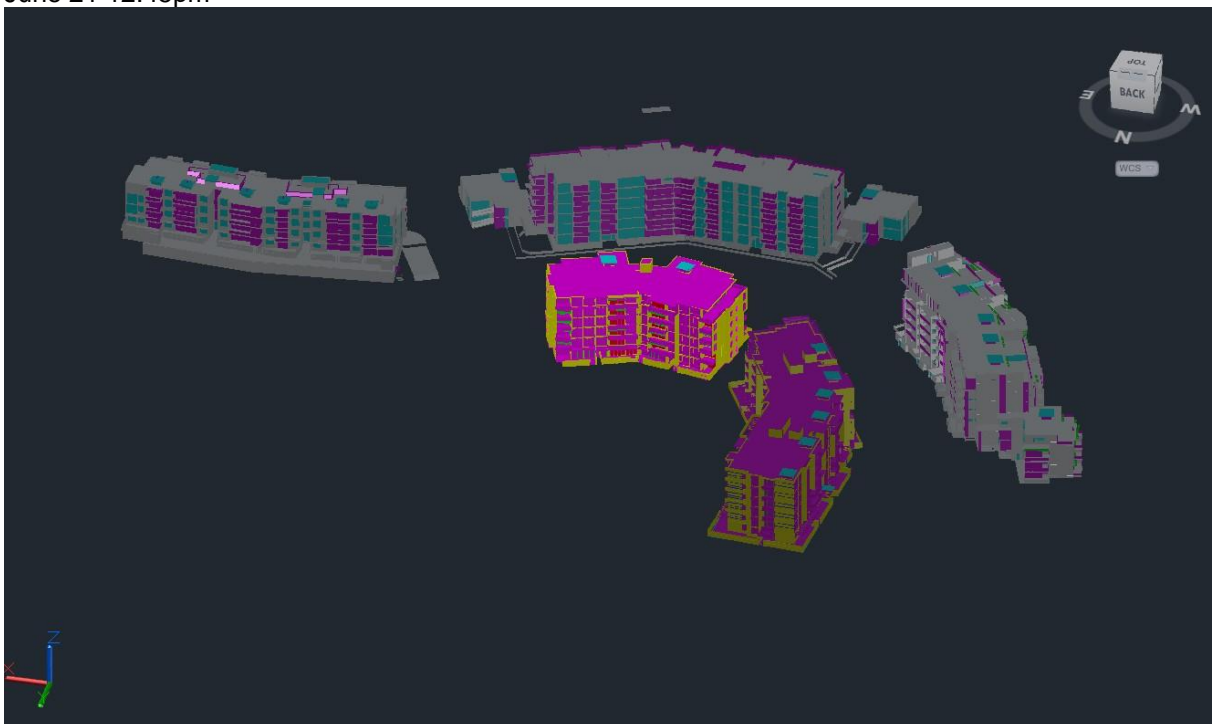
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JUNE 21 SUN EYE VIEWS

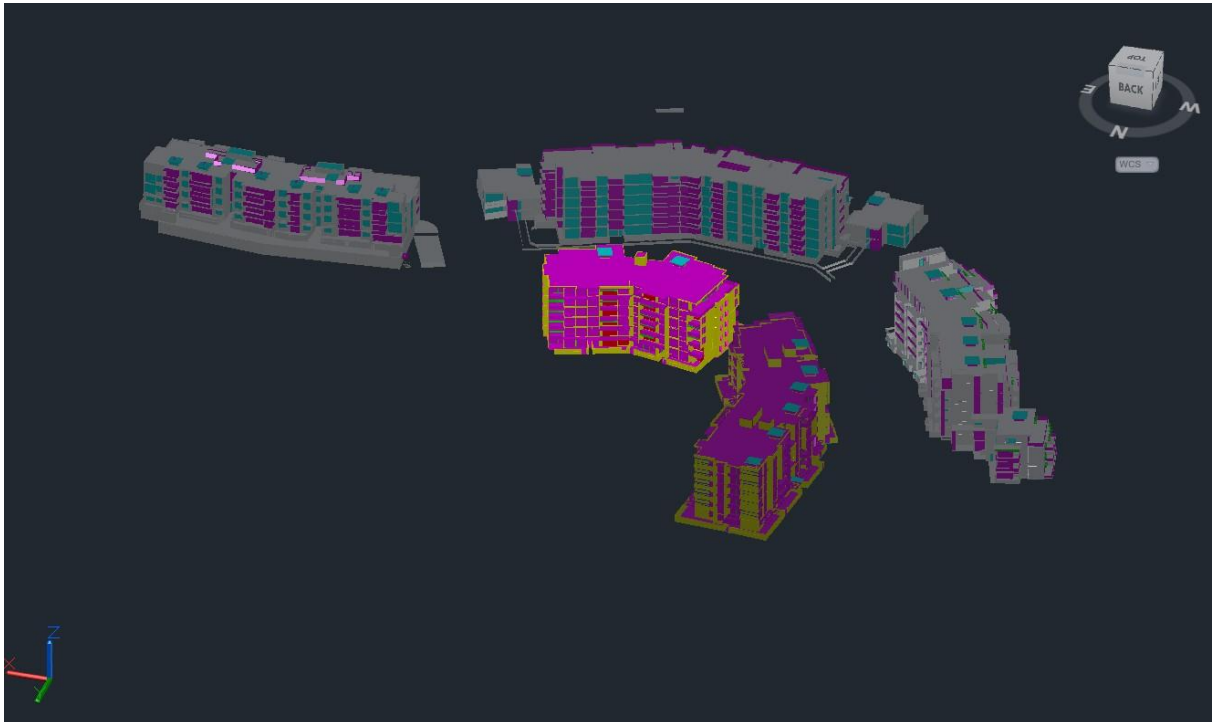
June 21 12.30pm



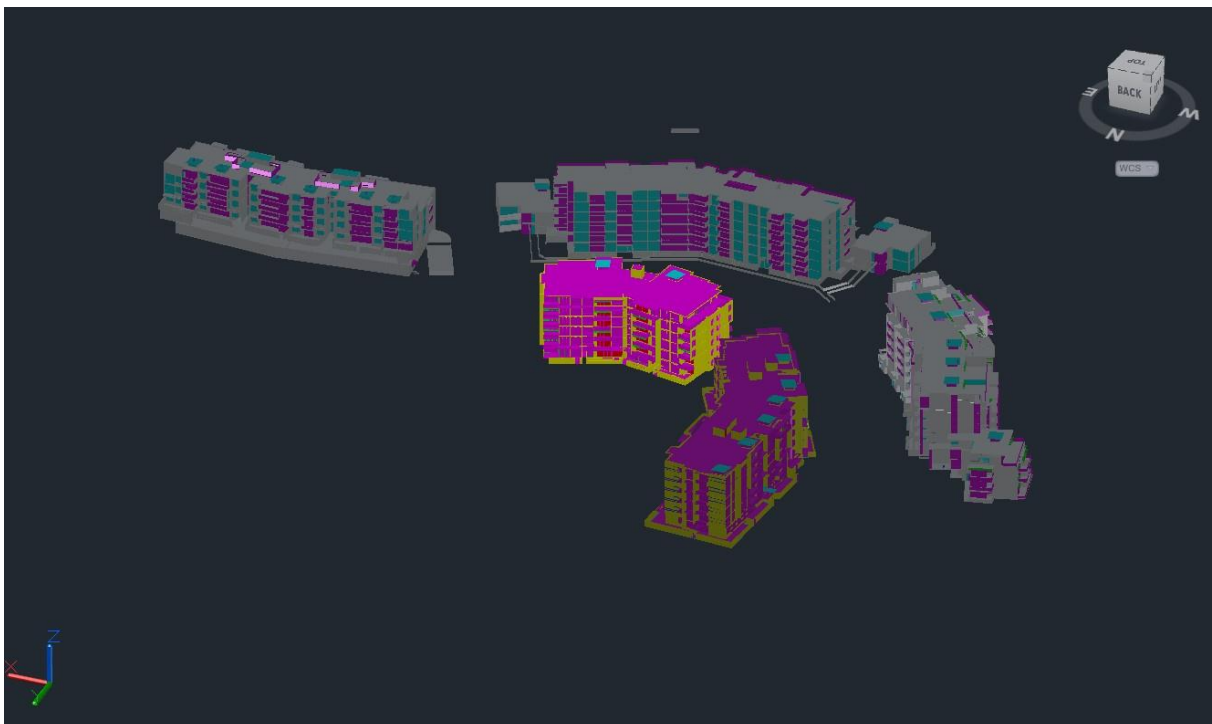
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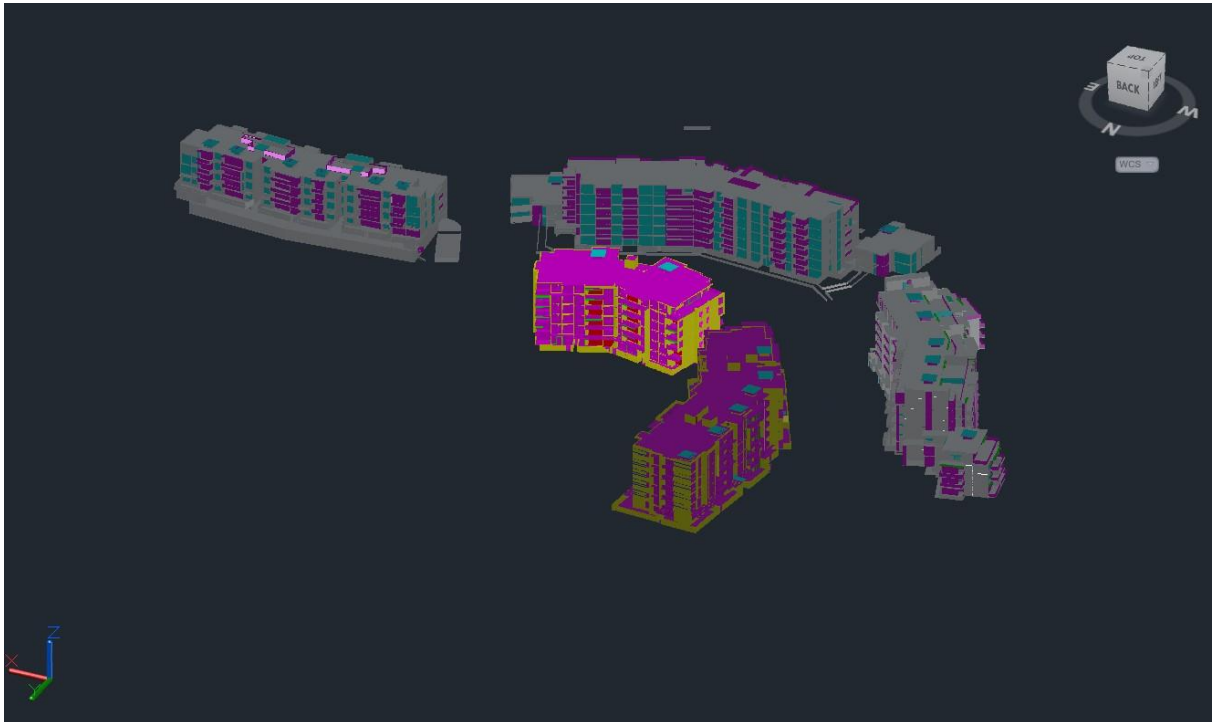
June 21 1.00 pm



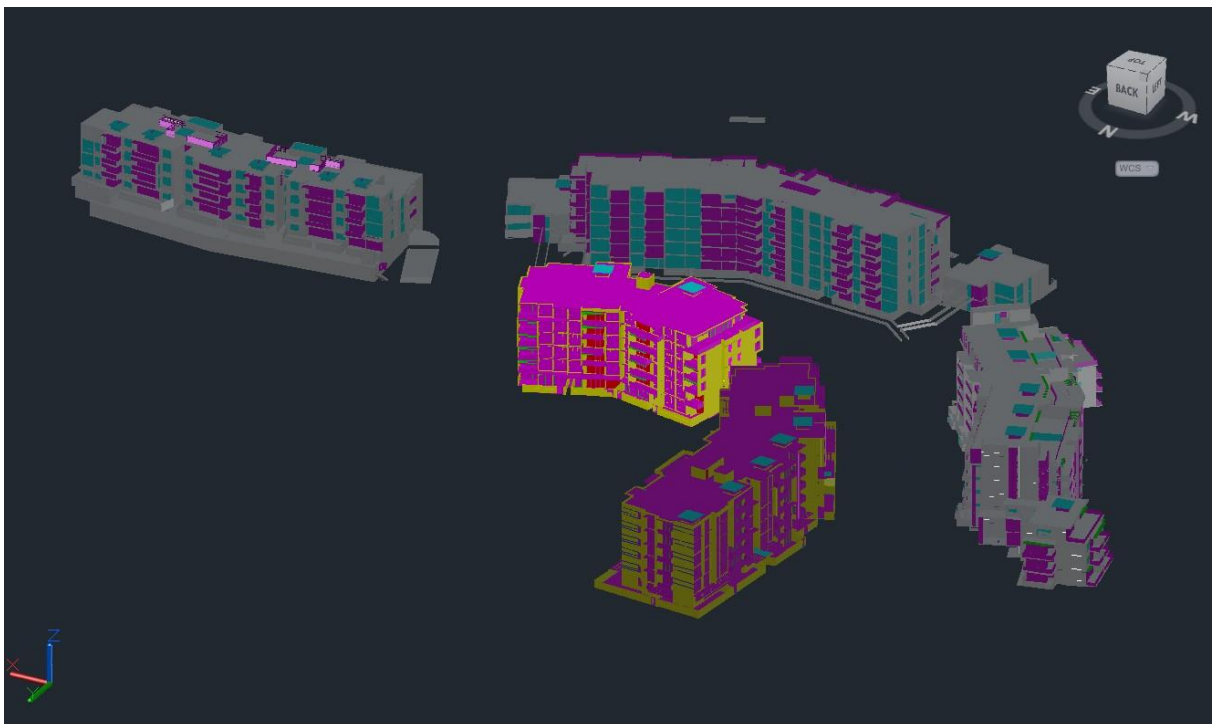
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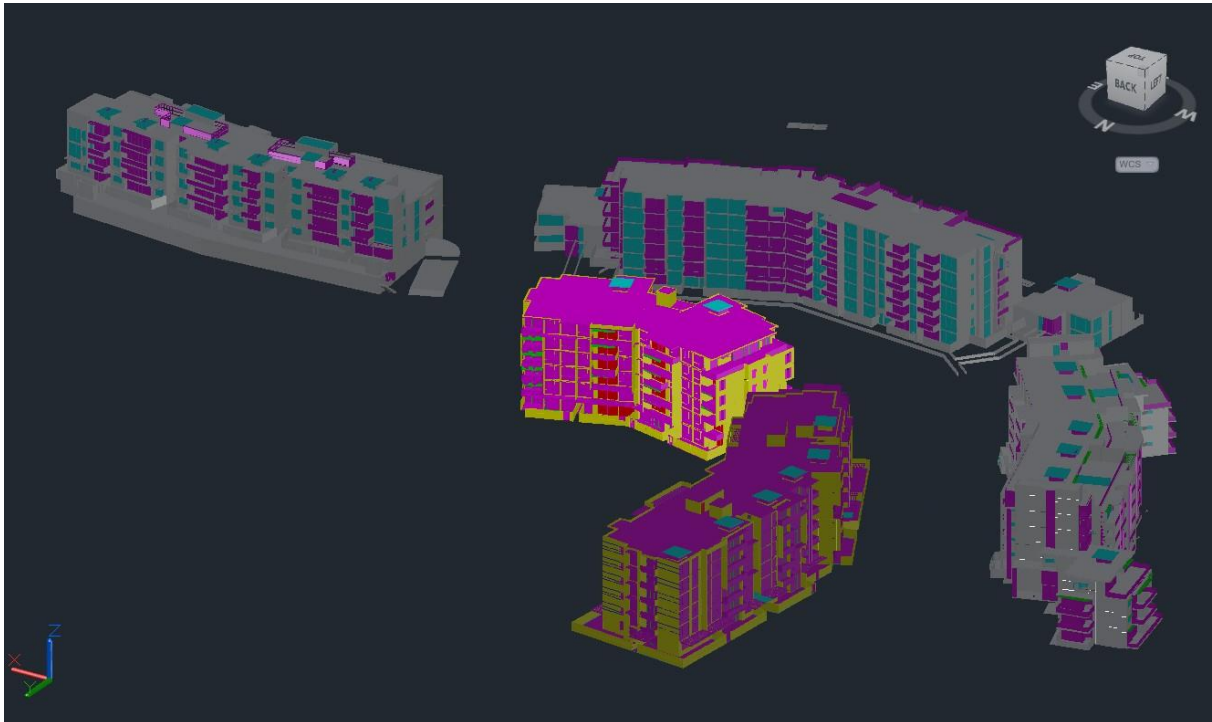
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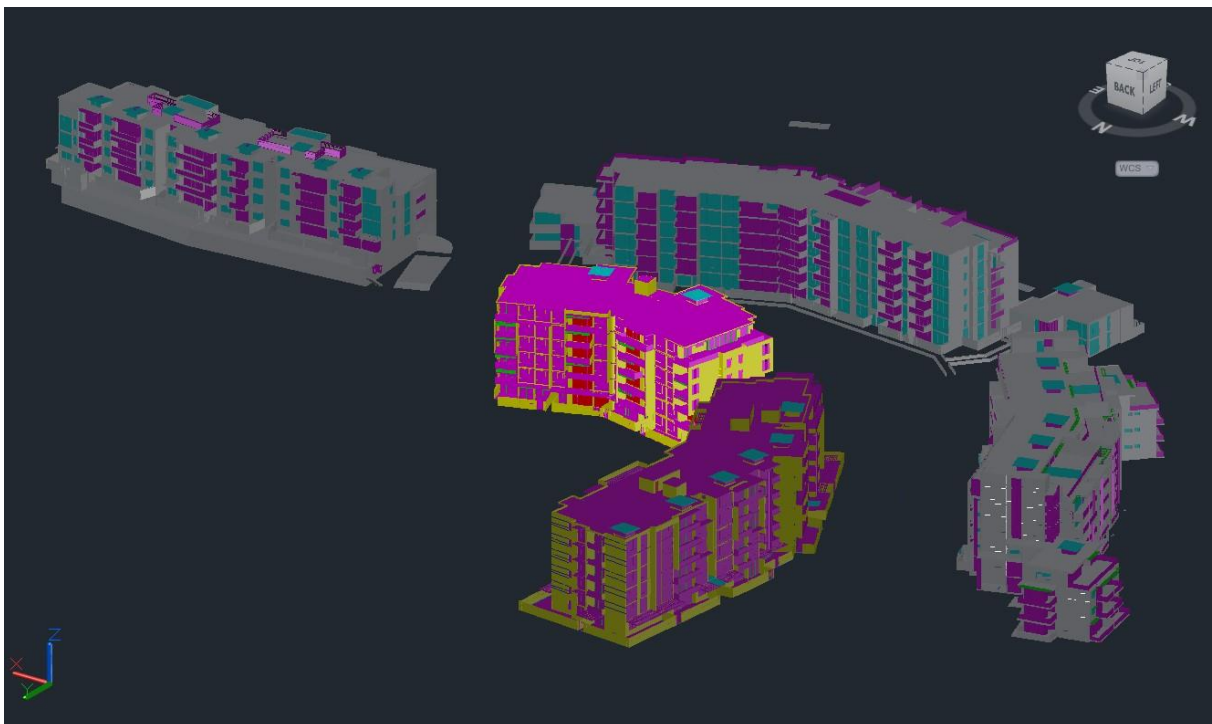
June 21 1.45 pm



June 21 2.00 pm



June 21 2.15 pm



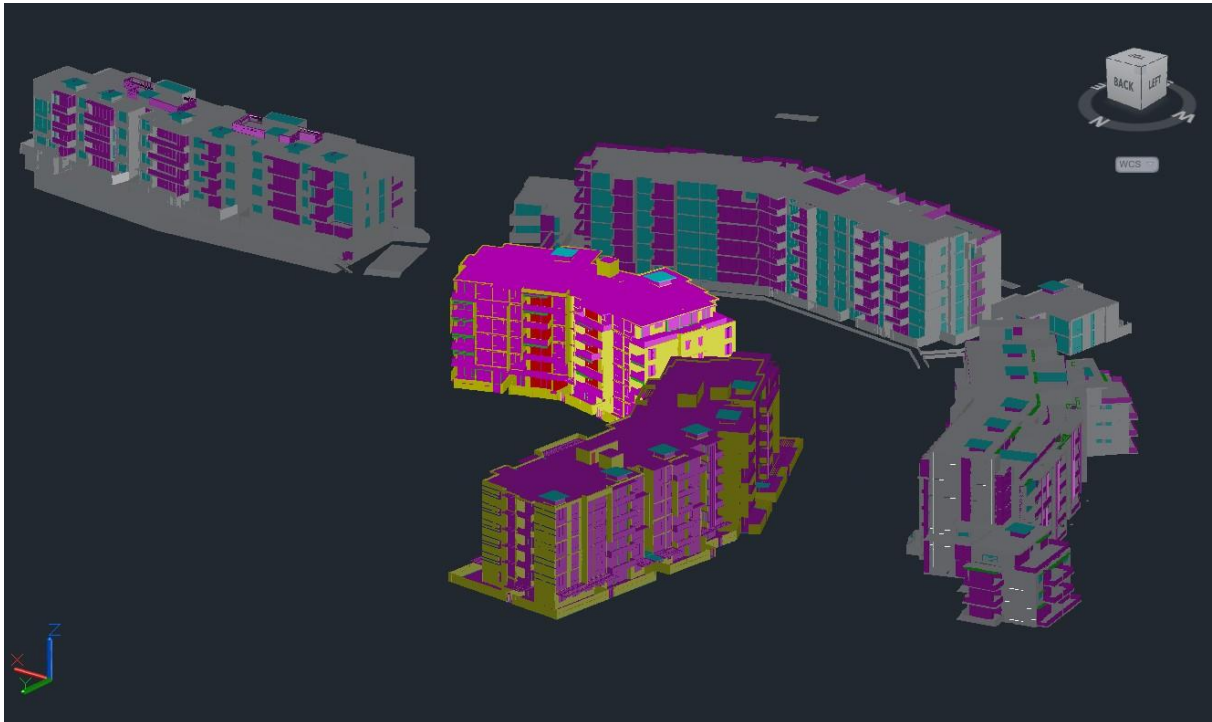
Appendix A

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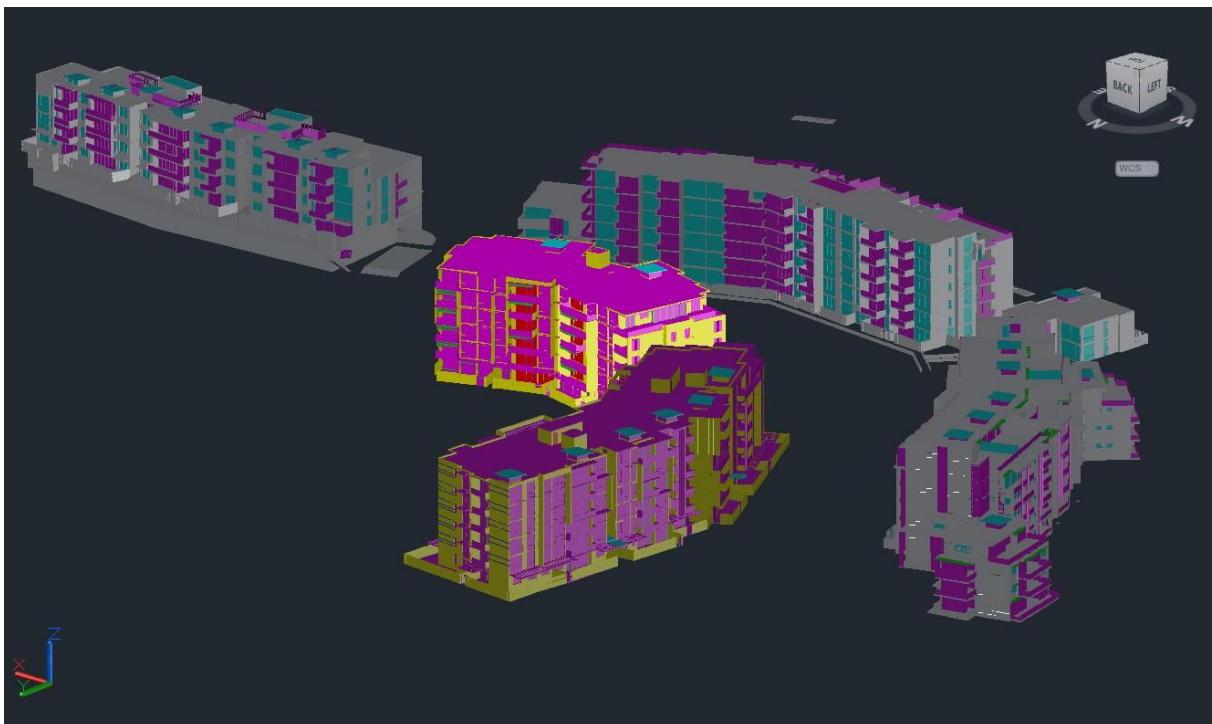
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JUNE 21 SUN EYE VIEWS

June 21 2.30 pm



June 21 2.45 pm



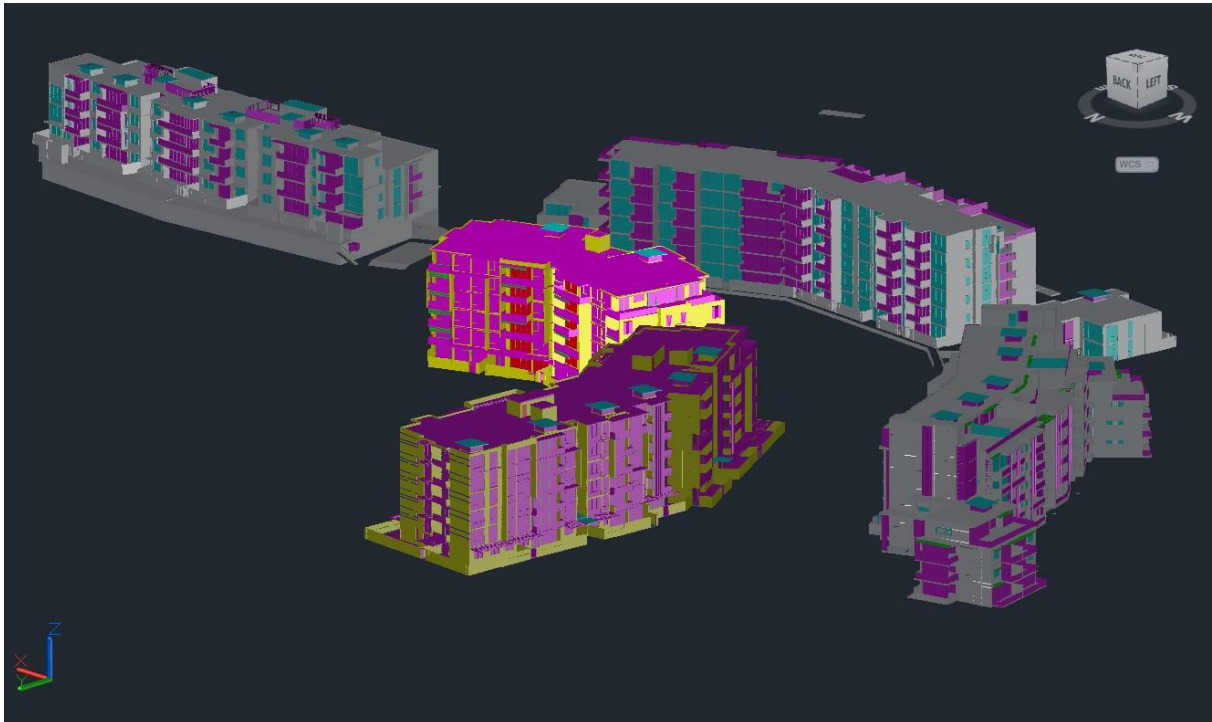
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JUNE 21 SUN EYE VIEWS

June 21 3.00 pm



DETAILED SUN ACCESS CALCULATION FOR EACH APARTMENT FROM 9.00 AM TO 3.00 PM ON JUNE 21

Block	Level	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	3hr sunlight betw 9.00-15.00
		UG11		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	1
		UG12		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	1
		UG13		0.25	0.25	0.25	0.25	0.25	0.25														0.25	0.25	0.25	0.25	0.25	2.5	0
		UG14																					0.25	0.25	0.25	0.25	0.25	1.25	0
	Level1	U101													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	1
		U102		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	1
		U103		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	1
		U104		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25																2.25	0
		U105		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25																2.25	0
		U106		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25																2.25	0
		U107													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	1
		U108													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	1
		U109													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	1
		U110		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	1
		U111		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										3.75	1
		U112		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										3.75	1
		U113		0.25	0.25	0.25																						0.75	0
		U114																						0.25	0.25	0.25	0.25	1	0
	Level2	U201													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	1
		U202		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	1
		U203		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	1
		U204		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25															2.25	0
		U205		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25															2.25	0
		U206		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25															2.25	0
		U207													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	1
		U208													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	1
		U209													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	1
		U210		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	1
		U211		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										3.75	1
		U212		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										3.75	1
		U213		0.25	0.25	0.25																						0.75	0
		U214																						0.25	0.25	0.25	0.25	1	0
	Level3	U301													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	1
		U302		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	1
		U303		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	1
		U304		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25															2.25	0
		U305		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25															2.25	0
		U306		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25															2.25	0
		U307													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	1
		U308													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	1
		U309													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	1
		U310		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	1
		U311		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										3.75	1
		U312		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										3.75	1
		U313		0.25	0.25	0.25																						0.75	0
		U314																						0.25	0.25	0.25	0.25	1	0
	Level 4	U401													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	1
		U402		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	1
		U403		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	1
		U404		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25															2.25	0
		U405		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	1
		U406		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25															2.25	0
		U407													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	1
		U408													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	1
		U409													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	1
		U410		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	1
		U411		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										3.75	1
		U412		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										3.75	1

